



# EMSA OUTLOOK 2019



# EMSA OUTLOOK

## 2019



European Maritime Safety Agency



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## FOREWORD FROM THE CHAIRPERSON OF THE ADMINISTRATIVE BOARD

It is my pleasure to give the opening words to this publication which sets out EMSA's work programme for 2019. Here we look at our priorities which are more extensively laid out in the Single Programming Document 2019-2021.

During my first full year as chairperson of EMSA's Administrative Board, I have witnessed a key moment in the lifecycle of the Agency, the changing of watch. On this, I wish to express my special thanks to Markku Mylly, the outgoing Executive Director, both personally and on behalf of the board. He has served the Agency well during the past six years.

As I look forward to 2019, to the fast changing environment in which we operate, I see the support EMSA provides as increasingly important. We will not just be acting to keep pace with this environment but to anticipate, adapt and respond. This is especially true of the onset of digitalisation in maritime transport. In this respect, EMSA will be harnessing the potential of the information it gathers to enhance maritime surveillance and related services.

While our role is not on the frontline of the migration and security challenge, we do work behind the scenes to ensure the relevant authorities and bodies are given accurate information in a tailored maritime picture. Similarly, in the environmental field, we will be acting to ensure we are doing everything possible to reduce marine pollution.

The new Executive Director, Maja Markovčić Kostelac, took up her position at the beginning of this year and we would like to warmly welcome her into this role. I am fully confident that her leadership will help the Agency to grow – increasing its role, influence and value in the maritime field.

### Andreas Nordseth

Chairman of the Administrative Board



## FOREWORD FROM THE EXECUTIVE DIRECTOR

2019 is an exciting year for me in my new role as Executive Director of EMSA. Rather than a radical change, I see this as a natural progression of my career which has always been in the maritime field. I like to say that I'm salty by nature! Having said that, I feel very privileged to join the Agency, and the highly professional body it represents.

Taking up the helm here in 2019 is a two-part role. I will work on the tasks I have inherited, all while planning, prioritising and setting the new five-year strategy for 2020 onwards. This is my opportunity to actively contribute and guide the Agency, building up our shared response to collective challenges.

Our work and achievements would not be possible without strong collaboration and cooperation among all our stakeholders. It is together that we can be effective in cultivating a cleaner, safer and more sustainable environment for maritime transport.

### Maja Markovčić Kostelac

Executive Director



## 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, creating added value

**EXECUTIVE SUMMARY**

This publication presents the main steps the Agency plans to take in 2019 to deliver on its multi-annual strategic objectives. The content is based on the information contained in the Single Programming Document (2019-2021) as adopted by EMSA's Administrative Board. The specific purpose of this particular publication is to raise awareness of EMSA's work among the wider public.

The outcome of this work is reported in the corresponding Consolidated Annual Activity Report which shows the results achieved against the objectives set. The Agency's activities can be broadly divided into five thematic areas which are also reflected in the organisation of the Agency. Here below we highlight a few of the developments for 2019 per thematic area:

■ **Maritime transport and surveillance**

The SafeSeaNet ecosystem's graphical user interface, which combines and integrates several operational systems hosted by EMSA, will continue to evolve in 2019 to accommodate the needs of its growing body of users. Whether to gain a better understanding of marine traffic, to access passenger data in case of an emergency search and rescue situation, or to automatically detect abnormal behaviour – this interface is the digital gateway to a reliable maritime picture. Combined with this is a new portfolio of Remotely Piloted Aircraft Systems which is set to offer multiple maritime monitoring and surveillance services to member state authorities and EU bodies throughout 2019. EMSA will work closely alongside member states to identify and implement best practices in the process of sharing and integrating maritime information to relevant parties.

■ **Visits and inspections to monitor legal and regulatory compliance**

Visits to member states and inspections in non-EU countries and Recognised Organisations will continue in 2019, covering a broad range of areas: port state control; compliance with the new sulphur requirements; marine equipment; the safe loading and unloading of bulk carriers; maritime security; and, Standards of Training, Certification and Watchkeeping. The results will be used to identify gaps in



**EMSA'S COAST GUARD FUNCTIONS**

**6 CORE TASKS**



SHIP CASUALTY & MARITIME ASSISTANCE SERVICE



MARITIME SAFETY & VESSEL TRAFFIC MANAGEMENT



MARITIME, SHIP & PORT SECURITY



MARITIME MONITORING & SURVEILLANCE



MARITIME ENVIRONMENTAL PROTECTION & RESPONSE



MARITIME ACCIDENT & DISASTER RESPONSE





implementation as well as areas of best practice. They will also be looked at across the board, not to pinpoint individual performance, but to spot any common trends where improvements could be made.

