European Maritime Safety Agency

EMSA EACTE 9. EICIDEC



EMSA

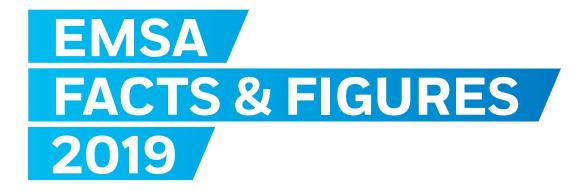




TABLE OF CONTENTS

Foreword	4
The Agency in brief	6

CHAPTER 1

MARITIME MONITORING AND INFORMATION ON SHIPS AND CARGOES	8
Maritime information exchange platform	9
Monitoring vessel traffic through SafeSeaNet	10
Monitoring vessel traffic through LRIT	11
Integrated Maritime Services	11
RPAS maritime surveillance	13
Simplifying reporting formalities	14
Maritime support services	15
THETIS information system and modules	16
Copernicus	17



VISITS AND INSPECTIONS TO MONITOR THE IMPLEMENTATION OF EU

LEGISLATION	18	
Classification societies	19	
Standards of Training, Certification and Watchkeeping	19	
Monitoring the implementation of EU maritime legislation	20	
Maritime security	21	
Horizontal analysis and research	21	



CHAPTER 3

PROVIDING TECHNICAL AND SCIENTIFIC ASSISTANCE AND FACILITATING		
TECHNICAL COOPERATION	22	
Accident investigation	23	
Marine equipment and ship safety standards	24	
Prevention of pollution by ships	25	
Training and cooperation	26	
Ship inspection support	27	

CHAPTER 4

POLLUTION PREPAREDNESS DETECTION AND RESPONSE	
Network of standby oil spil response vessels	
Detecting and deterring marine pollution	
Cooperation for effective pollution preparedness and response	
EUROPEAN COOPERATION ON COAST GUARD FUNCTIONS	
EMSA MANAGEMENT	
CHAPTER 5	



FOREWORD

This publication marks the completion of my first year in the role of EMSA's Executive Director. It sets out our main achievements in 2019 and provides a shortened account of the Consolidated Annual Activity Report which itself explains in detail how EMSA implements the tasks defined in the Agency's Single Programming Document (2019-2021). While the Agency continued to carry out its wide-ranging and multifaceted role in the maritime domain, my first and foremost task was to develop a multiannual strategy to guide the Agency over the next five years. A collaborative approach - joining together the European Commission, member states, industry and social partners – enabled us to devise a plan tailored to the needs of our stakeholders and reflecting the challenges of the complex landscape in which we operate.

The year began with a large-scale event dedicated to cybersecurity in maritime transport which gathered national authorities, industry and the three EU transport agencies as well as ENISA (the agency specialising in cybersecurity). This was the perfect opportunity for a coordinated approach to cybersecurity given increased connectivity and interdependencies between the transport sectors. Passenger ship safety was another area of priority which saw EMSA take forward the results of the Firesafe II study in an effort to reinforce fire safety on board ro-ro passenger ships. The results have now come to make up the backbone of IMO guidelines adopted in 2019. The Agency also contributed to European guidelines on trials with MASS (unmanned vessels) and stepped up its engagement in this area.

On an operational level, EMSA gave extensive support to the French authorities when the Grande America sank in early March 2019. Two standby oil spill response vessels equipped with RPAS were mobilised and satellite imagery provided to help in the subsequent clean-up operations. The support to maritime surveillance activities increased significantly with the RPAS (Remotely Piloted Aircraft System) services with seven deployments in one year with more than 640 operational days and about 1500 flight hours: a nice complement to the earth observation services, which also saw an increase in satellite imagery delivered to member states under CleanSeaNet as well as the Copernicus Maritime Surveillance Service.

Traffic Density Maps were developed to give a better understanding of maritime traffic patterns over defined geographical areas within specific timeframes. This service was made available to member states and EU institutions through the EMSA's SEG graphical user interface as well as to the general public through the EMODnet portal. The maritime picture provided by EMSA was also extended in 2019 to include greenhouse gas emissions from ships over 5000 GT operating in EU waters. In June, the first overview of CO_2 emissions representing just under 11000 ships was made public thanks to the THETIS-MRV system.

A new concept of capacity building was introduced to facilitate professional development. Based on a structured modular approach, this will offer increased support to national authorities carrying out flag, port, coastal and environmental duties. A modern eLearning and virtual reality platform are to form an integral part of this new concept.

None of these achievements would have been possible without strong cooperation and sustained dedication. For that, I thank our valued partners and the strongest asset of the Agency itself, our staff. I look forward to the upcoming years in which it is our intention to capitalise on the combined expertise, shared experiences and inherent potential of our joint venture.

Maja Markovčić Kostelac

Executive Director



European Maritime Safety Agency

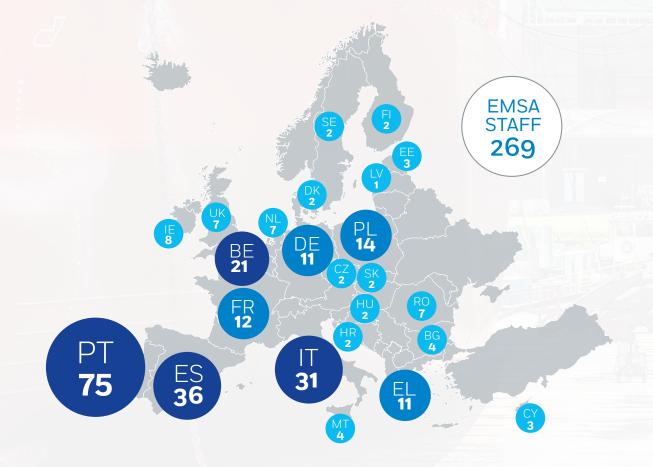
ESTABLISHMENT PLAN FIGURES

EMSA statutory staff from 2003 to 2019



EMSA STAFF BY NATIONALITY 2019

Figures include statutory and non-statutory staff



The Agency in brief

The idea of a European Maritime Safety Agency (EMSA) originated in the late 1990s along with a number of other important European maritime safety initiatives. EMSA was set up as a regulatory agency that would provide a major source of support to the European Commission and the member states in the field of maritime safety, security and prevention of pollution from ships. The Agency was established by Regulation (EC) No 1406/2002 and subsequent amendments have refined and enlarged its mandate to cover, among other measures, the efficiency of maritime transport.

Tasks and working context

EMSA, as a body of the European Union (EU), sits at the heart of the EU maritime safety network and fully recognises the importance of effective collaboration with many different interests and, in particular, between European and international institutions, member states' administrations and the maritime industry.

EMSA's activities can be broadly described as:

- providing technical and scientific assistance to the member states and the European Commission in the proper development and implementation of EU legislation on maritime safety, security, prevention of pollution by ships and maritime transport administrative simplification
- monitoring the implementation of EU legislation through visits and inspections
- improving cooperation with and between member states
- building capacity of national competent authorities
- providing operational assistance, including developing, managing and maintaining maritime services related to ships, ship monitoring and enforcement
- carrying out operational preparedness, detection and response tasks with respect to pollution caused by ships and marine pollution by oil and gas installations
- at the request of the European Commission, providing technical operational assistance to non-EU countries around relevant sea basins.

The Agency's work reflects the spectrum of initiatives launched by the EU to strengthen Europe's competitiveness and sustainable growth. In this respect, of particular relevance is the contribution to the success of the Growth and Jobs Strategy in terms of supporting the implementation of an attractive framework for quality shipping and quality operators in Europe.

