European Maritime Safety Agency

Drills & Exercises Annual Report 2019

Sustainability and Technical Assistance

Date: 16/03/2020

EMSA

Summary

In order to provide additional support to the pollution response mechanisms of EU Member States in a cost efficient way, the European Maritime Safety Agency (EMSA) operates, in European waters, a range of oil pollution response services (PRS) consisting of a Network of stand-by oil spill response vessels, Equipment Assistance Service (EAS) arrangements, including specialised stand-alone equipment, as well as dispersant stockpiles. The PRS are available for responding to oil spills at sea caused by ships as well as by oil and gas installations at the request of a coastal State[1], a Private Entity[2], and/or the European Commission.

At the end of 2019, 16 fully equipped oil spill response vessels, six dispersant stockpiles and three EAS arrangements were available for mobilisation. Due to Brexit, one vessel and one Equipment Assistance Service (EAS) contracts based in the UK were terminated with the associated equipment being temporarily relocated to other EMSA arrangements.

To achieve the level of performance for pollution response required by the Agency, the contracted response arrangements have to perform regular training, drills, Equipment Condition Tests (ECTs) and exercises.

The evaluation of the contractors' performance during vessel drills, ECTs and exercises by the Agency's staff in line with the "Guidelines on Conducting Drills / ECTs and Exercises for the EMSA Contracted Vessels / EAS arrangements" is an effective tool to ensure that the level of preparedness of the pollution response services is adequately maintained.

Overall, the outcome of drills, ECTs and exercises carried out during 2019 demonstrated that the services are provided efficiently and in accordance with the EMSA services users expectations.

In addition to providing operational assistance in case of oil spills, the Agency is tasked to support Member States in case of marine incidents involving chemicals. Since 2009, EMSA provides rapid access to expert advice for hazardous and noxious substances (HNS) through its MAR-ICE Network. This service offers rapid information transfer regarding chemical substances involved in marine pollution emergencies 24/7 and free of charge to the EU/EFTA coastal Member States and EU Candidate Countries. In order to familiarise EU Member States with the service's activation procedures and to ensure high quality of this service, several MAR-ICE exercises are performed each year.

The figures related to the preparedness activities in 2019 are summarised in the table below.

Table 1. Summary of drills, ETCs and exercises carried out in 2019

Acceptance Drills: Newly Contracted / Replaced Vessels	Acceptance Drills: Improvement projects / new equipment	Quarterly Drills / ECTs	Operational Exercises Vessels/EAS	Notification Exercises Vessels/EAS	MAR-ICE Exercises
1	6	66 / 22	9 (9 vessels / 2 EAS)	10 (16 vessels / 3 EAS)	2
Total number of events	116				

[1] EU Member States, EU Candidate States, Norway and Iceland as well as those third countries sharing a regional sea basin with the European Union (Regulation (EU) 100/2013).
[2] Private Entity means the ship owner or oil and gas installation operator controlling the activity causing the marine pollution or the imminent threat of it, or their contractor.

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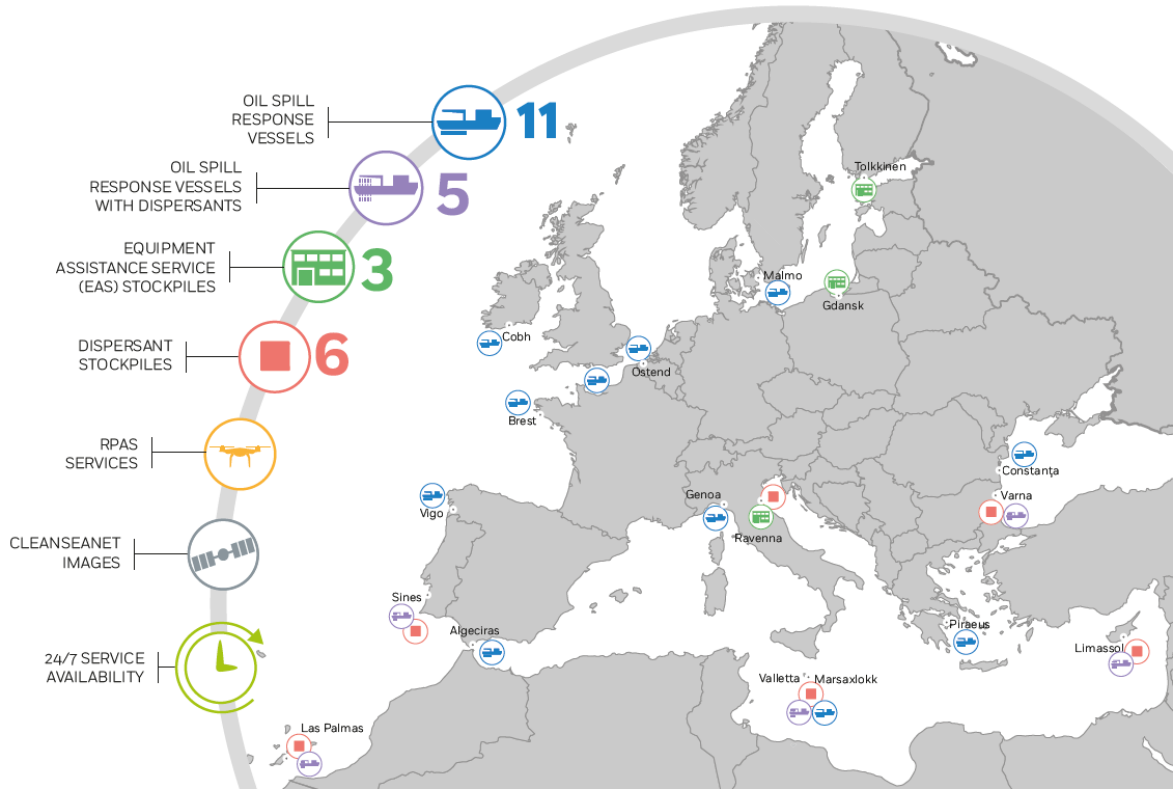
1. Introduction

1.1 EMSA's oil pollution response services (PRS) - Overview

Through its "toolbox" of PRS, EMSA offers a European tier of response resources in order to top-up the capacities of coastal States for protecting their coastlines from marine oil pollution caused by ships and oil and gas installations. The map below provides an overview of EMSA's oil PRS and their geographical distribution.

Map 1. Distribution of EMSA's contracted vessels and EAS arrangements at the end of 2019



At the end of 2019, 16 fully equipped oil spill response vessels were available for pollution response, with 10 of these 16 vessels certified for recovery of oil with flashpoints < 60°C. All the contracted vessels based in areas with the presence of oil and gas installations are now certified for recovery of oil with flashpoint < 60°C.

Main activities related to the Vessel Network in 2019 included:

- Re-entering into operational service of the vessel covering the area of Eastern Mediterranean Sea, re-contracted at the end of 2019;
- Renewal of two vessel contracts covering the Channel and Southern North Sea, one vessel contract covering Northern Black Sea and of the vessel contract covering the North Atlantic area;
- Concluding three new vessel availability contracts to replace response capacity in the Central and Western Mediterranean Sea and in the Adriatic Sea. This new vessel arrangements will become operational in mid 2020;
- Improving detection and monitoring capacity by equipping five vessels with remotely piloted aircraft systems (RPAS);
- Under the cooperation between EFCA and FRONTEX on Coast Guard Functions, EMSA equipped the *Lundy Sentinel*, chartered by EFCA for Fisheries control operations, with some pollution response equipment and dispersant product. The crew was trained and took part in one exercise (see below 3.1).

Regarding the Equipment Assistance Service (EAS), a new arrangement contracted in the Northern Baltic Sea became fully operational in the first half of 2019. This stockpile provides specialised, focused mainly on the recovery of oil at sea in winter conditions, stand-alone equipment for Vessels of Opportunity (VOO).

In addition two new equipment stockpiles to replace EAS arrangements in the Southern Baltic Sea and North Sea were contracted in 2019. They will become fully operational in mid 2020.

Details regarding the service of the Vessel Network and EAS arrangements in 2019 can be found in the table below.