■ **Providing technical and scientific assistance and facilitating cooperation**

EMSA will continue to take forward efforts to raise ship safety standards particularly through the Firesafe studies addressing fires on board ro-ro vehicle decks. Capacity building will progress as training and tools are offered to neighbouring partner countries. In addition, environmental protection will be at the fore as assistance is directed towards the implementation of legislation relating to CO<sub>2</sub> emissions, sulphur content of marine fuel, port reception facilities, ship recycling and alternative fuels.

■ **Pollution preparedness, detection and response**

The options available to coastal states to respond quickly to marine pollution from ships and oil and gas installations now also includes a seaborne dispersant spraying service as well as equipment assistance services in the Baltic, North and Adriatic Seas. In addition, RPAS drones can be used to complement the satellite imagery available under CleanSeaNet. The very topical issue of marine litter will also be examined from a dual perspective involving both preventive (tackling the source) and remedial (cleaning up the pollution) measures.

■ **Management, quality control, resources and communication**

The Administrative Board which oversees the work of the Agency will meet three times in 2019 – adopting the work programme, budget, establishment plan and annual report. Our quality control certification process gained momentum and will now extend to cover EMSA's ICT service management system. Environmental performance will also be under the spotlight as efforts are made to align with the EU's own eco-management and audit scheme. The Agency will also be looking at how best to implement the action plan for gender balance.

One main area for interagency cooperation with Frontex and EFCA in 2019 will be the drafting of a practical handbook on European cooperation on coast guard functions. The three agencies in cooperation with the relevant national authorities will support the European Commission to complete the handbook covering five areas of cooperation: information sharing, surveillance and communication services, capacity building, risk analysis and capacity sharing.

**5 SUPPORT ROLES**



MARITIME BORDER CONTROL



MARITIME SEARCH & RESCUE



FISHERIES INSPECTION & CONTROL



PREVENTION & SUPPRESSION OF TRAFFICKING & SMUGGLING & MARITIME LAW ENFORCEMENT



MARITIME CUSTOMS ACTIVITIES



**CHAPTER 1**

**MARITIME TRANSPORT AND SURVEILLANCE -  
INFORMATION ON SHIPS, CARGOES  
AND SHIP MOVEMENTS**

## MARITIME INFORMATION EXCHANGE PLATFORM

Getting a comprehensive overview of activity at sea is a challenge for most EU 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), authorised users have access to key maritime applications and their data sets whether from mobile/tablet devices or desktop/laptop computers. This interface groups together the information services of SafeSeaNet (SSN), Long Range Identification and Tracking (LRIT), Integrated Maritime Services (IMS) and CleanSeaNet (CSN):

- 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 non-EU 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 tailored information services.
- 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.

EMSA's SafeSeaNet Ecosystem Graphical User Interface (known as SEG) is available to authorised users on desktop, laptop, and mobile devices.