European Maritime Safety Agency





Mission

To ensure a high, uniform, and effective level of maritime safety, maritime security, prevention of, and response to, pollution caused by ships as well as response to marine pollution caused by oil and gas installations



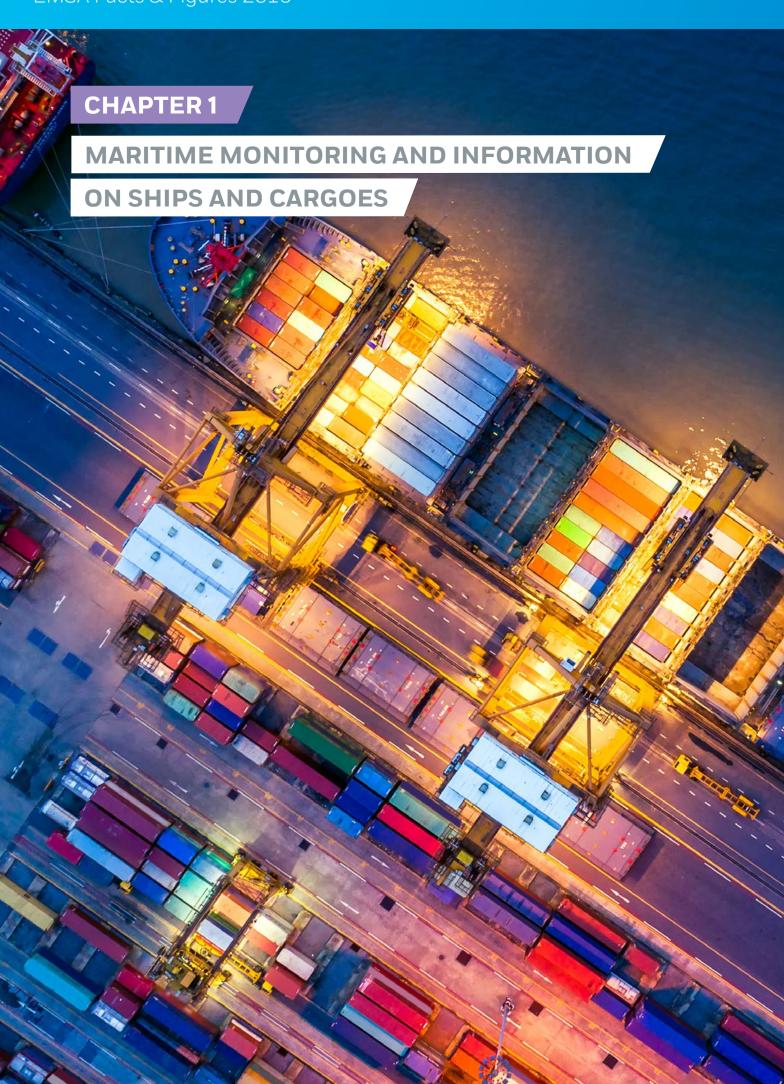
Vision

To promote a safe, clean and economically viable maritime sector in the EU



Values

Efficiency, effectiveness, transparency, flexibility and creating added value



MARITIME INFORMATION EXCHANGE PLATFORM

Getting a comprehensive overview of activity at sea is a challenge for most countries. To implement maritime policies effectively, governments and authorities need detailed, reliable knowledge about what happens at sea, in real time. Through EMSA's SafeSeaNet Ecosystem Graphical User Interface (SEG), users are being given access to key maritime applications and their data sets and tools whether from mobile and tablet devices or desktop and laptop computers. The SEG interface groups together the information services of SafeSeaNet (SSN), Long Range Identification and Tracking (LRIT), Integrated Maritime Services (IMS), CleanSeaNet (CSN), THETIS and Equasis:

- SSN Ships transiting EU waters are tracked daily in real-time through SafeSeaNet, the EU's vessel traffic monitoring and information system. This system enables the exchange of data between national systems managed by maritime authorities across Europe
- LRIT Ships transiting global waters are tracked through the LRIT system, introduced by the International Maritime Organisation in 2006. EMSA operates the LRIT Cooperative Data Centre, through which member State users can access the LRIT information of their ships worldwide as well as of any third country vessel bound to or sailing within 1000 nautical miles of EU waters
- IMS EMSA's Integrated Maritime Services allow data from EMSA applications and external sources to be integrated and correlated to provide targeted information services. Through IMS, users also have access to the automatic detection and alert triggering of ship behaviour (ABM)
- CSN CleanSeaNet is EMSA's satellite-based oil spill surveillance and vessel detection service. Vessels detected by satellite in the vicinity of an oil spill may be correlated with vessel traffic reports to help identify the source of the spill
- THETIS SEG gives its users access to the information on a ship's inspection history that is publicly available
- Equasis A link is also provided to Equasis where users can consult information safety related information on ships and companies.

Several training activities and user consultations took place, as the interface came into operation for even more users. In 2019, 282 participants received training on the SEG for SSN/IMS/ABM and CSN services. National training sessions took place in Estonia for the maritime administration, VTS service, police and border guard, JRCC, navy and customs authorities; in Italy separate sessions were held for the Guardia di Finanza and the Italian coast guard; and, in Germany for the Bundesländer and German federal authorities and emergency responders. Several webinars were also held throughout the year dealing with different aspects of SEG. Demand for training is expected to increase in 2020 as SEG user communities further expand and diversify.

An e-learning module on how to report, consult and request international assistance during a maritime pollution emergency using SafeSeaNet and CECIS (Marine Pollution Common Emergency Communication and Information System) was jointly developed by EMSA and the European Commission's Directorate-General for European Civil Protection and Humanitarian Aid Operations (DG ECHO).

MONITORING VESSEL TRAFFIC THROUGH SAFESEANET

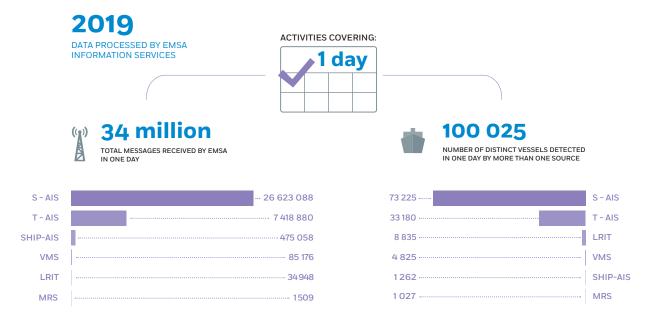
The EU's vessel traffic monitoring and information system, SafeSeaNet, continued to support users on their legal reporting requirements covering waste, hazardous materials, bunkers, passenger registration, etc. The quality of data contained in the system remains highly important and EMSA works closely with the member state users to make improvements in this area.

Search and rescue bodies, pollution response centres and vessel traffic services are just some of the user communities accessing the system for reliable data on: ship positions; arrival and departure information; cargo (for vessels carrying dangerous or polluting goods); details of waste and cargo residues; ship security; and, any incident posing a potential hazard to shipping or to the safety of individuals or the environment.

Traffic Density Maps displaying vessel movement patterns are a new feature which became available to authorised users in September 2019 via the SEG application and to the general public via the EMODnet portal. These maps will contribute to a better understanding of maritime traffic, for which the European Commission's DG for Maritime Affairs and Fisheries and the European Environment Agency have expressed their interest.

The development of the central databases (ship, hazmat, organisations and locations) continued as planned in 2019. These databases offer a set of web services to enable information sharing via a system-to-system interface with member state national systems. EMSA has also been exploring with Eurostat to see how the various information databases can be used to support specific statistical needs.

On the topic of places of refuge for ships in need of assistance, the fourth table top exercise was held in Las Palmas (Gran Canaria) and focussed on testing the existing guidelines in a complex situation involving a large container vessel carrying mis-declared cargo and the transportation of radioactive material. The event drew 60 participants with representatives from most coastal member states, industry stakeholders (shipowners, ports, salvors, insurers and classification societies) as well as observers from the IMO and Transport Canada.



MONITORING VESSEL TRAFFIC THROUGH LRIT

EMSA operates the EU LRIT Cooperative Data Centre (EU LRIT CDC) which disseminates long range identification and tracking information on EU-flagged ships around the world on behalf of all European flag states, and exchanges information with other data centres around the world. The EU LRIT CDC is one of the largest data centres in the LRIT system, tracking over 8 000 ships per day. Associated to this is the global LRIT International Data Exchange which serves 61 LRIT data centres worldwide covering over 120 contracting governments and is hosted and operated by EMSA.