Table 2. Summary of the OPR services and contractual information at the end of 2019

Area covered	Contractor / Contract	Vessel(s) / Assets	Vessel type / storage capacity(m^3) / dispersant stock	Service 2019
1. Contracted vessels				
Southern Baltic	Stena Oil EMSA/NEG/1/2015 Lot 2	*Norden*	Oil Tanker / 2880	Whole year service
Northern North Sea	James Fisher Everard Ltd EMSA/NEG/1/2013 Lot 1	*Mersey Fisher, Thames Fisher*	Product Tankers / 5028 / 5028	In service until 31 Mach *Equipment sets temp. relocated*
Channel and Southern North Sea	DC Industrial S.A. 2014/EMSA/NEG/1/2014 Lot 3.1	*Interballast 3*	Hopper Dredger / 1886	Whole year service
	DC Industrial S.A. 2014/EMSA/NEG/1/2014 Lot 3.2	*DC Vlaanderen 3000*	Hopper Dredger / 2744	Whole year service
Atlantic North	James Fisher Everard Ltd. EMSA/NEG/1/2013 Lot 2	*Galway Fisher, Corrib Fisher*	Product Tankers 4754 / 6248	Whole year service
Atlantic Coast	Remolcadores Nossa Terra S.A. EMSA/NEG/1/2014 Lot 1	*Ria de Vigo*	Offshore Supply / 1522	Whole year service
Bay of Biscay	Seaowl 2017/EMSA/CPNEG/01/2017	*VN Partisan*	Offshore Supply / 1022	Whole year service
Southern Atlantic Coast	Mureloil EMSA/NEG/1/2012 Lot 1	*Bahia Tres*	Oil Tanker / 7413 / Dispersant 200 t.	Whole year service
Canary Islands and Madeira	Petrogas EMSA/NEG/1/2015 Lot 1	*Mencey*	Oil Tanker / 3500 / Dispersant 200 t.	Whole year service
Western Mediterranean	Naviera Altube EMSA NEG/1/2011 Lot 4	*Monte Anaga*	Oil Tanker / 4096	Whole year service
	Ciane EMSA/NEG/34/2012	*Brezzamare*	Oil Tanker / 3288	Whole year service
Central Mediterranean	Tankship EMSA NEG/1/2011 Lot 2	*Balluta Bay*	Oil Tanker / 2800 / Dispersant 200 t.	Whole year service
	SL Ship Management Ltd EMSA/NEG/1/2012 Lot 2	*Santa Maria*	Oil Tanker / 2421	Whole year service
Aegean Sea	Environmental Protection Engineering S.A. EMSA/NEG/1/2013 Lot 3	*Aktea OSRV (Aegis I as a back-up vessel)*	Oil Tanker / 3000 Offshore Supply / 950	Whole year service
Eastern Mediterranean	Petronav EMSA/NEG/1/2010 Lot 1 2018/EMSA/CPNEG/1/2018	*Alexandria*	Oil Tanker / 7458 / Dispersant 200 t.	Whole year service Re-entered into service under new contract on 16 May
Northern Black Sea	Petronav EMSA/NEG/1/2014 Lot 2	*Amalthia*	Oil Tanker / 5154	Whole year service
Southern Black Sea	COSMOS 2016/EMSA/CPNEG/6/2016 – Lot 1	*Galaxy Eco*	Oil Tanker / 2969	Whole year service

2. EAS arrangements				
Northern Baltic	**Lamor Corporation AB EMSA/CPNEG/2/2018**	**17 stand-alone equipment sets**	**Contracted storage area: 800m^2 (Tolkkinen, Finland)**	**Operational as of 15 April**
Baltic Sea	**Labelpoland.com EMSA/NEG/8/2015 – Lot 2**	**16 stand-alone equipment sets**	**Contracted storage area: 800m^2 (Gdansk, Poland)**	**Whole year service**
North Sea	**Sureclean / NRC EMSA/NEG/8/2015 – Lot 1**	**** 9 stand-alone equipment sets * Dispersant 200 tonnes***	**Contracted storage area: 600m^2 (Oldmeldrum, UK)**	**In service until 31 March ** Equipment sets and dispersant stock temporarily relocated***
Southern Europe	**Ottavio Novella 2017/EMSA/CPNEG/38/2016**	**17 stand-alone equipment sets Dispersant 600 tonnes**	**Contracted storage area: 800m^2 (Ravenna, Italy)**	**Whole year service**

1.2 Purpose and types of drills and exercises

The vessels and EAS arrangements contracted by the Agency are equipped with state-of-the-art, oil containment and recovery equipment. In addition, some of the vessel arrangements have dispersant spraying capabilities with dispersant stock available. Furthermore, in-situ-burning equipment is available at the EAS stockpiles. The pollution response equipment provided by the Agency aims at achieving high recovery rates and high effectiveness of the pollution response activities.

Once the technical requirements of each contract are satisfied, the most important factors determining success of the pollution response system are the skills of the vessel's crews in the operation of the equipment, the capability of the oil spill response coordinators to lead the response action and to integrate EMSA's response assets within the pollution response mechanisms of the Member States. For the EAS the critical factor lies with the operational condition of the equipment. Therefore, regular training, drills, equipment condition tests (ECTs) and exercises are essential to achieving and maintaining the appropriate level of performance.

Every vessel and EAS contract defines the types and number of drills, ECTs and exercises to be carried out by each associated service:

- The vessels perform two types of drills: 1) acceptance drills (also referred to as acceptance tests) which entail the acceptance of a new vessel into service or of a vessel/equipment improvement project and 2) regular quarterly oil pollution response drills; and two types of exercises: 1) notification exercises and 2) at-sea operational exercises;

- With regard to the EAS arrangements, the contracts have defined a maximum number of six ECTs per year for the initial services. However, additional ECTs may be contracted by EMSA in case of additional equipment being stored in the EAS arrangements. With regard to exercises, there are the same two types of exercises as for the vessels. ECTs aim at guaranteeing that the technical support personnel is able to deploy and instruct Member State's operators on how to use the equipment, as EMSA's contractor technical support personnel does not operate the equipment during response operations.

Detailed instructions on conducting drills ECTs and exercises, including their methods of evaluation are provided in the "Guidelines on Conducting Drills/ECTs and Exercises for the EMSA Contracted Vessels/EAS arrangements". These Guidelines constitute a component of all contracts. They are periodically reviewed and updated taking into account new services development, new types of equipment/services acquired and lessons learned during drills and exercises.

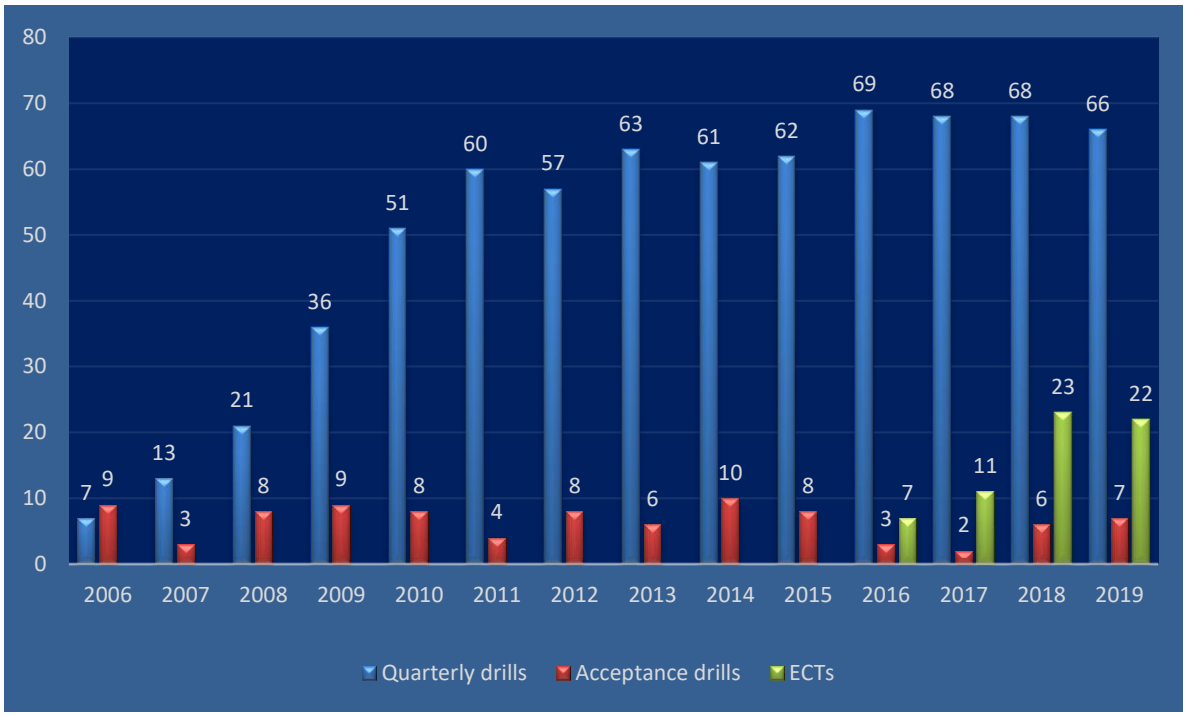
2. Drills & ECTs performed in 2019

In 2019, a total of 66 quarterly drills, six acceptance drills and 22 equipment condition tests (ECTs) were performed by the vessels and the EAS arrangements under contract to the Agency.