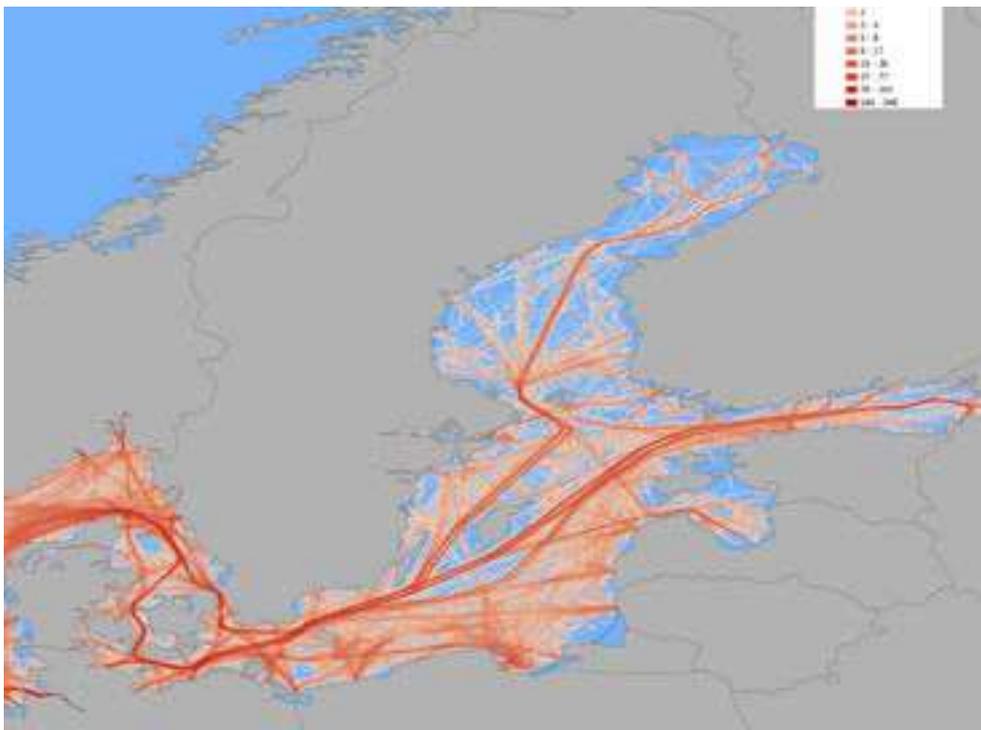
## MONITORING VESSEL TRAFFIC

Vessel and voyage related information across the EU is shared among targeted users through the SafeSeaNet system. The information flows and system functionalities are designed to enhance maritime safety and security, as well as to boost the efficiency of maritime traffic and transport. EMSA works to provide the national administrations (port authorities, coastal stations, search and rescue, vessel traffic services, pollution response bodies, etc.) with 24/7 access to the system.

Importantly, EMSA works alongside the national authorities to ensure the interaction of their systems with SafeSeaNet. This allows SafeSeaNet to serve as a European platform for maritime data exchange. Mandatory functions cover the collection and distribution of data on vessel traffic monitoring, port call information, dangerous and polluting cargo, security, waste and cargo residues, and incident and accident reports. The various central databases that form part of the SafeSeaNet ecosystem help to improve data quality on the individual national databases.

In 2019, efforts will be made to further improve the common graphical user interface for all the applications available in the SafeSeaNet ecosystem, access to which is determined through the common management console. The new developments offer users a range of features including access to integrated data flows, increased data visualisation options and new machine-to-machine interfaces.

Gaining a better understanding of marine traffic – identifying where the main shipping lanes are and which ship types are navigating on which lanes, for example – is another way in which users will be able to benefit from the SafeSeaNet service as the possibility to create Traffic Density Maps is enhanced and developed in 2019.



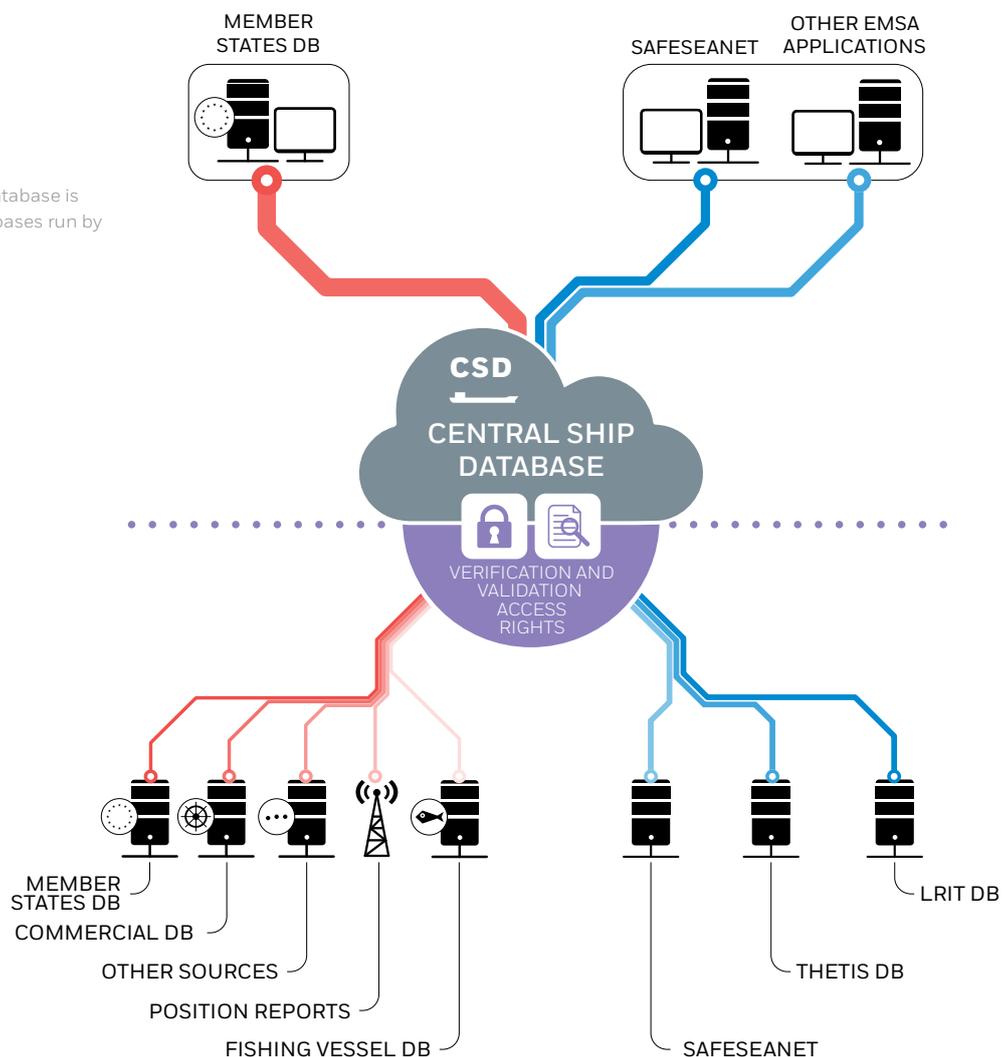
Traffic Density Maps are being developed and are currently in their test phase. This is an example for the Baltic Sea area.