In terms of membership, both Georgia and Tunisia's requests to join the EU LRIT CDC were accepted by the European Commission while the UK officially left the EU LRIT CDC. It was followed by the British Virgin Islands, the Falkland Islands and Gibraltar. With EMSA's technical support, around 760 ships were transferred to the UK LRIT NDC.

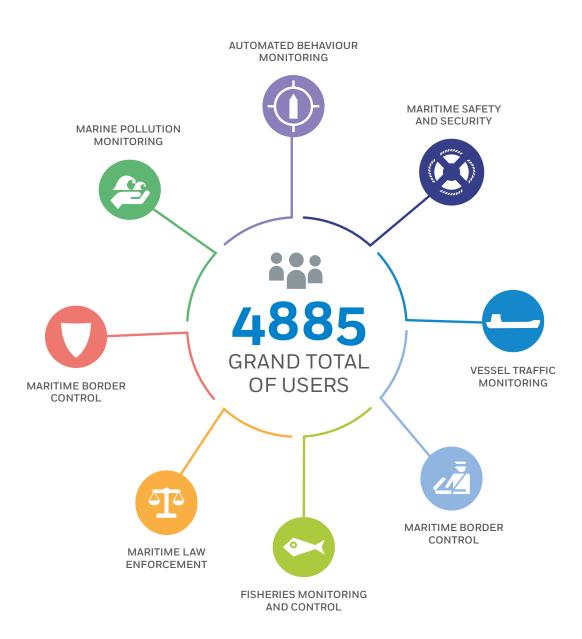


INTEGRATED MARITIME SERVICES

EMSA's Integrated Maritime Services (IMS) have the operational and technical capability to integrate and correlate data from EMSA applications and external sources for a variety of different user needs-based services. Services continued throughout the year to be provided to member state authorities as well as EU bodies, including Frontex (border control), EFCA (fisheries monitoring), EU Navfor (anti-piracy) and MAOC-N (law enforcement – narcotics). The total number of member state authority users increased in 2019 to more than 3500, corresponding to some 250 organisations, while there were approximately 1400 EU body/agency users.

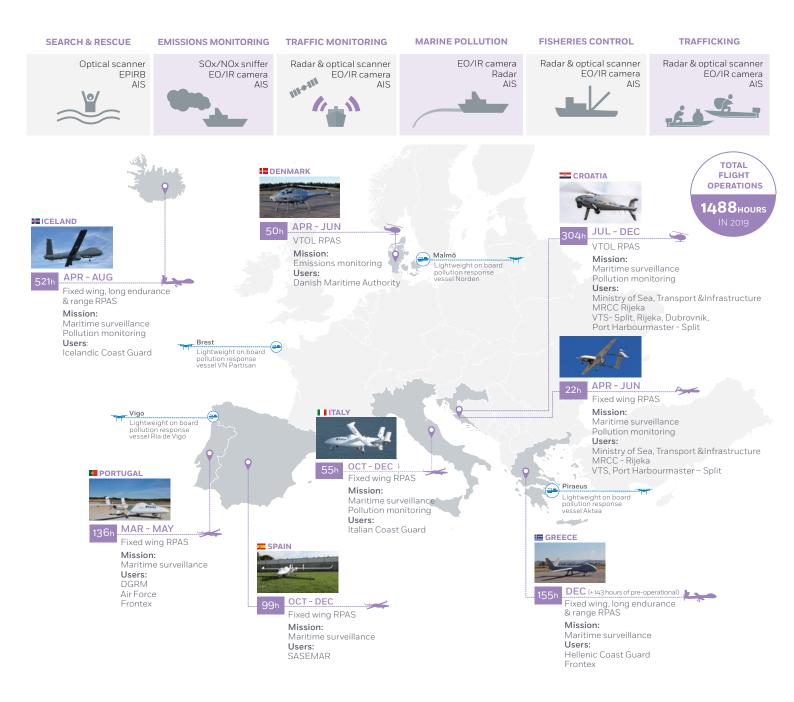
Automated Behaviour Monitoring (ABM) tools were also provided to IMS users to support them in their maritime surveillance functions by providing a near real time, enhanced situational picture. Through the different algorithms used, patterns such as entering an area of interest, encounters at sea, approaches to shore, drifting and deviations from usual routes, are detected and operators automatically alerted in real time. For the first time in 2019, users were able to trace back behavior over the past two years, and Europol is now able to include maritime information in its own investigation process. The system has over 20 algorithms with the possibility of more being added as the system grows according to user needs. On average in 2019, the system generated 2000 alerts per day to over 200 recipients for the 300 specific ABM searches which are run on a routine basis.

Satellite AIS capabilities have led to an extended geographical range over which ships can be tracked using the AIS system. In 2019 EMSA signed a new service contract through which the quality of the services offered to users improved significantly thanks to high performance satellites and unique real-time capabilities.



RPAS MARITIME SURVEILLANCE

For continuous information in areas of particular risk, EMSA has been providing maritime surveillance services based on Remotely Piloted Aircraft Systems (RPAS). Over the course of the year, these services totalled 642 operational days and 1488 flight hours. The services benefited seven different member states, particularly as regards their coast guard duties, as well as Frontex and EFCA. The visuals below highlight certain areas where maritime surveillance is greatly enhanced due to the persistent surveillance provided by the RPAS. They also show the countries and specific authorities which benefited from these services during the year. Alongside these services, is the RPAS data centre which provides flight data and live video, thereby showing the maritime picture in real time.

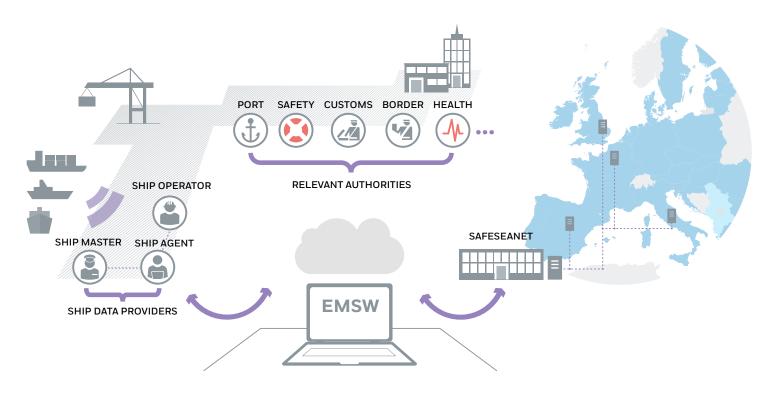




SIMPLIFYING REPORTING FORMALITIES

In recent years, member states have set up a National Single Window through which shipping companies can submit information electronically and make this information available as necessary to multiple authorities. EMSA has been providing support to the member states, helping them to achieve a harmonised implementation and higher degree of digitalisation.

In August 2019 a new regulation came into force aiming to establish a European Maritime Single Window (EMSW) environment, whose purpose would be to simplify and further harmonise the information procedures behind the various reporting obligations imposed on shipping companies through national, EU and international law. EMSA has been a major contributor to this whole process as well as to the creation of a corresponding implementation plan and assessment of the data to be exchanged via the SafeSeaNet system accounting for all the necessary security and interoperability measures.



MARITIME SUPPORT SERVICES

The Maritime Support Services (MSS) centre is a 24/7 service helpdesk for users of the vessel traffic monitoring and surveillance systems hosted by EMSA. It provides non-stop monitoring of these systems to ensure high availability and performance, as well as to facilitate early incident management. The MSS centre is the first point of contact for member states whenever assistance is required within the context of EMSA's contingency plan. This plan was activated on 15 occasions in 2019. One of those cases was the sinking of the Grande America ro-ro vessel in the Bay of Biscay for which two oil pollution response vessels were deployed with lightweight quadcopter drones, conducting and monitoring clean-up operations. More than 50 satellite images were also delivered, offering valuable insight into the exact location and extent of the spill.



On 10 July, EMSA Executive Director Ms Maja Markovčić Kostelac welcomed to the Agency His Excellency President of the Portuguese Republic, Marcelo Rebelo de Sousa. The visit followed an invitation made in May and offered the opportunity for an in-depth look at EMSA and its role in the European maritime sector.