The number of quarterly drills and ECTs is slightly lower than in 2018, due to the termination during the first quarter of 2019 of two contracts located in the United Kningdom for Brexit and the non renewal of a vessel arrangement in the Adriatic Sea at the end of 2018.

A summary of drills / ECTs performed by EMSA's OPR services during the period 2006-2019 is shown in the chart below.

Chart 1. Number of drills and ECTs 2006 – 2019



2.1 Vessel drills

2.1.1 Acceptance drills

The acceptance drills are of particular importance as they are the major milestone for new vessels, new equipment as well as the overhauled equipment to enter into the pollution response service.

Acceptance drills conducted in 2019 comprised:

- Re-entry into operational service of the *Alexandria*, re-contracted at the end of 2018. The vessel, based in Limassol, Cyprus, provides coverage in the Eastern Mediterranean;
- Installation of dispersant spraying capability on board the *Galaxy Eco*, stationed in Varna, Bulgaria. The improvement, which included an associated dispersant stock of 200 tonnes, became operational in May 2019 and increased the oil pollution response capacity in the Black Sea area.

Five technical improvement projects to enhance the oil slick detection capacity on board the following contracted vessels:

- *VN Partisan*, stationed in Brest, France. The improvement became operational in February 2019;

- *Ria de Vigo*, stationed in Vigo, Spain. The improvement became operational in February 2019;
- *Norden*, stationed in Malmoe, Sweden. The improvement became operational in November 2019;
- *Aktea OSRV*, stationed in Piraeus, Greece. The improvemnt became operational in November 2019;
- *Alexandria*, stationed in Limassol, Cyprus. The improvement became operational in December 2019;

Summary of the acceptance drills is demonstrated in the table below.

Table 3. Vessel / Equipment Improvements and Acceptance tests carried out in 2019

Contract	Contractor	Vessel/ Home port	Home port	Subject	Acceptance Test Date	Results
2017/EMSA/ CPNEG/2/2017 Bay of Biscay	**SeaOwl**	***VN Partisan***	**Brest, France**	**RPAS - improvement project**	**26/02/2019**	**Acceptance effective from 27/02/2019**
Remolcadores Nossa Terra S.A. EMSA/NEG/1/2014 - Lot 1	**Remolcadores Nossa Terra S.A.**	***Ria de Vigo***	**Vigo, Spain**	**RPAS - improvement project**	**28/02/2019**	**Acceptance effective from 29/02/2019**
2018/EMSA/CPNEG/1/ 2018 – Eastern Mediterranean	**Petronav**	***Alexandria***	**Cyprus, Limassol**	**Acceptance test of the re-contracted vessel**	**14-15/05/2019**	**Acceptance effective from 16/05/2019**
2016/EMSA/CPNEG/6/ 2016 – Lot1	**COSMOS**	***Galaxy Eco***	**Varna, Bulgaria**	**Dispersant spraying system - improvement project**	**16/05/2019**	**Acceptance effective from 17/05/2019**
EMSA/NEG/1/2013 - Lot 3 Aegean Sea	EPE	Aktea OSRV	Piraeus, Greece	RPAS - improvement project	10/10/2019	Acceptance effective from 11/10/2019
EMSA/NEG/1/2015 - Lot 2	**Stena Oil**	***Norden***	**Malmo, Sweden**	**RPAS - improvement project**	**14/11/2019**	**Acceptance effective from 15/11/2019**
2018/EMSA/CPNEG/1/ 2018 – Eastern Mediterranean	**Petronav**	***Alexandria***	**Cyprus, Limassol**	**RPAS - improvement project**	**05/12/2019**	**Acceptance effective from 06/12/2019**

EMSA contracted oil pollution response vessels are equipped with a radar-based oil slick detection system to support the detection of oil in water. The radar-based detection system on-board EMSA vessels presents some operational limitations which stem mainly from look-alikes (false targets) caused by natural phenomena as low wind areas, rain cells, or floating vegetation. Additionally, the radar blind range does not detect the slick

in the close vicinity of the vessel. Furthermore, the system does not allow for the estimation of any oil film characteristics such as type of oil, slick thickness, or level of degradation.

Complementing radar based slick detection systems on board EMSA vessels with RPAS allows an aerial overview of the surrounding oil spill and gathering information in form of visual imagery enabling oil spill identification and categorisation. In addition, it assists in monitoring the efficiency of dispersant spraying.

The newly acquired RPAS capacity was proven to be operational and of added value shortly after the first acceptance in March 2019, when two vessels were mobilised by the French authorities for the response operations to the oil spill caused by the sinking of *Grande America* in the Bay of Biscay. The RPAS on both vessels were launched numerous times, supported the operations and provided valuable information regarding the oil spill identification around the vessel and assistance in monitoring the efficiency of the oil recovery operations.

Fig. 1. RPAS Acceptance drill on board *Norden*.

2.1.2 Quarterly drills

According to the contract, the Contractor is obliged to train the vessel's crew and to maintain the oil pollution response equipment in order to be ready to carry out oil pollution response services efficiently. To demonstrate the fulfilment of these obligations, the Contractor is obliged to carry out drills on a quarterly basis.

The Agency developed guidelines describing performance standards for the vessel, crew and equipment. These guidelines are an annex to the Vessel Availability Contract. The quarterly drill can be accepted only if all required standards have been achieved. The acceptance of the Contractor's Quarterly Drill Report by the Agency is a condition for the payment of the Vessel Availability Fee by the Agency.

The summary of the quarterly drills carried out in 2019 is presented in the table below.