The SafeSeaNet system will continue to evolve to support new and revised EU rules, such as those on passenger ship safety and port reception facilities. Passenger data will have to be registered digitally from 21 December 2019, using standardised administrative procedures (aka the single window). This measure aims to facilitate search and rescue operations in case of an emergency. As regards port reception facilities, the revised rules make sure that waste from ships is not discharged at sea but rather disposed of properly in ports with adequate waste reception facilities.

Two recently created databases will be further developed in 2019: the Central Ship Database which receives and stores up-to-date information on ship identifiers; and, the Central Hazmat Database for information on dangerous and polluting goods which serves as a reference tool for national authorities, particularly as regards decision-making on places of refuge for ships in need of assistance. In cooperation with the Spanish maritime administration, a table top exercise on places of refuge will be held in Las Palmas in October 2019.

In 2019 EMSA will continue to operate the EU LRIT Cooperative Data Centre in compliance with the IMO's performance standards, in an efficient and economical way. Associated to this, EMSA will continue to host and operate the global LRIT International Data Exchange which serves 57 LRIT data centres worldwide and covers 122 contracting governments. EMSA will also be monitoring discussions at IMO on e-navigation.

The Central Ship Database is one of several databases run by EMSA



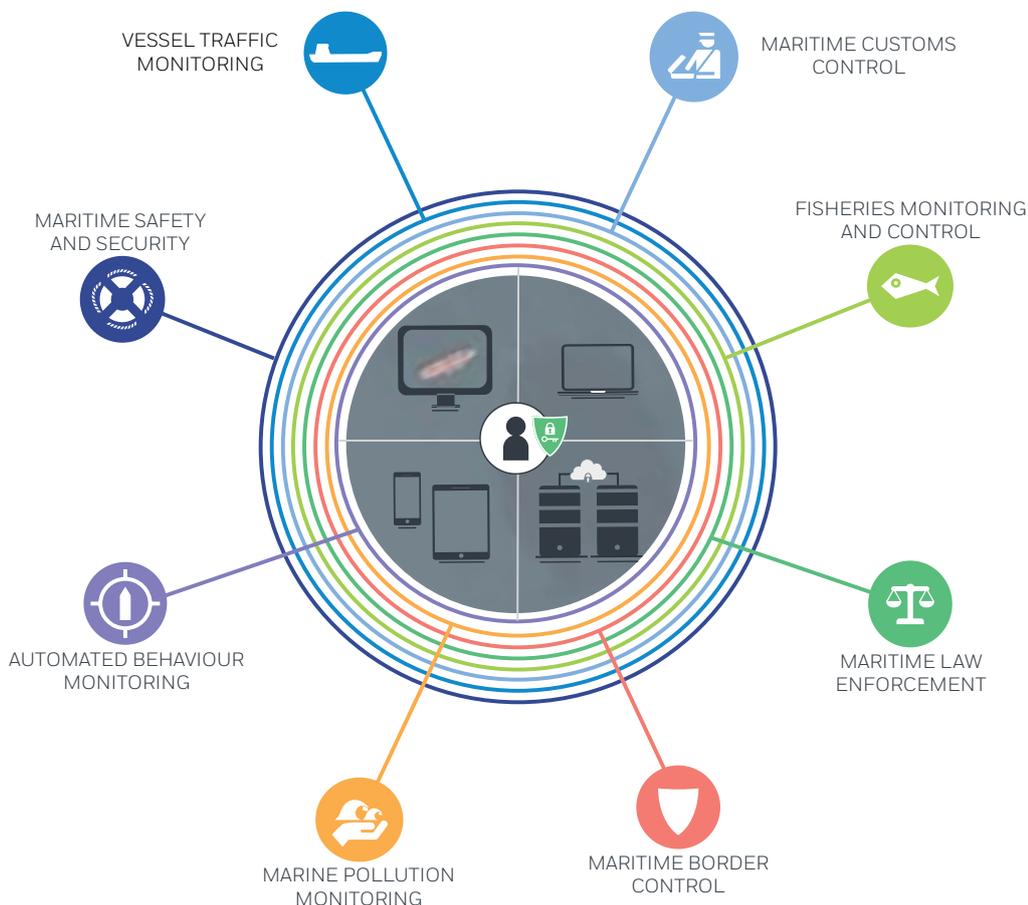
## INTEGRATED MARITIME SERVICES

EMSA provides integrated maritime services to over 150 different national authorities across 26 EU and EFTA member states whose duties include maritime-related tasks, as well as to the European Commission and five European bodies encompassing Frontex (border control), EFCA (fisheries monitoring), EU Navfor (antipiracy), MAOC-N (law enforcement – narcotics) and the European Anti-Fraud Office (OLAF).