EMSA was honoured to welcome to its premises H.E. Ms Kolinda Grabar-Kitarović, President of Croatia, on 27 May. During the visit, Ms Grabar-Kitarović was given an overview of the Agency's extensive maritime surveillance capabilities in the Maritime Support Services operations centre.

THETIS INFORMATION SYSTEM AND MODULES

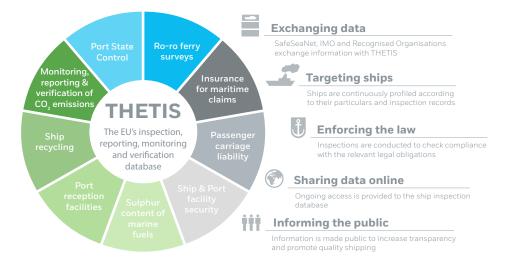
The THETIS information system was originally set up to allow port state authorities in the EU and other Paris MoU members (Canada, Iceland, Norway and Russia) to manage inspection data in a single window and enables these authorities to apply a risk-based approach targeting mechanism. THETIS also assists the European Commission by providing statistics on inspection results. In 2019, some 18570 Port State Control inspections were recorded by 600 users from 28 countries.

New functionalities continue to be added to the system, thereby supporting a wider range of member state authorities and facilitating the enforcement of a broader set of European laws. The various modules developed cater for the enforcement of the relevant provisions of the Sulphur and the Port Reception Facilities Directives, as well as the Ship Recycling and the Maritime Security Regulations. More recently, THETIS was further enhanced with a new module to accommodate the requirements of the new directive for inspections to ensure the safe operation of ro-ro passenger ships and high speed passenger craft in regular service which came into force in December 2019.

To give an idea of the figures involved, some 12600 sulphur inspections and 4590 port reception facility related inspections were recorded in the system in 2019. Also, as the implementation of the Sulphur Directive gained momentum, EMSA's RPAS surveillance services were used to take measurements of sulphur dioxide emissions coming from ships. In Denmark, these services were used during 61 operational days. The measurements taken by the RPAS sensors were then fed live to THETIS-EU system, thereby making it easier for port inspectors to target ships for the necessary follow-up checks.

Data on CO_2 emissions is being reported into the THETIS-MRV system which was developed by EMSA to support emissions monitoring for ships of over 5000 GT operating in EU waters. This data was published in June 2019 for around 10800 ships, and gave the first picture of CO_2 ship emissions across the EU. Support has been given to the Commission to analyse the data and a report is scheduled to be published mid-2020 to allow for a proper assessment of the CO_2 emissions and energy efficiency of maritime transport. This development is expected to lead to emissions reductions of up to 2% compared with a business-as-usual scenario.

A pilot project has also been launched to verify the data recorded in the THETIS system using a dedicated web service to facilitate communication on dates of issue, expiry and survey for the statutory certificates issued by recognised organisations on behalf of flag States. This is designed to reduce the administrative burden for port state control officers.



Maritime monitoring

COPERNICUS

In its capacity as an entrusted entity for the Copernicus Maritime Surveillance Service, EMSA has been providing satellite images to support a better understanding and improved monitoring of human activities at sea for the last four years. The services delivered support users in areas such as: fisheries control, maritime safety and security, law enforcement, customs, marine environment (pollution monitoring), and support to international organisations. In 2019, the overall number of user organisations registered in the system grew by 52% compared with 2018 and the number of earth observation products delivered grew by 29%, totaling 3 953 for the year.

The service provides timely, relevant, and targeted information to member states and EU bodies. Coverage can be provided in areas of European interest across the globe by Synthetic Aperture Radar (SAR) and optical satellites with a variety of different resolutions. In addition to image products, the service provides value-added products, including detection and classification of vessels (e.g. position, vessel type, size, heading) based on automatic algorithms, and object/activity detection (location, type of activity or object, size, information on surrounding area).

Data acquired through Copernicus can be combined with a wide range of other data, both from EMSA's own applications and from external sources. Vessel position and track information overlaid on satellite images, for example, provides a very powerful tool for checking vessel activity at sea - including the existence and location of vessels that are not reporting their whereabouts. Information is delivered in a customised way through a secure, user-friendly web interface.





INSPECTIONS CONDUCTED IN 2019

0



RECOGNISED ORGANISATIONS

- **O**ffices
- 3 Greece
- 2 India
- 2 South Africa
- 2 Netherlands
- 2 United Kingdom
- 1 Brazil
- 1 Croatia
- 1 Germany
- 1 Italy
- 1 Poland
- 1 Russian Federation

STANDARD FOR TRAINING, CERTIFICATION & WATCHKEEPING

- India
- Panama
- Singapore

CLASSIFICATION SOCIETIES

Classification societies develop and apply technical standards to the design, construction and assessment of ships. Some 12 classification societies are recognised by the EU and are inspected by EMSA as part of its core tasks. Based on the reports submitted, the European Commission makes the relevant assessments and takes policy decisions and/or requests corrective measures.

In 2019 EMSA carried out 17 inspections of recognised organisations, the locations and scope of which were determined on a risk basis. Remote auditing techniques were used to prepare the inspections, so that detailed information could be assessed ahead of time. While the inspections themselves focussed on common issues for ships in operation and new builds, they also reviewed corrective measures taken in previous years regarding fire safety particularly in areas with machinery. Findings were made in all cases and triggered voluntary corrective action. Finally, EMSA held a workshop on the monitoring of recognised organisations which marked the beginning of a process to adopt new working arrangements and to allow for increased information sharing to support flag state responsibilities.

STANDARDS OF TRAINING, CERTIFICATION

Many ships registered under EU flags are manned by seafarers who hold certificates issued by non-EU countries. To ensure that these crew members are properly trained, EMSA carries out inspections of the maritime education, training and certification systems of the country that issued their original certificates. Compliance is assessed on the basis of the International Maritime Organisation's STCW (Standards of Training, Certification and Watchkeeping) Convention and Code. In 2019, inspections were carried out in India, Panama and Singapore.

As done in previous years, in 2019 EMSA made available to the general public the seafarer statistical review on the European labour market. The data shows that 202190 masters and officers hold valid certificates of competency (CoC) issued by EU member states while another 87810 masters and officers hold original CoCs issued by non-EU countries with endorsements issued by EU member states. The review is based on data registered by EU member states and recorded in EMSA's STCW Information System (STCW IS) up until the end of 2017.

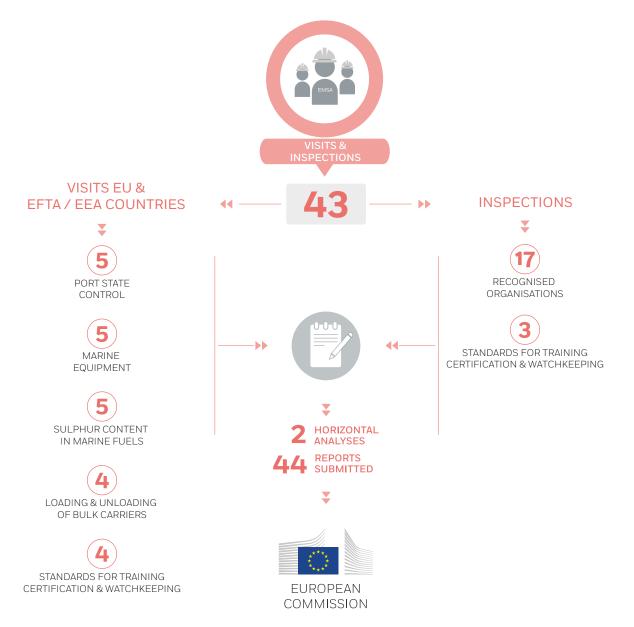
EMSA also provided technical support to the European Commission as it reviewed two directives as part of the fitness check process. This, in turn, led to the adoption of a new directive which amended one of the existing directives and repealed the other. EMSA also assisted the European Commission in the comprehensive review of the STCW-F Convention and in preliminary work to support a proposal for a comprehensive review of the STCW Convention and Code.