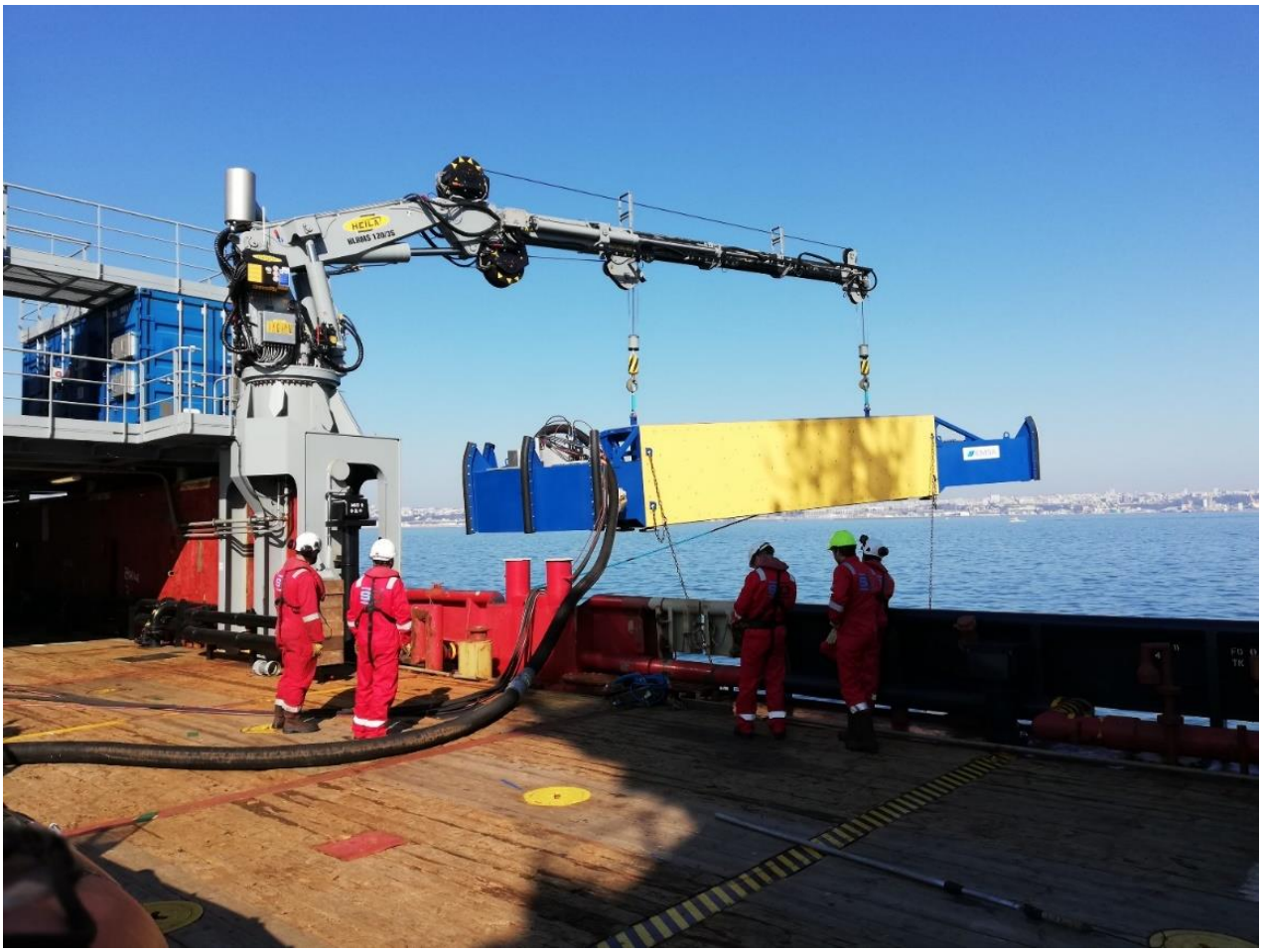
Table 4. Summary of the quarterly drills carried out in 2019

Baltic	Stena Oil AB EMSA/NEG/1/2015 - Lot 2 Southern Baltic Sea	*Norden*	1Q	30/01/2019	4 drills required in 2019. All drills were conducted and accepted by EMSA.
			2Q	03/06/2019	
			3Q	06/08/2019	
			4Q	13-14/11/2019	
Southern North Sea and the Channel	DC Industrial 2014/EMSA/NEG/1/2014 - Lot 3.1 Channel & Southern North Sea	*Interballast III*	1Q	26/03/2019	4 drills required in 2019. All drills were conducted and accepted by EMSA.
			2Q	14/06/2019	
			3Q	06/08/2019	
			4Q	15/10/2019	
	DC Industrial 2014/EMSA/NEG/1/2014 - Lot 3.2 Channel & Southern North Sea	*DC Vlaanderen 3000*	1Q	26/03/2019	4 drills required in 2019. All drills were conducted and accepted by EMSA.
			2Q	14/06/2019	
			3Q	10/09/2019	
			4Q	15/10/2019	
Northern North Sea	James Fisher EMSA NEG/1/2013 - Lot 1 Northern North Sea	*Mersey Fisher*	1Q	n/a	Contract terminated on 31/03/2019. No drill required in 2019.
			2Q	n/a	
		Thames Fisher	3Q	n/a	
			4Q	n/a	
Atlantic North	James Fisher EMSA NEG/1/2013 - Lot 2 Atlantic North	*Galway Fisher*	1Q	27/02/2019	4 drills required in 2019. All drills were conducted and accepted by EMSA.
			4Q	31/10/2019	
		Corrib Fisher	2Q	21/05/2019	
			3Q	25/06/2019	
Atlantic coast	REMOLCANOSA EMSA/NEG/1/2014 - Lot 1 Atlantic Coast	*Ria de Vigo*	1Q	28/02/2019	4 drills required in 2019. All drills were conducted and accepted by EMSA.
			2Q	11/06/2019	
			3Q	04/09/2019	
			4Q	14/11/2019	
Bay of Biscay	SEAOWL 2017/EMSA/CPNEG/22/2017 Bay of Biscay	*VN Partisan*	1Q	26/02/2019	4 drills required in 2019. All drills were conducted and accepted by EMSA. 2,3 and 4 quarterly drills were delayed due to *Grande America* pollution response operation conducted by VN Partisan from13/03 to 28/08
			2Q	29-30/08/2019	
			3Q	30/10/2019	
			4Q	31/10/2019	
Southern Atlantic coast	Mureloil EMSA NEG/1/2012 - Lot 1 Southern Atlantic Coast	*Bahia Tres*	1Q	19/03/2019	4 drills required in 2019. All drills were conducted and accepted by EMSA.
			2Q	14/05/2019	
			3Q	04/09/2019	
			4Q	16/10/2019	
Canary Islands and Madeira	Petrogas EMSA/NEG/1/2015 - Lot 1 Canary Islands and Madeira	*Mencey*	1Q	13/03/2019	4 drills required in 2019. All drills were conducted and accepted by EMSA.
			2Q	17/06/2019	
			3Q	12/09/2019	
			4Q	23/10/2019	

Western Mediterranean	Naviera Altube EMSA NEG/1/2011 - Lot 4 Western Mediterranean Sea	*Monte Anaga*	1Q	01/03/2019	4 drills required in 2019. All drills were conducted and accepted by EMSA.
			2Q	03/06/2019	
			3Q	27/08/2019	
			4Q	26-27/11/2019	
	CIANE EMSA/NEG/34/2012 Western Mediterranean Sea	*Brezzamare*	1Q	14/03/2019	4 drills required in 2019. All drills were conducted and accepted by EMSA.
			2Q	19/06/2019	
			3Q	10/09/2019	
			4Q	08-09/10/2019	
Central Mediterranean	Tankship EMSA NEG/1/2011 - Lot 2 Central Mediterranean	*Balluta Bay*	1Q	26/03/2019	4 drills required in 2019. All drills were conducted and accepted by EMSA.
			2Q	26/06/2019	
			3Q	25/09/2019	
			4Q	21/11/2019	
	Falzon EMSA NEG/1/2012 - Lot 2 Central Mediterranean	*Santa Maria*	1Q	27/02/2019	4 drills required in 2019. All drills were conducted and accepted by EMSA.
			2Q	29/05/2019	
			3Q	28/09/2019	
			4Q	31/10/2019	
Aegean Sea	EPE EMSA NEG/1/2013 - Lot 3 Aegean Sea	*Aktea OSRV*	1Q	13/03/2019	6 drills required in 2019. All drills were conducted and accepted by EMSA.
			2Q	19/06/2019	
			3Q	25/09/2019	
			4Q	14/11/2019	
		Aegis I	2Q	19/06/2019	
			4Q	14/11/2019	
Eastern Mediterranean	Petronav EMSA NEG/1/2010 - Lot 1 Eastern Mediterranean	*Alexandria*	1Q	13/03/2019	The ship re-entered into service with new contract on 16 May In 2019 2 drills required for the previous contract and 2 drills for the new contract. All drills were conducted and accepted by EMSA.
			2Q	18/04/2019	
			3Q	23/09/2019	
			4Q	15/10/2019	
Black Sea	Petronav 2014 EMSA/NEG/1/2014 - Lot 2 Northern Black Sea	*Amalthia*	1Q	27/03/2019	4 drills required in 2019. All drills were conducted and accepted by EMSA.
			2Q	17/05/2019	
			3Q	24/09/2019	
			4Q	22/10/2019	
	COSMOS 2016 EMSA/CPNEG/6/2016 - Lot 1 SouthernBlack Sea	*Galaxy Eco*	1Q	19/03/2019	4 drills required in 2019. All drills were conducted and accepted by EMSA.
			2Q	11/06/2019	
			3Q	22/08/2019	
			4Q	16/10/2019	

The outcome of the quarterly drills carried out during 2019 demonstrated that the service is operated efficiently and in accordance with EMSA expectations.

Fig. 2. Quarterly drill on board *VN Partisan*. Sweeping arm deployment.