By integrating and correlating data from EMSA applications and external sources, services are delivered responding directly to a user's specific needs. Users benefit regardless of whether their needs lie in search and rescue, law enforcement or border control operations. As operational needs evolve, the services can be refined and developed. One such example, currently in the pipeline, is the integration of oceanic and meteorological data.

In 2019 EMSA will continue to provide Automated Behaviour Monitoring tools to support maritime surveillance users in the detection of anomalous and specific behaviour for use in various domains, including safety, security, traffic monitoring, fisheries, border control, and accident/incident prevention. A new step will be to combine behaviour algorithms to detect interlinked situations and exploit historical data. In the next two years, new algorithms will be developed based on user needs and transforming this behaviour tracker into a powerful analytical tool.

Data will continue to be extracted from Remotely Piloted Aircraft Systems for multiple maritime monitoring and surveillance purposes, such as pollution and polluter detection,





ship emissions monitoring, search and rescue operations, and various other coast guard related functions. The information is being fed into a data centre which has partial access to other EMSA sources and is expected to be finalised in 2019. Guiding these developments will be the RPAS user group which met for the first time in 2018 and will continue to meet each year.

With respect to new satellite technology, EMSA will continue to monitor developments concerning the VHF Data Exchange System (VDES). The VDES, which builds on satellite AIS data, is set to provide higher rates for digital data exchange. Potentially, it could allow for a more effective and efficient transfer of information from ships to shore-based systems, on a worldwide basis. EMSA will continue to work closely with the European Space Agency as well as with national administrations on VDES through the EU Satellite-AIS Collaborative Forum.

EMSA will be exploring the potential of High Altitude Pseudo Satellites (HAPS) as an additional surveillance tool as well as the possibility of developing a hybrid vessel traffic management system to incorporate autonomous vessels and manned vessel traffic which would maintain navigational safety.

## SIMPLIFYING REPORTING FORMALITIES

Maritime transport operators face a wide range of legal reporting requirements each time a ship arrives in or leaves a port. To reduce this administrative burden, EMSA has been working closely with the European Commission on a revision of the Reporting Formalities Directive, which aims to bring together all reporting associated with a port call in a coordinated and harmonised way through the new European Maritime Single Window environment.

In 2019, EMSA will assist where possible in the implementation of the new Regulation for Reporting Formalities, as well as in the implementation of legal requirements governing the registration of persons on board. EMSA's focus will be on improving the interoperability and interconnection between relevant systems, thereby enabling data to be shared and re-used more efficiently via SafeSeaNet.

EMSA will also participate in a project with Norway to test the exchange of ship reporting requirements using the country's NorSat-2 LEO satellite with a VDES test-payload and VDES equipment on board a vessel. The VDES satellite AIS technology may enable rapid data exchange and worldwide coverage, thereby reinforcing the SafeSeaNet system and facilitating implementation of the European Maritime Single Window.

## 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 continual monitoring of these systems, facilitating early incident management and high availability and performance standards. Average feedback times stand at approx. 20 minutes for urgent requests and 30 minutes for non-urgent requests. The MSS centre is the first point of contact for Member States whenever assistance is required in case of pollution accidents. In 2019 the centre will continue to provide users with timely helpdesk and monitoring services.



French, Portuguese and Spanish leaders take the opportunity to visit EMSA's Maritime Support Services operations centre following the Energy Interconnection Summit in July 2018



IMO Secretary General, Kitack Lim, gets a close-up view of one of EMSA's maritime monitoring systems, May 2017

## FRONTEX

EMSA supports Frontex in conducting operations to address irregular migration and cross-border crime along European maritime borders. The existing service level agreement between Frontex and EMSA was renewed for an indefinite period. This agreement defines the conditions of the services provided to Frontex, including support for the implementation of the European Border Surveillance System (EUROSUR). Activities in 2019 are decided on the basis of an annual programme and service description agreed between the agencies.

## EFCA

EMSA supports the European Fisheries Control Agency in working to tackle illegal, unreported and unregulated fishing through the coordination of joint deployment plans. A service level agreement has been in place with EMSA since 2015 and is renewed yearly. On the one side, this agreement sets out the conditions for EFCA to provide EMSA with access to the VMS data and vessel identifiers of fishing vessels. On the other, it sets out the conditions for EMSA to provide EFCA with surveillance tools such as Integrated Maritime Services and Copernicus satellite imagery. RPAS drones are also part of this agreement and will be made available to EFCA for operational services.