On the international front, EMSA put in place preparations to host in 2020 an international workshop on the Maritime Labour Convention. This was done jointly with the European Commission, International Labour Organisation and the International Maritime Organisation to work towards a level playing field based on greater harmonisation and uniformity in compliance and enforcement

MONITORING THE IMPLEMENTATION OF EU MARITIME LEGISLATION

EMSA assists the European Commission and the EFTA Surveillance Authority in their efforts to achieve a convergent and effective implementation of EU maritime law by conducting visits to member states, Iceland and Norway. In 2019, 19 visits were carried out to monitor the implementation of four EU directives: on the sulphur content of marine fuels; on port state control; on marine equipment; and on the safe loading and unloading of bulk carriers; and to monitor the implementation of the STCW Directive. Preparatory work also got underway for a new cycle of visits to begin in 2020 on passenger ship safety.

Each visit is conducted according to the Quality Management System established by EMSA and the outcome forms the basis of a report which is shared with the member state in question and the European Commission (and, where appropriate, the EFTA Surveillance Authority). The visits give member states the opportunity to better plan resources, assess training requirements and review any gaps and shortcomings, in order to improve the level of compliance with EU law.



Visits & inspections



MARITIME SECURITY

Maritime security refers generally to measures taken for protection against unlawful acts such as piracy, armed robbery, terrorism and maritime violence. EMSA assists the European Commission by monitoring the implementation of Regulation (EC) No 725/2004 on enhancing ship and port facility security. It also provides technical assistance to the EFTA Surveillance Authority on ship security.

EMSA's inspection reports detail the maritime security measures, procedures and structures of the countries visited. The Agency also provides technical input on future inspections for the consideration of the European Commission. In 2019, 54 individual inspections were conducted, reflecting the heightened priority of the European Commission in this area.

A new reporting module in THETIS-EU to assist the member states in the recording and reporting of maritime security inspections went live in January 2019. The THETIS-EU MARSEC module was used on a voluntary basis by seven member states to report and share the outcome of inspections performed on ships under Regulation (EC) No 725/2004. A total of 85 inspections were recorded in THETIS-EU MARSEC and 360 user accounts were created for Duly Authorised Officers.

Also in 2019, EMSA jointly hosted a transport cybersecurity conference together with ENISA, which was followed later in the year by a workshop on port cybersecurity and a table top exercise for member states and industry representatives to test their responses in the event of a maritime cybersecurity risk.

HORIZONTAL ANALYSIS AND RESEARCH

EMSA drafts reports for each of the visits and inspections it conducts and then analyses these to identify any common findings and draw general conclusions on the effectiveness of the measures put in place by member states to implement the directives in question. Two analyses were completed in 2019:

- the first covering mid-cycle findings from member state visits targeting the implementation of the Sulphur Directive which were then presented during a workshop held in November 2019 at EMSA
- the second dealing with mid-cycle findings from member state visits on port state control. Both analyses also included cost-effectiveness considerations.



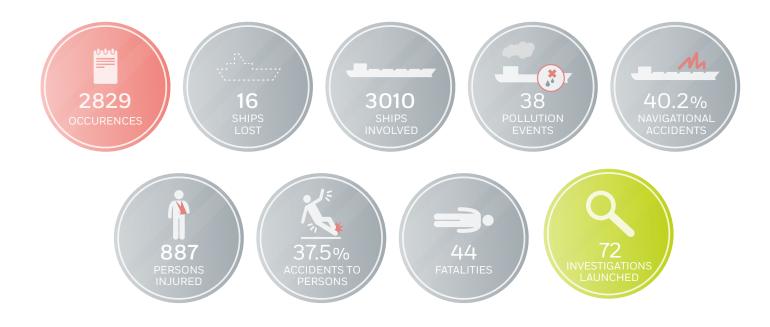
ACCIDENT INVESTIGATION

EMSA helps the European Commission and member states to improve maritime safety by analysing accident investigation reports and producing marine casualty statistics. The European Marine Casualty Information Platform (EMCIP) run by EMSA is a centralised database where member states store and analyse information on marine casualties and incidents. Based on the information extracted from EMCIP, EMSA published the sixth edition of the Annual Overview of Marine Casualties and Incidents in 2019.

This database holds valuable potential for maritime safety. To explore this potential, EMSA developed a methodology in 2017 to analyse EMCIP data and detect potential safety issues. This methodology was applied and tested on the data held for fishing vessels in early 2018 and on ro-ro vessels later in the same year. In 2019, preparations also got underway to apply this same methodology to container ships.

EMSA also hosts the Permanent Cooperation Framework (PCF) where member states and the European Commission work together to facilitate cooperation among accident investigation bodies. In 2019, the fourth inter-sessional seminar was held on evidence collection as part of the human element in accident investigation and EMSA continued to provide training activities for accident investigators from EU member states and neighbouring countries.



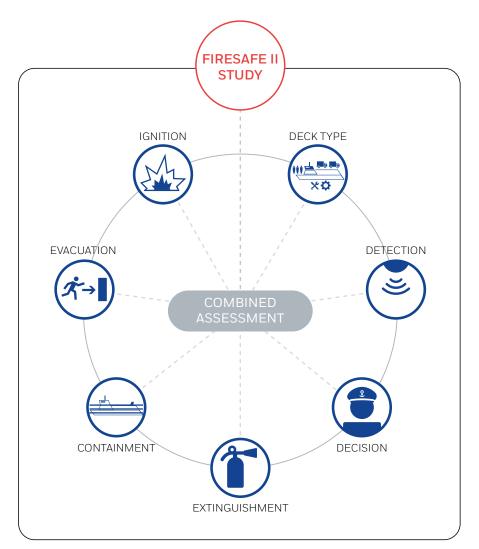


MARINE EQUIPMENT AND SHIP SAFETY STANDARDS

EMSA contributes to the safety of ships and marine equipment by closely monitoring the development of safety standards. In 2019 EMSA contributed to the European Commission's fitness check of passenger ship safety legislation in certain key areas. Firstly, EMSA finalised the technical coordination of a new annex for Directive 2009/45/EC which draws input from several consultations. Secondly, EMSA supported the finalisation of a safety guide for small passenger ships (below 24m in length) which was adopted by member states as a Council Recommendation.

EMSA continued to build on the work developed in the area of fires on the vehicle decks of ro-ro passenger ships, notably through the Firesafe II study which investigates the risk control options available in the different stages following the outbreak of a fire on board a ro-ro passenger ship – detection, decision, containment and evacuation. EMSA facilitated the related discussions among accident investigation bodies and maritime administrations, and coordinated subsequent EU submissions at IMO. The results formed an essential part of the work of the IMO, contributing significantly to the Interim Guidelines adopted in 2019.

EMSA continued to support the European Commission on the implementation of the Marine Equipment Directive, updating the list of standards for marine equipment and developing a new MED database to be hosted and operated by the Agency as a cloud application.



EMSA is also closely monitoring the situation regarding Maritime Autonomous Surface Ships, facilitating discussions among member states, industry and the European Commission as well as contributing to the IMO Maritime Safety Committee's assessment of the impact of MASS on existing international maritime safety regulations. The Agency also commissioned a study on the topic and held a first workshop gathering experts from the member states and industry to facilitate discussions at technical level. The Agency actively participated in the Commission's HLSG subgroup on MASS and made a significant contribution to the European guidelines for trials with MASS vessels.

Another study is also underway on steering and manoeuvrability which is also likely to stimulate discussions at the IMO. In an advisory capacity, EMSA is also overseeing five EU-funded projects called Autoship (MASS), Safepass and Palaemon (evacuation of large passenger ships), FLARE (damage stability of passenger ships), and Lashfire (fire safety on board ropax vessels).