2.2 EAS - Equipment Condition Tests (ECTs) and other EAS related events

According to the contract, the EAS Contractors are obliged to train their staff and to maintain the equipment in a full state of readiness for carrying out oil pollution response services efficiently.

The Contractors are obliged to carry out ECTs to demonstrate the fulfilment of these obligations,. The Agency developed guidelines describing equipment performance standards. These guidelines are an integral part of the Framework Contracts. The ECT can be accepted only if all required standards have been achieved.

Within the framework of the ECTs, training sessions for the Member States' equipment operators were organised in the EAS Baltic, EAS Northern Baltic and EAS Southern Europe. The trainees were able to get familiarised and operate different equipment systems such as the Current Buster 6, the Speed Sweep, the Ro-Trawl and oil storage barges.

The summary of the ECTs carried out in 2019 is presented in the table below.

Table 5. Summary of the ECTs and Trainings for Equipment Operators carried out in 2019

Contractor	First Quarter	Second Quarter	Third Quarter	Fourth Quarter	Results
LAMOR EAS Northern Baltic (Tolkkinen)		Training & ECT Speed Sweep (08/05/2019)			Equipment was found in a good condition. All ECTs accepted by EMSA.
		ECT HCS (06/06/2019)			
		Training & ECT Current Buster 6 (19/06/2019)			
		Training Eq. Op. & ECT Current Buster 6 (25/06/2019)			
		Training Eq. Op. & ECT Speed Sweep (26/06/2019)			
		Training Eq. Op. & ECT Oil Storage Barge (27/06/2019)			
LABELPOLAND.COM EAS Baltic Sea (Gdansk)		Training Eq. Op. & ECT Oil Storage Barge (11/06/2019)		ECT Ro-Boom (07/10/2019)	Equipment was found in a good condition. All ECTs accepted by EMSA.
		Training Eq. Op. & ECT Speed Sweep (12/06/2019)		ECT Speed Sweep (08/10/2019)	
		Training Eq. Op. & ECT Current Buster 6 (13/06/2019)		ECT Trawl Net (09/10/2019)	
Ottavio Novella EAS Southern Europe (Ravenna)		ECT ex Castalia HCS (03/04/2019)		ECT Ro-Boom (15/10/2019)	Equipment was found in a good condition. All ECTs accepted by EMSA.
		ECT Current Buster 6 (04/04/2019)		ECT Trawl Net (16/10/2019)	
		Training Eq. Op. & ECT Oil Storage Barge (04/06/2019)			
		Training Eq. Op. & ECT Speed Sweep & Trawl net (05/06/2019)			
		Training Eq. Op. & ECT Current Buster 6 (06/06/2019)			
Vessel contractor Cosmos	ECT Weir boom (04/02/2019)		ECT Weir boom (07/08/2019)		
TOTAL ECTs: 22					
TOTAL Training sessions for Equipment Operators: 11					

Fig. 3. Deployment of the Current Buster 6 - Exercise Pula 2019 Croatia

2.3 Technical Issues Record

Checking the technical status and completeness of the oil pollution response equipment on board the vessels and the EAS stockpiles is an important element of each drill / ECT attended by EMSA observers.

Both vessels and EAS contracts provide for a mandatory reporting of incidents/malfunctions. Besides this, EMSA conducts annual verification of all equipment.

During each drill, ECT and exercise attended by the Agency, the condition of the equipment was closely assessed and recorded. This record allows the Agency to obtain a broader overview of the performance of different types and brands of equipment.

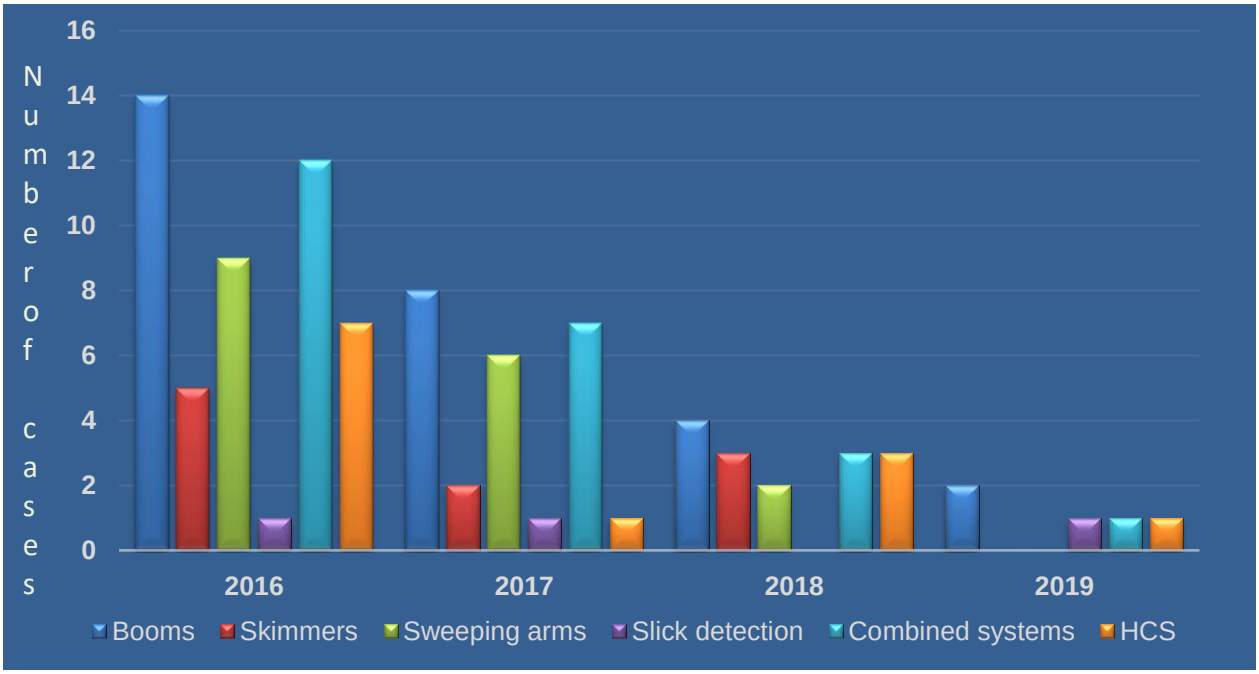
The identification of the most frequent technical problems leads to prevention of failures during actual pollution response and also helps the acceptance process for equipment arrangements in the framework of the vessel tenders and improvement projects.

For both services, Vessel Network and EAS, the number of equipment technical issues dropped significantly and only few cases of technical failures were recorded. The decrease in the total number of the equipment technical issues is the result of the implementation of the equipment policy over the last three years. Main activities have focussed on the replacement of aging booms, replacement of standard skimmers with new high capacity skimmers, sweeping arms and skimmers overhauling projects as well as to the increased control over the equipment care and maintenance by contractors and improvement of skills of personnel deploying EAS equipment.

Ageing booms, particularly the PVC single point inflation type, are the systems more susceptible to failures. The pollution response team will continue the close monitoring and implementation of preventive/corrective actions in order continue the decreasing trend of technical issues recorded in the past years.

Generally, the technical issues were dealt with in an efficient and effective way and the equipment was brought back to the operational state as quickly as possible.

Chart 2. Number of Technical issues 2016 - 2019



In 2019 the OPR equipment under the Vessel and EAS contracts was maintained in constant operational condition ready to perform service for the Member States.

There was only one significant service disruptionin the Bay Biscay. However, this was not related to the equipment technical issues but occurred due to the prolonged time of the vessel and equipment cleanup after the *Grande America* pollution response action.

3. Exercises performed in 2019

At-sea operational exercises assist the integration of EMSA's OPR services within the response mechanisms of Member States, improving the necessary coordination and cooperation of the EMSA resources with the coastal State response units. There are also rare opportunities for the member States'personnel to familiarize with the equipment available in the stockpiles.

It has to be noted that, with the exception of exercises within regional projects implemented by the Agency, EMSA does not organize exercises but participates when requested. However, EMSA has taken a proactive approach in participating in the planning conferences of exercises in order to facilitate an increase use of the pollution response services provided by the Agency.The decision of the Agency to participate in an exercise takes into consideration the degree of integration of EMSA resources in the overall exercise scenario. That is why it is important that invitations to participate are accompanied by the detailed description of the exercise scenario.