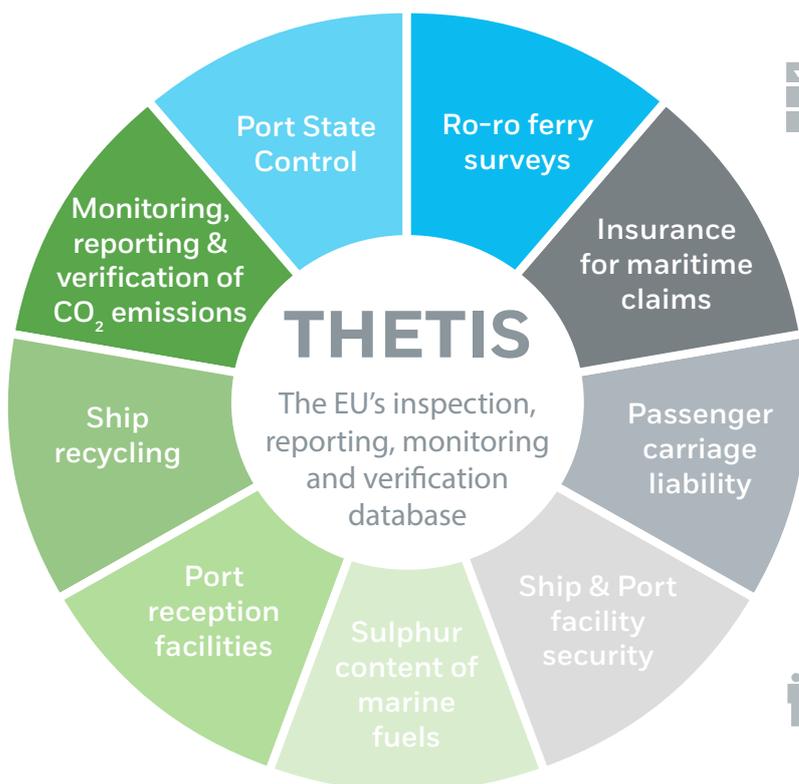
## THETIS INFORMATION SYSTEM

The THETIS information system was set up to allow port state authorities in the EU and Paris MoU countries (Canada, Iceland, Norway and Russia) to manage inspection data in a single window. It enables these authorities to target the right vessels for inspection, assists the European Commission by providing statistics on inspection results, and helps monitor the performance of member states in relation to their international and European legal obligations.

New functionalities have been 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 provisions of the Sulphur Directive, the Port Reception Facilities Directive, the Ship and Port Facility Security Regulation and the CO<sub>2</sub> Monitoring, Reporting and Verification Regulation and the Directive related to the safe operation of ro-ro passenger ships and high speed passenger craft are all being, or in the process of being, catered for in the new modules of this flexible system (THETIS-EU and THETIS-MRV).

In 2019, extra functionalities will be added to the THETIS-EU sulphur module, including a new feature to help sulphur inspectors in ports to check a ship's sulphur compliance in the open sea. This will be facilitated by RPAS drones equipped with sensors to monitor individual ship emissions.

The THETIS-MRV CO<sub>2</sub> monitoring, reporting and verification system is now fully operational and, companies have been using the system since 1 January 2018 to monitor and report on ship data covering CO<sub>2</sub> emissions and fuel consumption. In 2019, the system will enable users to submit verified emission reports and compliance documents. It is also expected that the information gathered in the system on CO<sub>2</sub> emissions will be made public.



### Exchanging data

SafeSeaNet, IMO & Recognised Organisations exchange information with THETIS



### Targeting ships

Ships are continuously profiled according to their particulars and inspection records



### Enforcing the law

Inspections are conducted to check compliance with the relevant legal obligations



### Sharing data online

Ongoing access is provided to the ship inspection database



### Informing the public

Information is made public to increase transparency & promote quality shipping

## COPERNICUS

As an entrusted entity for the Copernicus Maritime Surveillance Service, EMSA provides satellite images to support a better understanding and improved monitoring of human activities at sea. For the duration of the delegation agreement (2015-2020), EMSA is responsible on behalf of the European Commission for implementing all related technical and operational activities. While activities in 2019 will be directed by the Copernicus Maritime Surveillance annual implementation plan, services will support users in areas such as:

- fisheries control
- maritime safety and security
- law enforcement
- customs
- marine environment pollution monitoring
- support to international organisations and other activities