PREVENTION OF POLLUTION BY SHIPS



Technical workshop to raise awareness of the new sulphur limit for marine fuel, 13 February 2019

EMSA provided expertise to the European Commission and member states throughout 2019 to help them tackle a variety of issues related to the prevention of pollution caused by ships, confirming the Agency's strong commitment to sustainability and greener shipping. This assistance covered:

- supporting an analysis of the CO₂ emissions data recorded in the THETIS-MRV system, the report of which is expected to be made public mid-2020 enabling further assessments of CO₂ emissions and the energy efficiency measures in place in the EU
- workshops and training on alternative fuels including LNG, as the upward trend continues in LNG fuelled ships operating in Europe
- contributing to the adoption of the revised Port Reception Facilities Directive and monitoring the implementation of the Ship-Source Pollution Directive
- holding technical workshops to raise awareness of the upcoming 0.50% limit on the sulphur content of marine fuels effective from 2020, one of which was held in Lisbon and the other at the IMO in London. Support was also given to the ongoing discussions among countries sharing the Mediterranean Sea basin about the feasibility of a potential emissions control area in the Mediterranean
- support to the European Commission's proposal to ban the use of cybutryne from October 2021 as well as to ban ships using such coating from October 2026
- development of Guidance on inpections of ships by port states in accordance with Regulation (EU) 1257/2013 on Ship Recycling
- development of Guidance for best practices on sampling as foreseen by the Ballast Water Convention.

On the international front, EMSA continued to actively participate on behalf of the European Commission in the discussions held at the International Maritime Organisation as regards the strategy on the reduction of greenhouse gas emissions from shipping and the development of the Energy Efficiency Design Index (EEDI).



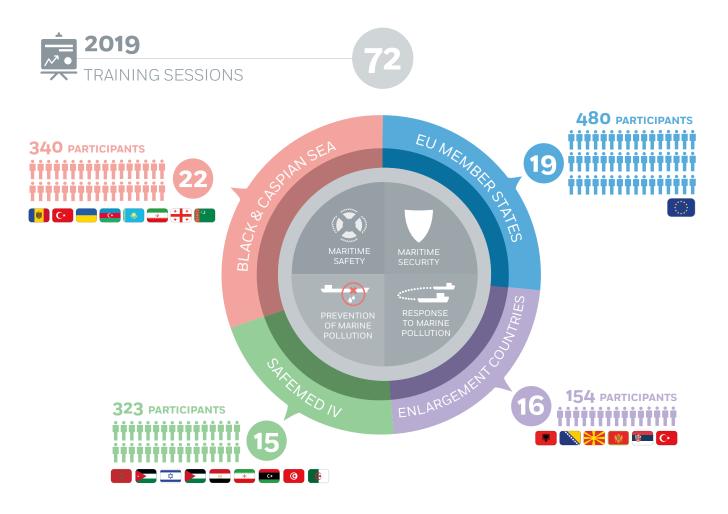
TRAINING AND COOPERATION

In 2019, EMSA organised 19 training sessions, seminars and best practice exchanges that were attended by 480 participants from the EU member states, Iceland and Norway. Through this form of technical assistance, the beneficiaries were given updated information on selected technical subjects and benefited from exchanges with both EMSA and other stakeholders on the general effectiveness and harmonisation of standards. In addition, new distance learning modules on EU and international maritime legislation were developed and made available through MaKCs, EMSA's e-learning platform. In addition, 16 training courses were held by EMSA for the enlargement countries (Albania, Bosnia-Herzegovina, Republic of North Macedonia, Montenegro, Serbia, Turkey) included in the grant agreement signed by EMSA and the European Commission's Directorate General for neighbourhood and enlargement negotiations (DG NEAR).

The technical assistance provided to SAFEMED beneficiary countries (Algeria, Egypt, Jordan, Israel, Lebanon, Libya, Morocco, Palestine and Tunisia) resulted in 15 training sessions attended by 323 participants. The project for the Black Sea and Caspian Sea (BCSEA) areas launched in 2018 continued, offering beneficiary countries (Azerbaijan, Georgia, Kazakhstan, Moldova, Ukraine, Turkey and Turkmenistan) technical assistance in a number of key areas, including flag state, port state, VTMIS, human element, environmental protection and International Ship and Port Facility Security. Both SAFEMED and BCSEA beneficiary countries were given access to some of EMSA's operational tools, including CleanSeaNet.

EMSA continued to host and support the information system, RuleCheck, through which port state control officers are given direct access to up-to-date EU legislation, IMO and ILO Conventions and Paris MoU documents. In 2019, EMSA began to work on a mobile application for this system which is expected to be operational in 2020. RuleCheck is also now available to flag state personnel in member states, European bordering (ENP) and preaccession (IPA) countries as well as to numerous regional port state control regimes such as Mediterranean, Black Sea, Caribbean and Indian Sea MoUs. The e-learning platform, MaKCs, was also maintained, offering dedicated courses to various user communities in the EU. These services are also available to SAFEMED and BCSEA countries.

A new concept of capacity building was introduced to facilitate professional development. Based on a structured modular approach, this will offer increased support to national authorities carrying out flag, port, coastal and environmental duties. A modern eLearning and virtual reality platform are to form an integral part of this new concept.



SHIP INSPECTION SUPPORT

Valuable information on the safety and quality of the world's merchant fleet can be found online, free of charge through the Equasis information system. By publishing reliable and objective information on the safety of ships and their operation, this system helps to encourage quality shipping and eradicate substandard practices. The data which is supplied by port state control regimes, classification societies and other industry-based organisations counts a monthly average of approximately 35000 individual users, viewing the pages in the Equasis database over 19 million times a year. There are currently over 87000 registered Equasis users. EMSA's role as host of the management unit of Equasis includes: manning a user helpdesk to ensure the system runs smoothly; preparing biannual meetings for the editorial board and supervisory committee; handling the accreditation of data providers; and, publishing the Equasis annual report on the world merchant fleet.

Alongside this is the Marinfo information system which collects data from commercial sources worldwide on ship characteristics, accidents, movements, ownership, and ship history. This system is particularly useful to EMSA staff when preparing their visits and inspections, as well as to the European Commission when making ex-post assessments of legal provisions.

CHAPTER 4

POLLUTION PREPAREDNESS
DETECTION AND RESPONSE

Connecting Europe for a Sustainable Future

NETWORK OF STANDBY OIL SPILL RESPONSE VESSELS

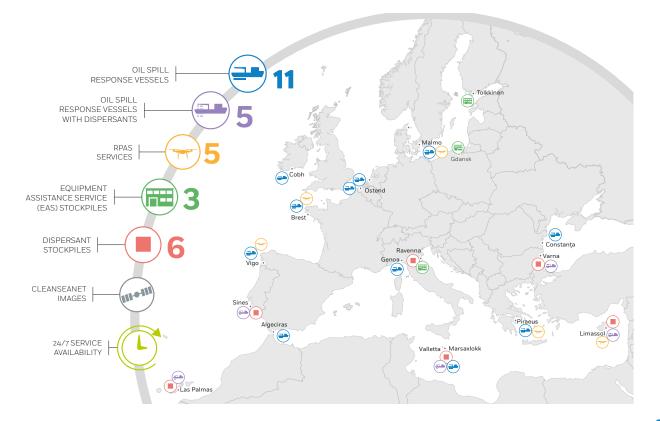
A network of oil spill response vessels is on standby across Europe to reinforce the ability of individual EU member states to protect their coastlines and seas from marine pollution. EMSA maintains operational contracts for each of the vessels in this network, mainly by monitoring and assessing the performance of the contracted vessels during quarterly drills and international exercises. At the end of 2019, 16 fully equipped oil spill response vessels were available for mobilisation and three newly contracted vessels were being prepared to become operational mid-2020.

EMSA continued to build up its Equipment Assistance Service (EAS) throughout the year with contract renewals and replacement contracts, both being successfully completed. The northern Baltic service also became operational in March 2019, bringing the total number of EAS arrangements to three with a further two expected by mid-2020. Dispersants and dispersant spraying systems were also available for national authorities, thereby extending the options when responding to incidents at sea.

Extensive support was provided following the sinking of the Grande America in March 2019 in the Bay of Biscay. At the request of France, two oil spill response vessels were deployed (the Ria de Vigo and the Partisan) together with lightweight RPAS. During the clean-up operations, the pollution response equipment on board EMSA's vessel performed well above average standards in terms of percentage of oil in the recovered product.

EMSA also participated in 13 exercises, involving the deployment of nine vessels, equipment from four EAS arrangements and five lightweight RPAS. Training was also organised for member states and EFCA within the coast guard cooperation framework.