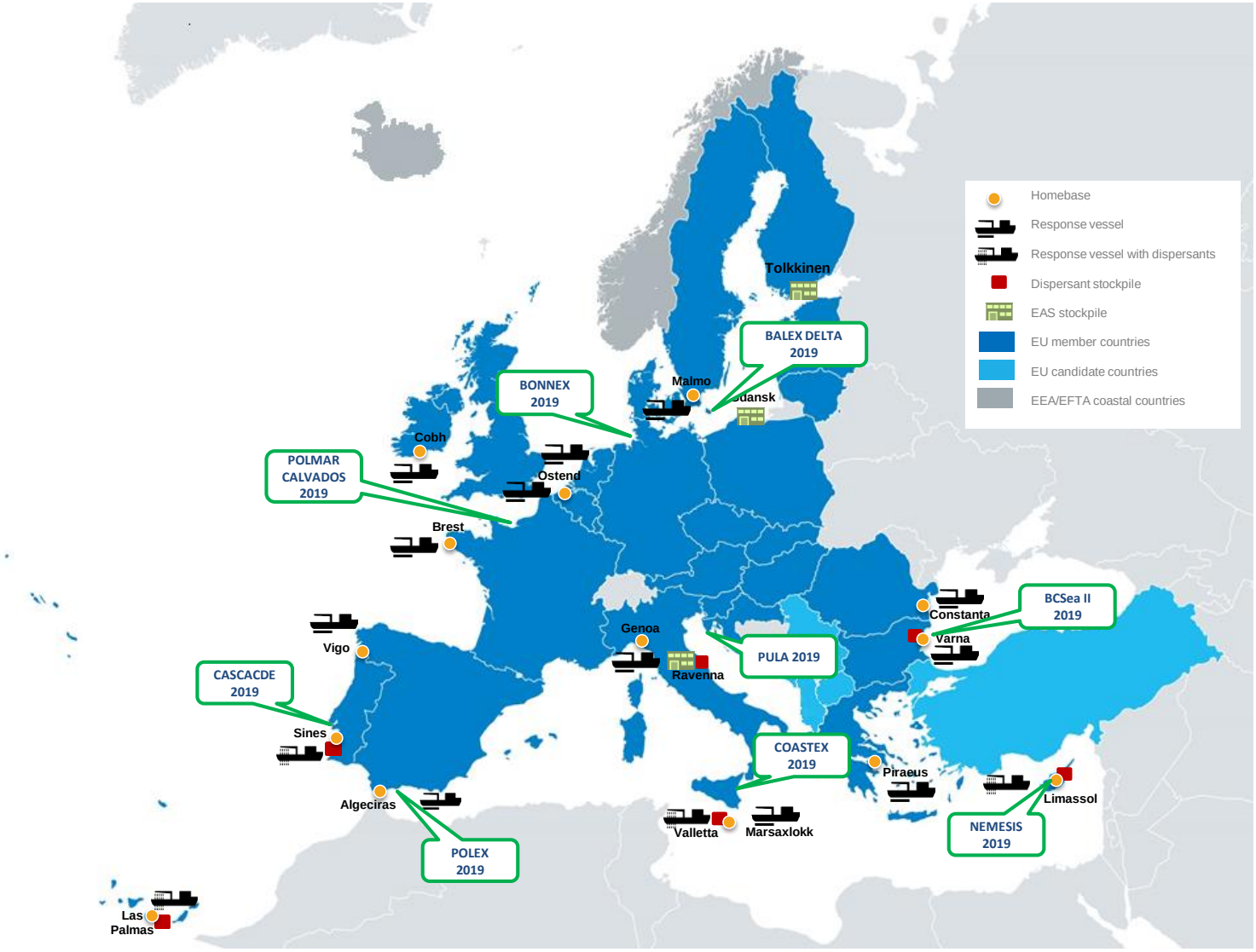
In 2019 EMSA participated in nine operational and 10 notification exercises. The Agency implements a procedure for the internal/external exercise coordination in order to provide the full set of services (Vessels, EAS, Mar-ICE, CleanSeaNet and others) in a harmonised manner as well as to provide/receive feedback to and from the Member States after the performance of the exercises.

3.1 Operational exercises

In the course of 2019, nine EMSA contracted vessels, three equipment sets from the EAS Baltic Sea and one from the EAS Southern Europe were deployed in nine at-sea operational exercises, organised in cooperation with EU Member States and/or Regional Agreements.

The geographical spread of operational exercises in Europe with EMSA vessels participation is shown in the following map below.

Map 2. Geographical Coverage of Operational Exercises 2019



These events took place in all European Regional sea basins, covering the Baltic Sea, North Sea, Mediterranean Sea and Black Sea. Reports of EMSA observers indicate that all vessels participating in the operational exercises successfully completed the tasks assigned by the pollution response command of the country hosting the exercise.

It should be noted that the operational exercises at sea are organised by the Member States within the framework of national or regional contingency plans. Each EMSA's participation to an exercise is followed by a request to the Member State to evaluate the services provided by the Agency.

The summary of operational exercises performed by EMSA contracted vessels in 2019 is shown in the table below.

Table 6. Operational exercises at sea 2019

N°	Name of the Exercise	Exercise/date	Location	Participating Parties	EMSA vessel/s / EAS
1	CASCADE 2019	29-30 May	Setubal, Portugal	Portugal, EMSA	*Bahia Tres*
2	COASTEX 2019	04 June	Catania, Italy	Italy, Portugal, EFCA EMSA	*Lundy Sentinel Balluta Bay*
3	BCSea II Project	12-14 June	Varna, Bulgaria	EMSA	*Galaxy Eco, Amalthia*
5	BONNEX 2019	18 – 19 June	Heligoland, Germany	Parties to the Bonn Agreement, EMSA	*Interballast III*
4	Balex Delta 2019	27-29 August	Bornholm, Denmark	Parties to the Helsinki Convention, EMSA	*Norden, EAS Baltic (Current Buster 6, Speed Sweep, Ro-Trawl)*
7	ANED POLMAR CALVADOS 2019	17-19 Sept	Caen-Ouistreham, France	France, EMSA	*VN Partisan*
6	NEMESIS 2019	13 Nov	Limassol, Cyprus	Greece, France, United Kingdom, USA, State of Israel and the Republic of Cyprus	*Alexandria*
8	POLEX 2019	20 Nov	Malaga, Spain	Spain, EMSA	*Monte Anaga*
9	PULA 2019	22 Nov	Croatia	Croatia, EMSA	*EAS Southern Europe (Current Buster 6)*
Total: 9 operational exercises, 9 Vessels and 2 EAS arrangements deployed					

3.2 Notification exercises

Notification exercises are usually conducted in conjunction with operational exercises. In addition, 'stand-alone' notification exercises are occasionally carried out. The aim of these exercises is to test and implement agreed procedures and lines of communication for reporting incidents and for requesting and providing assistance.

Notification exercises involve EMSA, one or more Requesting Parties[3], EMSA's contractor(s) and the Emergency Response Coordination Centre (ERCC), operated by DG ECHO. The main criterion for the evaluation of the notification exercise is the time needed for the Incident Response Contract (Vessel - IRC-V or EAS - IRC-E)[4] to be signed by both the EMSA contractor and the Requesting Party.