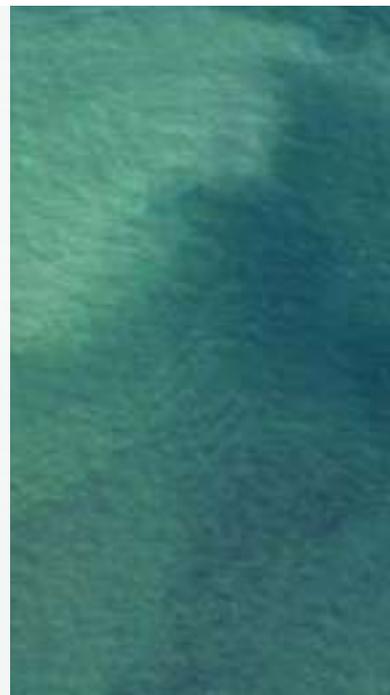
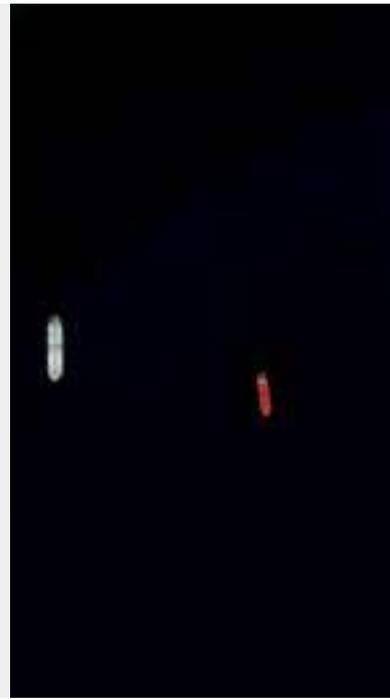
The service provides timely, relevant, and targeted information to member states and EU bodies. Coverage can be provided in areas of European interest across the globe by Synthetic Aperture Radar (SAR) and optical satellites with a variety of different resolutions.

SAR sensors use radar frequencies to construct an image of the sea (or land) surface below. Images can be acquired regardless of weather conditions and cloud cover, and at any time of day or night. By measuring the roughness of the sea surface, certain features stand out against the background; for example, vessels appear as bright spots, while oil spills appear as dark shapes.

In good conditions, high resolution optical sensors can provide a wealth of information in different spectral bands (e.g. visible, infra-red). Optical images are a good option for vessel detection, but also for a range of other object and activity detection.

In addition to image products, the service provides value-added products, including detection and classification of vessels (e.g. position, vessel type, size, length, heading, speed) based on automatic algorithms, and object/activity detection (location, type of activity or object, size, information on surrounding area).

A key feature of the service is that data from earth observation satellites can be combined with a wide range of other data, both from EMSA's maritime information applications and from external sources. Vessel position and track information overlaid on satellite images, for example, provides a very powerful tool for checking on 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.