NETWORK OF EMSA CONTRACTED VESSELS, DISPERSANTS & EQUIPMENT STOCKPILES IN 2019





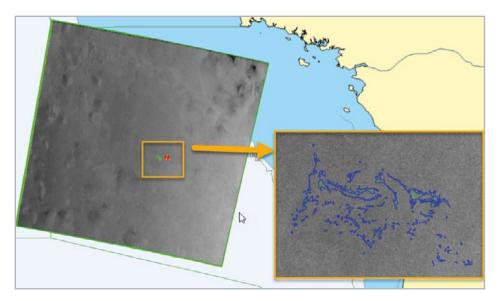
DETECTING AND DETERRING MARINE POLLUTION

EMSA helps to identify, trace and track the origin of illegal discharges through the satellite image-based service known as CleanSeaNet. In 2019, the service was available to 28 coastal states (all 23 EU coastal states; two EFTA coastal states, Iceland and Norway; three candidate countries: Albania, Montenegro and Turkey). Through the SAFEMED and BCSEA cooperation projects, the service was also made available across the Mediterranean, Black and Caspian Sea areas.

Overall, 7153 analysed images were delivered: 6 905 to coastal state users; and, 248 to SAFEMED and BCSEA beneficiary countries. A total of 7755 potential spills were detected, over 60% of which ranked in the highest probability category regarding the detection of a possible oil spill.

CleanSeaNet also provided support to eight additional requests from member states and the European Commission to address accidental spills and emergencies. In particular, extensive support was given following the Grande America sinking in March 2019.

New framework contracts were signed allowing for the acquisition of Radarsat-2 and TerraSAR-X/PAZ satellite licenses. These new contracts offer a stable and robust basis for service delivery and enable EMSA to handle an expected increased volume in earth observation service requests for the upcoming years.



On the evening of 10 March 2019, a fire was reported on board the vessel Grande America. EMSA's CleanSeaNet satellite service was activated by the French authorities for the acquisition of additional From 15 March, two of EMSA's oil spill response vessels, as well as the remotely piloted aircraft system (RPAS) service, were made available to France to assist in clean-up operations. Between 18 March and 2 April, an additional 55 images were delivered by CleanSeaNet over the Bay of Biscay to monitor the evolution of the spill and to provide support to the response operations.



COOPERATION FOR EFFECTIVE POLLUTION PREPAREDNESS AND RESPONSE

EMSA supports the preparedness and response capabilities of member states for marine pollution incidents. This role involves disseminating best practices and exchanging information between member states, the Regional Agreements, the International Maritime Organisation and other relevant international bodies.

EMSA shares information with member states on chemicals and their treatment in the marine environment to assist them in dealing with spills involving hazardous and noxious substances. MAR-ICE is a service offering information from experts in the event of a marine chemical incident, which now also includes the possibility of having an expert coming directly to the national response command centre during the incident. The MAR-ICE network was activated twice in 2019, once by the French navy in June and once during the place of refuge table top exercise in Las Palmas in October. Special datasheets are also available for over 200 chemicals through the MAR-CIS web portal. These datasheets can be consulted offline through a new application for mobile devices. There is also the possibility for EMSA to support member states in monitoring the evolution of spills using the Oil MAP modelling software or to evaluate the potential effect of using dispersant through the Dispersant Usage Evaluation Tool (DUET).

In 2019, EMSA conducted six regional stress test workshops to evaluate the efficiency of the Agency's oil pollution response services at EU level. A tool was developed and used to evaluate the resources used to mitigate the impact of a large offshore oil spill in EU waters and the outcome was presented and discussed at a final workshop held in Lisbon.





16 April 2019 - The Annual Coast Guard Event in Świnoujście, Poland gathered the EU agencies involved in the cooperation on coast guard functions and the European Commission. Views were exchanged on matters related to safety and security at sea. The discussions focused on information sharing and surveillance, analysing risks at sea and training of coast guard officers.

COOPERATION





This was the second such event jointly organised by Frontex, the European Fisheries Control Agency (EFCA) and the European Maritime Safety Agency (EMSA).







EUROPEAN COOPERATION ON COAST GUARD FUNCTIONS

EFCA, Frontex and EMSA are working together to provide efficient and cost-effective support to member state authorities carrying out coast guard functions. This enhanced cooperation follows the adoption of the European border and coastguard package by the European Parliament and Council in 2016, and the subsequent signature of a tripartite working agreement in 2017. In 2019, the second Annual European Coast Guard event held in Świnoujście (Poland) provided a forum through which national authorities could be consulted on the key areas of cooperation. Specific developments throughout the year included:

- sharing information: In 2019 EMSA shared the IMS maritime picture and Automatic Behaviours Monitoring (ABM) tools with EFCA and Frontex. The IMS maritime picture has been further developed to integrate requirements from coast guard stakeholders. The Agencies developed and shared an overview of the available datasets to encourage further data sharing with national coast guard authorities.
- joint maritime surveillance services: The EMSA maritime surveillance services have increased in 2019 for a wide range of coast guard stakeholders (both in numbers and quality). An extended range of remotely piloted aircraft systems (RPAS) was made available in 2019. As for specific operations, EMSA provided Frontex with RPAS services for surveillance activities in both Greece and Portugal as well as to EFCA (on board their fishery inspection vessel Lundy Sentinel) to support coast guard functions. As a result of the cooperation between the three Agencies, the RPAS data streams are integrated with other data layers of the IMS in the RPAS Data Centre that is shared with all users of the RPAS services.
- capacity building activities: A substantial part of the drafting of the Handbook on European Cooperation on Coastguard Functions took place in 2019, including discussions with national authorities. The three Agencies supported the revision of the SQF tables for ten coast guard functions developed during the ECGFA Net project. Five cross-function training activities were delivered in 2019 (Maritime safety and fisheries control and Air Crew preparation for Joint Operations).
- capacity sharing: EMSA provided oil pollution response equipment to EFCA chartered OPV Lundy Sentinel, which has been added to the Common Emergency Communication and Information System managed by the Commission. The vessel also supports Frontex activities. Mapping of the authorities performing coast guard functions and of Agencies Operational Centres for exchange of information in real time have been conducted.

The three agencies worked together throughout the year on the activities set out in their common annual strategic plan for 2019. At the European Maritime Day (16-17 May 2019, Lisbon) EFCA, EMSA and Frontex delivered a joint workshop, promoting European cooperation on Coast Guard Functions amongst European maritime community and organised an interagency stand.

CHAPTER 5

EMSA MANAGEMENT

KHIT.

Administrative Board

2019 was the first full year of EMSA's current Executive Director, Maja Markovčić Kostelac, since she took up duties in January. In her role as Executive Director, she reports to an Administrative Board whose job it is to steer the work of the Agency through the review and adoption of its work programme, associated budget and establishment plan, staff policy plan, and finally the assessment and adoption of the consolidated annual activity report detailing the Agency's performance output.

The Administrative Board met three times in 2019 gathering 27 government representatives from each EU country, two non-voting government representatives from Iceland and Norway, four representatives from the European Commission, and four non-voting representatives from the maritime cluster. One of these meetings was also dedicated to a brainstorming session on the new EMSA 5-Year Strategy which was organised by EMSA's new Executive Director.

At the invitation of the Italian coast guard, EMSA's Administrative Board meeting in June was held in Italy during the Genoa Shipping Week which brought together port, maritime and logistics operators.

EMSA 5-Year Strategy

The new strategy comes at a time where the maritime sector – both in the EU and globally – is facing historic challenges and opportunities. Zero pollution, decarbonisation, sustainability, digitalisation, data exchange, safety and security, compliance and effective enforcement are all topics that the maritime sector will be tested by and will need to address in the coming years.

EMSA's new 5-year strategy contributes to the headline ambitions of the new European Commission, taking into account its priorities for 2019-2024. The Agency examined all the views expressed at the brainstorming session and the new strategy was adopted at the 56th Administrative Board meeting in November 2019. Key to the strategy are its five priority themes of sustainability, safety, security, simplification and surveillance and its four main roles of service provider, reliable partner, international reference and knowledge hub.