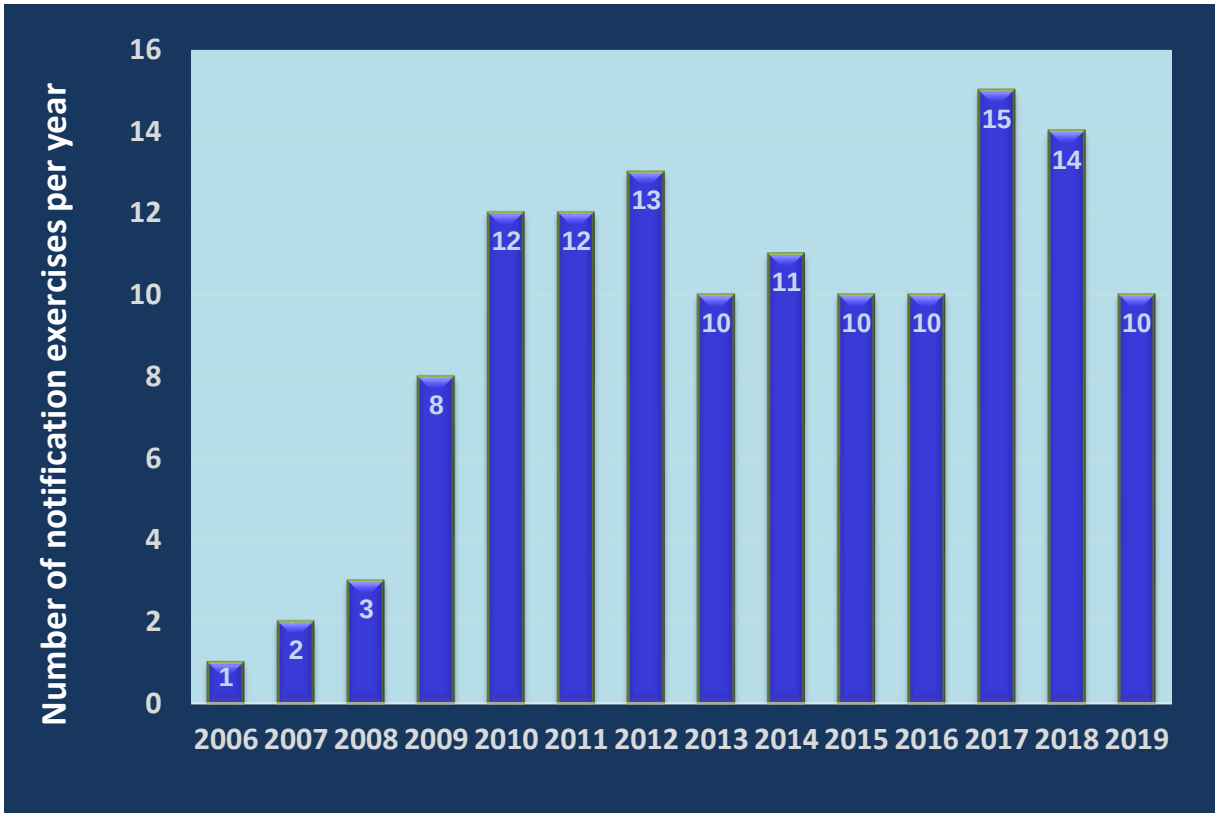
In 2019, the Agency participated in 10 notification exercises, involving 16 activations of vessel contractors and three of EAS arrangements.

[3] EMSA's OPR services can be activated by the following Requesting Parties: EU Member States, EU Candidate Countries, European Free Trade Association (EFTA)/European Economic Area (EEA) coastal Member States, Third countries sharing a regional sea basin with the Union, Private Entities and/or the European Commission.

[4] Incident Response Contract": This contract is to be concluded between the EMSA contractor and the Requesting Party. This pre-established model contract addresses the actual response operations. It covers the terms and conditions of the service and includes the associated daily hire rates. Following a request for assistance, EMSA will activate or even pre-mobilise the vessel / equipment to facilitate the operation. The command and control during an incident rests with the affected coastal State using the vessel / equipment.

The number of notification exercises carried annually over the years 2006-2019 is shown on the chart below.

Chart 3. Number of notification exercises 2006 – 2019



During the notification exercise, the time counting starts at the moment when the formal assistance request is received by EMSA. Taking into account variables such as the time of day, the day of the week, the contractor's location and other factors, 6 hours is considered as an acceptable target deadline for all parties to complete the mobilisation process, including signature of the Incident Response Contract (IRC). During the exercise, the Agency provides any assistance necessary to the Member State for facilitating the process of completing and signing the IRCs.

It must be noted that out of the 10 notification exercises carried out in 2019, only three exercises included the full procedure of EMSA Vessel and/or EAS mobilisation. This was a result much lower than the results achieved in the two previous years.

EMSA Contractors reacted immediately and in line with standards set by EMSA. However, in majority of cases Member States terminated the procedure prior to the signature of the IRC Form. It has to be stressed that the mobilisation of EMSA means is based on the signing of the Incident Response Contract and its annex the IRC Form. The contract contains important provisions related to the respective obligations of the Requesting Party and the Contractor.

Exercises are a good opportunity to ensure that response authorities are made aware of all clauses of this contract. In the same way, the IRC form describes which configuration of the vessel is requested or what type of equipment from the EAS is requested. Experience has shown that completing this form could be challenging and therefore time should be devoted during exercises to go through the all process.It has to be reiterated that for exercises signing the IRC does not trigger the payment of any fee by the Requesting Party.

A description of the notification exercises carried out in 2019 can be found in the table below.

Table 7. Notification exercises carried out in 2019

No.	Exercise name/date	Participating parties: MS / Service mobilised	Results
1	**MUIREANN, Ireland / 26 Feb**	**Ireland / Corrib Fisher, Ria de Vigo, VN Partisan, DC Vlaanderen, EAS North Sea**	The procedures of signing the IRC-V and IRC-E were not completed. A complex offer from EMSA (4 vessels from 4 different contractors, stand-alone equipment from the EAS North Sea) was presented to the requesting Member State within 1h 22 m from the incident notification. The exercise was finalised by the MS without accepting the EMSA offer therefore, the full procedure (signature of IRCs and dispatch of Notices of Pollution) couldn't be tested.
2	**Shell OSEC Silver Mermaid / 3-4 April**	**Denmark, Shell Company/ EMSA liaison officer**	Shell invited a number of different actors to play roles within the exercise, such as the Royal Danish Navy, DEMA, Danish Police, OSRL, Ambipar Response, exercise evaluators / trainers and EMSA. During the exercise, Shell requested EMSA to provide detailed information of the EAS equipment located in Gdansk (Poland) and of the contractual arrangement for provision of the equipment. Both the contract and detailed information of the equipment and its associated costs were provided to Shell by the EMSA representative. Given that in the exercise a legal cell was also present, it was possible to have the contract verified from a legal point of view, which greatly facilitated the decision to activate the request for EMSA equipment. Accordingly, Shell was able to advance shortly after with a request for three EAS equipment systems (1 x Current Buster 6, 2 x Ro-Trawl), endorsed by the Danish authorities, and EMSA representative provided an estimated delivery schedule to the place of handover as indicated by Shell.
3	**LION POL / 09 Oct**	**France / EMSA**	The procedure of signing the IRC-V was not completed. An offer from EMSA (2 vessels from 2 different contractors) was presented to the requesting MS in CECIS within 55 m from the incident notification. The exercise was terminated by the MS without accepting the EMSA offer.
4	**CASCADE / 29 May**	**Portugal / Bahia Tres, EAS Ravenna**	The procedures of signing the IRC-V and IRC-E were not completed. The MS requesting assistance performed all the exercise using CECIS. Portuguese authorities confirmed the request for vessel Bahia Tres and 2 Equipment sets from EAS Ravenna. EMSA Contractors Mureroil and Ottavio Novella EAS responded promptly and timely to all the requests. EMSA offer of assistance was submitted in CECIS; vessel immediately, EAS within 2 hours from the incident notification. The exercise was terminated before signing the contracts IRC – form for vessel/equipment by the MS.
5	**COASTEX 2019 / 4 June**	**Italy, EMSA, EFCA, FRONTEX / Balluta Bay (EMSA), Lundy Sentinel (EFCA)**	Procedure of signing the IRC-V was fully completed. Requesting MS received the EMSA assistance offer in 55 minutes from the time of request. EMSA offered 1 Vessel (Balluta Bay). The mobilisation procedure for the Lundy Sentinel (EFCA vessel) was not played. The IRC-V was signed by the requesting MS and EMSA contractor within 1 h 50 m after acceptance of EMSA offer of assistance. CECIS was not used during the exercise. Contracts signed by EMSA contractors were returned to the MS within 2 h 29 min.