Administrative agreements

Cooperation was extended in 2019, covering:

- an agreement with the European Commission's Directorate-General for Maritime Affairs and Fisheries (DG MARE) to entrust EMSA's with the transitional phase of the Common Information Sharing Environment (CISE)
- an MoU with the Baltic Marine Environment Protection Commission (HELCOM) regarding access to European Marine Casualty Information Platform (EMCIP) data.

2019Visitor timeline Martin Dorsman Secretary General of ECSA Nancy Scheijven-Westra Director of the Dutch Cleopatra Doumbia-Henry vessel traffic and water President of World management department Maritime University Luc Smulders Secretary-General Fabrice Leggeri of the Paris MoU **Executive Director** of Frontex **FEBRUARY** MARCH APRIL



21 Natasa Pilides Deputy Minister of Shipping of Cyprus



Pascal Savouret
 Executive Director
 of EFCA



 Jyrki Katainen
 European Commission's
 Vice-President for Jobs, Growth, Investment and Competitiveness



Robert Ashdown IACS Secretary General

MAY

JUNE



Marek Gróbarczyk 9 Minister of Maritime Economy and Inland Navigation of Poland



7 Kolinda Grabar-Kitarovic President of Croatia

European Maritime Safety Agency



Marcelo Rebelo de Sousa President of Portugal



Damir Krstičević Deputy Prime Minister and Minister of Defence of Croatia

JULY





OCTOBER



5 International Transport Works Federation

NOVEMBER

DECEMBER



16 Jorge Domecq Chief Executive EDA



Catherine De Bolle Executive Director of Europol



Marija Pejčinović Burić Secretary General of the Council of Europe



Salviano Sequeira Minister of National ¹⁶ Defence of Angola

THIRD PARTY	SUBJECT	START	END
CEDRE - CEFIC	MAR-ICE Network	17/10/2014	16/10/2022
DG CLIMA	Support for the implementation of the regulation on the monitoring, reporting and verification of emissions of carbon dioxide, from maritime transport and amending Directive 2009/16/EC on Port State Control and relevant technical assistance	30/03/2016	29/03/2020
DG ECHO	Cooperation in the framework of maritime emergencies, including marine pollution preparedness, monitoring and response	13/11/2014	No end date
DG ENV	Cooperation Agreement for the support of the implementation of Directive (EU) 2016/802 of the European Parliament and of the Council of 11 May 2016 relating to a reduction in the sulphur content of certain liquid fuels, and technical assistance actions relevant to the Energy Community	08/03/2018	07/09/2020
DG GROW	Implementation of the maritime surveillance component of the Copernicus security service	03/12/2015	31/12/2026
DG MOVE	Provision by EMSA of technical assistance for maritime security 1	29/10/2013	no end date
	Maritime Safety, Security and Environmental Protection in the Black and Caspian Sea Regions	01/11/2016	28/03/2021
DG NEAR	SAFEMED IV, EuroMed Maritime Safety Project	01/01/2017	21/03/2021
	Grant Contract – Preparatory measures for the participation of IPA II beneficiaries in EU Agencies	01/05/2018	30/04/2020
DG MARE	Interoperability between industry and competent authorities in the EMSW environment under the CISE Process	19/09/2018	18/09/2021
EFCA - European Fisheries Control Agency	SLA between EFCA and EMSA for the provision of Integrated Maritime Services to EFCA.	17/12/2012	no end date
Equasis members	MoU on the establishment of the Equasis information system	17/05/2000	No end date
ESA - European	Agreement concerning cooperation for the use of space based systems and data in support of maritime activities	02/07/2010	01/07/2020
Space Agency	SAT-AIS Data Processing Centre (DPC) Block 2 software	18/02/2015	No end date
EUNAVFOR - Athena Atalanta	Delivery of an integrated maritime monitoring service	06/04/2011	05/04/2019
EUROCONTROL	Navigation Safety For RPAS	13/12/2016	No end date
European Free Trade Association	MoU on the release of classified information in the framework of the technical cooperation in maritime security	05/02/2014	No end date
Surveillance Authority	Provision by EMSA of technical assistance for maritime security 2	05/02/2014	No end date
Frontex	Service Level Agreement between the European Agency for the Management of Operational Cooperation at the External Borders of the Member States of the European Union (Frontex) and the European Maritime Safety Agency (EMSA) for the provision of surveillance tools and services in support of Frontex activities, including for the implementation of the EUROSUR framework	01/05/2016	No end date

THIRD PARTY	SUBJECT	START	END
Frontex and EFCA	Interagency cooperation between Frontex, EFCA and EMSA on coast guard functions	17/03/2017	16/03/2021
International	IMSO AUDIT – LRIT-IDE	27/05/2009	No end date
Mobile Satellite Organisation	IMSO AUDIT – LRIT-DC	27/05/2009	No end date
Interspill LTD	Interspill Series of Conferences and Exhibitions - Memorandum of Understanding	13/12/2016	No end date
Italian Coast Guard - Comando Gen.	SLA for maintenance and operation of AIS Regional Servers 2019	22/10/2016	29/02/2020
del Corpo delle Capitanerie di Porto	Mediterranean Regional SSN Server	22/10/2015	No end date
MAOC - Maritime Analysis and Operations Centre	Operational assistance and training	12/08/2014	11/08/2019
Marine Environmental and Technology Centre - Instituto Superior Tecnico	Cooperation agreement MARETEC-IST - EMSA Oil Spill Modelling	15/06/2014	14/06/2019
Norwegian Coastal	SLA EMSA and NCA for hosting, maintenance and operation of North Atlantic, North Sea and HELCOM AIS Regional Servers and SSN	20/12/2016	28/02/2019
Administration	SLA for maintenance and operation of AIS Regional Servers	01/03/2019	29/02/2020
Paris MoU	Conditions of use for and level of access to the THETIS information systems for PSC	01/01/2011	No end date
République Française	Hosting & Development of Equasis	27/02/2009	No end date
EUROPOL	Cooperation between the European Maritime Safety Agency and the European Union Agency for Law Enforcement Cooperation	18/12/2018	No end date
EASA	Cooperation agreement with EASA regarding the establishment of unmanned/remotely piloted aircraft services by EMSA	14/06/2019	13/06/2020
DG MARE	CISE Operations – Setting up and enabling the transition phase to CISE operations	17/04/2019	16/10/2021
Ministry of the Sea, Transport and Infrastructure of Croatia	Administrative agreement for the temporary transfer of equipment to Croatia	03/07/2019	No end date
ІМО	Agreement between IMO and EMSA for the provision of financial support for the participation from developing countries to the International Workshop on Maritime Labour Convention, 2006	15/11/2019	30/04/2020

© European Maritime Safety Agency 2020

Photo credits: lam_Anupong/shutterstock.com; donvictorio/shutterstock.com; Adam Gregor/shutterstock. com; travel mania/shutterstock.com; EpicStockMedia/shutterstock.com; d13/shutterstock.com; Igor Kardasov/ shutterstock.com; telesniuk/shutterstock.com; symbiot /shutterstock.com; Rasti Sedlak/shutterstock.com; G-Valeriy/shutterstock.com; Witthaya IOvE/shutterstock.com; ESA, CC BY-SA 3.0 IGO/; wissanu01/iStockphoto. com; nattaponsupanawan/shutterstock.com; Unkas Photo/shutterstock.com; Lukasz Z /shutterstock.com; Derick Hudson/shutterstock.com; michaelbwatkins/shutterstock.com; Andrew Mayovskyy /shutterstock.com; EMSA staff.



ABOUT THE EUROPEAN MARITIME SAFETY AGENCY

The European Maritime Safety Agency is one of the European Union's decentralised agencies. Based in Lisbon, the Agency's mission is to ensure a high level of maritime safety, maritime security, prevention of and response to pollution from ships, as well as response to marine pollution from oil and gas installations. The overall purpose is to promote a safe, clean and economically viable maritime sector in the EU.



Get in touch for more information

European Maritime Safety Agency

Praça Europa 4 Cais do Sodré 1249–206 Lisboa Portugal

Tel +351 21 1209 200 / Fax +351 21 1209 210 emsa.europa.eu / Twitter@EMSA_Lisbon