6	**BALEX BRAVO 2019 / 12 August**	**Denmark / Norden, Corrib Fisher, Intrballast III, DC Vlaanderen, EAS Baltic**	The procedures of signing the IRC-V and IRC-E were not completed. EMSA reaction time was satisfactory. It took 2 h from sending the request through CECIS by the requesting MS to EMSA offer of assistance including 4 vessels and equipment from the EAS Baltic. The exercise was terminated before the offer was accepted by the MS.
7	**ANED POLMAR CALVADOS / 17 Sept**	**France / VN Partisan, RPAS**	The procedure of signing the IRC-V was not completed. EMSA offer of assistance was issued within 0.5 h from receiving the assistance request from the MS. The IRC-V was sent to the requesting MS within 30 m from the offer acceptance by the MS. EMSA contractor reacted fast and according to procedure. The procedure for EMSA vessel mobilisation was not completed due to discontinuation of the exercise before signing the IRC-V. Beside opening the new emergency in CECIS the system was not used by MS to communicate with EMSA.
8	**NEMESIS 2019 / 5 Nov**	**Cyprus / Alexandria**	Procedure of signing the IRC-V was fully completed. Good reaction time of EMSA, EMSA contractor and the MS requesting assistance. Exercise went very smooth. 20 minutes for the vessel contractor to provide all the necessary information; 13 minutes for the MS to accept the offer; 19 minutes for the IRC-V to be sent out (including signature of the Notice of Pollution); 1 hour 10 minutes for the MS to fill in, sign and send the IRC to EMSA contractor; 34 minutes for Petronav to fill in, countersign and send the IRC -V back to the MS.
9	**TANKER 2019 / 14 Nov**	**Denmark / Norden, DC Vlaanderen, Interballlast III**	The procedure of signing the IRC-V was not completed. In general exercise went smooth and the reaction time of EMSA, EMSA contractors as well as the MS requesting assistance were good: 12 minutes for Denmark to accept the Norden; 9 minutes for EMSA to: sign the Notice of Pollution Response, send the IRC-V to MS (via MSS) and Notice of pollution to Stena; 52 minutes for DCI to provide the necessary info; 6 minutes for Denmark to accept the DC Vlaanderen & Interballast III; 5 minutes for EMSA to send the IRCVs to Denmark (via MSS). The exercise was terminated by the MS before signing the IRC-V.
10	**POLEX 2019 / 19 Nov**	**Spain / Monte Anaga**	Procedure of signing the IRC-V was fully completed. Good reaction time of EMSA EMSA contractor. It took 1 h 38 m from the request of assistance to sending the Notice of Pollution Response to EMSA contractor and IRC-V to the MS requesting assistance. Copy of the IRC-V duly signed by both parties was received by EMSA next day morning. CECIS was used by the MS.
TOTAL		**EXERCISES: 10 VESSELS: 16 EAS: 3 IRCs SIGNED BY EMSA CONTRACTORS: 3 (Vessels)**	

4. MAR-ICE activations for drills and exercises

The MAR-ICE network of chemical experts was established in October 2008 between EMSA, Cefic (European Chemical Industry Council) and Cedre (Centre de Documentation de Recherche et d'expérimentation sur les pollutions accidentelles des eaux). It became fully operational in January 2009. In 2017, the MAR-ICE Cooperation Agreement was amended extending the service through to 2022.

The MAR-ICE network offers a 24 hours service to EU Member States, Coastal EFTA States and EU Candidate Countries providing remotely access to specialised information, documentation and expert advice on chemicals involved in marine spills to national authorities in charge of response operations. The information

provided is based on product specific characteristics and on advice from companies and chemical industry experts obtained through the ICE database.

In 2019, the network was activated for exercises on two occasions, by France and by EMSA. Details are presented in the Table 8 below.

Table 8. MAR-ICE drills and exercises carried out in 2019

MAR-ICE SERVICE DRILLS / EXERCISES				
1	26/6/2019	French Navy Préfecture maritime de la Manche et de la mer du Nord	Exercise scenario involved the loss of containers with the following substances: UN3082, UN1219, UN1133. Request asked for product specific information for the three substances above, as well as trajectory and fate information regarding the substance UN3082.	MAR-ICE service provided the following documentation and explanatory information: - MAR-CIS datasheets for UN3082 and UN1219 - ERICARD for UN1133 - Outputs from CHEMMAP trajectory/fate numerical modelling for UN3082
2	23-24/7/2019	EMSA, in preparation for the 2019 Places of Refuge Exercise "Atlantic Container"	Exercise scenario involved a containership transporting 104 Hazmat units with fire on a container located amidship. In total there were 47 different hazmat (UN numbers) on board. Request asked for: - identification and prioritisation of hazards and risks related to the hazmat cargo. - immediate emergency and response actions and identification of fume hazards for responders. - risk assessment for all the hazmat cargo on board.	MAR-ICE service provided the following documentation and explanatory information: - 47 MSDS/fiches product specific information. - identification and prioritization of the hazards and risks related to the cargo and its location on board. - complete hazmat cargo risk assessment: expected behaviour, risk for human beings (responders) and risk for the environment.

In all exercises, the communication between the requesters and the MAR-ICE Contact Point went well and the requested information was provided well within the established timelines.

5. Conclusions / Highlights

- In general the outcome of the oil pollution drills, ECTs and exercises carried out during 2019 demonstrated that the service is operationally ready in accordance with EMSA requirements. The efficiency of the service was *live* tested during the pollution response operations following the sunk of the *Grande America* in March 2019, in the Bay of Biscay. Two Oil Spill Response Vessels (*Ria de Vigo* and *VN Partisan*) equipped with RPAS were deployed on-site and under the command of the French authorities.

- The evaluation of oil pollution response drills, ECTs and exercises, either based on assessment by EMSA staff or on the contractors' reports, as well as feedback from the Member States is providing lessons learned with regard to the technical condition of the equipment and performance of the crew/staff. Lessons learned in 2019 allowed actions aiming at the improvement of EMSA pollution response services including pollution response capacity improvements, equipment overhauling or replacement, crew/staff performance parameters improvement, as well as the improvements/updates of the service mobilisation procedures. Based on these evaluations the Agency plans to conduct in 2020 several improvements project aiming at increasing the capacities of EMSA pollution response services.

- Identification during drills, ECTs and exercises of the most frequent technical problems leads to prevention of failures during actual pollution response and also helps the acceptance process for equipment arrangements in the framework of the vessel tenders and improvement projects.
  For both services, Vessel Network and EAS, the number of equipment technical issues dropped down to only a few cases in 2019. This significant decrease in the number of equipment technical issues is mainly due to a successful equipment replacement programme (in line with the equipment policy of the Agency) as well as to an increased monitoring by the Agency on the maintenance activities and skills of personnel associated with the EAS arrangements.

- The Agency intends to explore further with MS how to develop a practical common exercise preparation, implementation and evaluation framework at European level. In 2019, in order to avoid duplication of work on the same subject, it was decided to participate in the Helcom Response Exercise Plan (HREP) Steering Group and come back with the topic at PRS-UG 2020, with results of HREP project and possibly with a proposal for dissemination and/or harmonisation at the various European Regional Agreements/MS.

- EAS is intended to be used on board of so called Vessels of Opportunity (non-dedicated pollution response vessels (VOO)) in order to add more response resources. However currently the EAS equipment is rarely mobilised for exercises and when it is the case, it is usually used by a dedicated response vessel and response team of the Member State. The Agency is currently trying to collect information on the available VOO in Europe. One of the aims of this data collection is to involve VOO in the future exercises with EAS.

- Considering the positive feedback from MS, EMSA will continue in 2020 with the EAS training programme with dedicated training sessions on equipment deployment and operation for equipment operators from the Member States.

- Increase of the number of activations of MAR-ICE for drills and exercises would be beneficial for the Member States preparedness to HNS incidents. Some Member States are quite used to this service and activate it regularly for exercises, in order to test the procedures and better understand the type of information and advice they can receive, whereas others have not yet activated it for exercising. In 2019 only 2 MAR-ICE exercises were conducted. Member States are regularly reminded and encouraged to activate the MAR-ICE network for exercises, to better understand the procedures and the service's output. The MAR-ICE network offers 24/7 access to a chemical expert, assists Member States in the interpretation of the information and provides an 'open door' to the chemical industry, all aiming to assist informed decision-making during chemical spill emergencies.

- The number of Notification Exercises arranged by MS in 2019 was significantly lower than during last two years. Morover, most of the exercises carried out were not completed by MS with the signature of the IRC-V and IRC-E contracts. This may affect capability of MS to mobilise quickly EMSA assistance during a real case scenario.

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