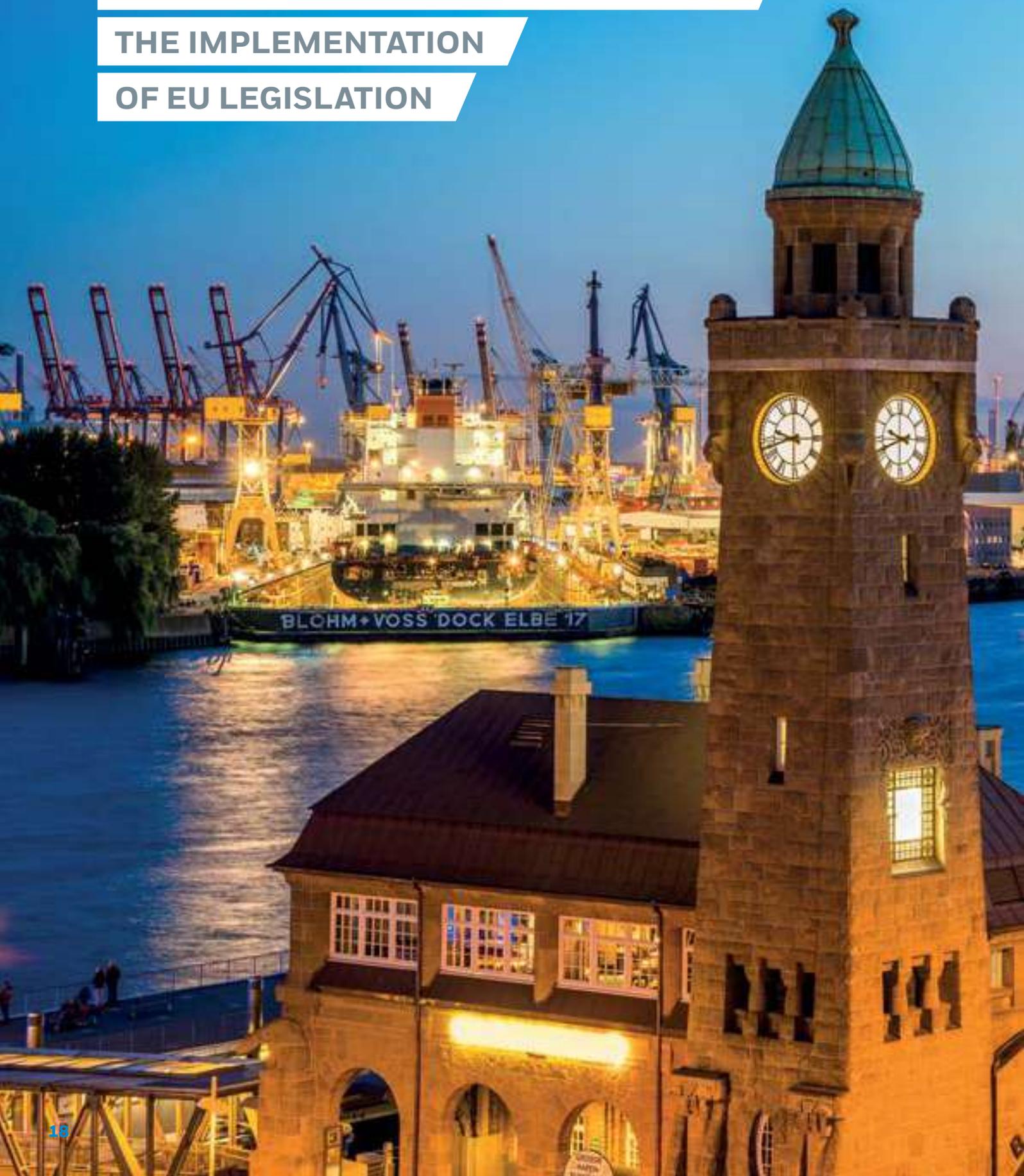


**CHAPTER 2**

**VISITS AND INSPECTIONS TO MONITOR**

**THE IMPLEMENTATION**

**OF EU LEGISLATION**



## MONITORING THE IMPLEMENTATION OF EU MARITIME LEGISLATION

EMSA has been monitoring the implementation of EU law in the member states since its very beginning. Visits to member states offer a valuable link between legal objectives and operational application. In this way, the European Commission is able to assess the extent to which EU law is being properly implemented in a given field. They provide a feedback chain on the effectiveness of the legislation and identify gaps where legal objectives are not being met.

Visits in 2019 will cover a broad range of implementation areas:

- the third cycle of port state control visits will continue (4-5 visits)
- compliance with the sulphur content of marine fuels requirement will be monitored (4-5 visits)
- the second cycle of visits related to the marine equipment directive will take place (5-6 visits)
- the cycle of visits related to the safe loading and unloading of bulk carriers launched in 2018 will continue (4-5 visits).

As a new cycle of visits related to passenger ship safety will commence in 2020, a pre-cycle workshop is to be held towards the end of 2019/beginning of 2020. This follows on from the completion of the European Commission's refit (or regulatory fitness) exercise and will take account of the upcoming date for the application of new passenger ship safety rules (21 December 2019).

## CLASSIFICATION SOCIETIES

Classification societies develop and apply technical standards to the design, construction and assessment of ships. Of 50 classifications societies worldwide, 12 are recognised at EU level and inspected regularly by EMSA. Based on the reports submitted, the European Commission makes two yearly assessments and takes policy decisions and/or requests corrective measures. The overall aim is to improve the quality of the certification work undertaken by these recognised organisations.

In 2019 EMSA will conduct up to 20 inspections based on a programme decided jointly with the European Commission and focussing on certain factors such as increased risk as indicated by previous findings and non-conformities, or size and geographical spread of a particular recognised organisation's activities.



## 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 and the EFTA Surveillance Authority in the performance of their inspections on enhancing ship and port facility security.

In 2019, approximately 12-15 missions are expected based on requests from the European Commission and determined through the information gathered from a range of sources including previous inspections, and approximately 2-3 to Norway and Iceland at the request of EFTA Surveillance Authority. EMSA will also follow up on issues related to cybersecurity, including the preparation of an e-learning module to raise awareness among competent maritime authorities.

## PORT STATE CONTROL & FLAG STATE ENFORCEMENT

In 2019 EMSA will continue to support the European Commission as it participates in the bodies of the Paris Memorandum of Understanding (MoU) on port state control. Support will also be given to ensure the proper implementation – both from the port state and flag state perspective – of a system of inspections for the safe operation of ro-ro ferry and high speed passenger craft. For port state control officers in the Paris MoU area, EMSA will provide ongoing access to the ship inspection database (through THETIS), as well as to up-to-date rules and regulations (through RuleCheck), and flexible e-learning courses (through MaKCs).

## HORIZONTAL ANALYSIS AND RESEARCH

EMSA drafts reports for each of the visits and inspections it conducts and then analyses these to identify common findings and draw general conclusions on the effectiveness of the measures in place. This is vital to identify good practices, draw lessons and make improvements to current legislation. The two main focus areas in 2019 are the mid-cycle analysis for compliance with the sulphur content of marine fuels requirement and the third cycle of visits for port state control.

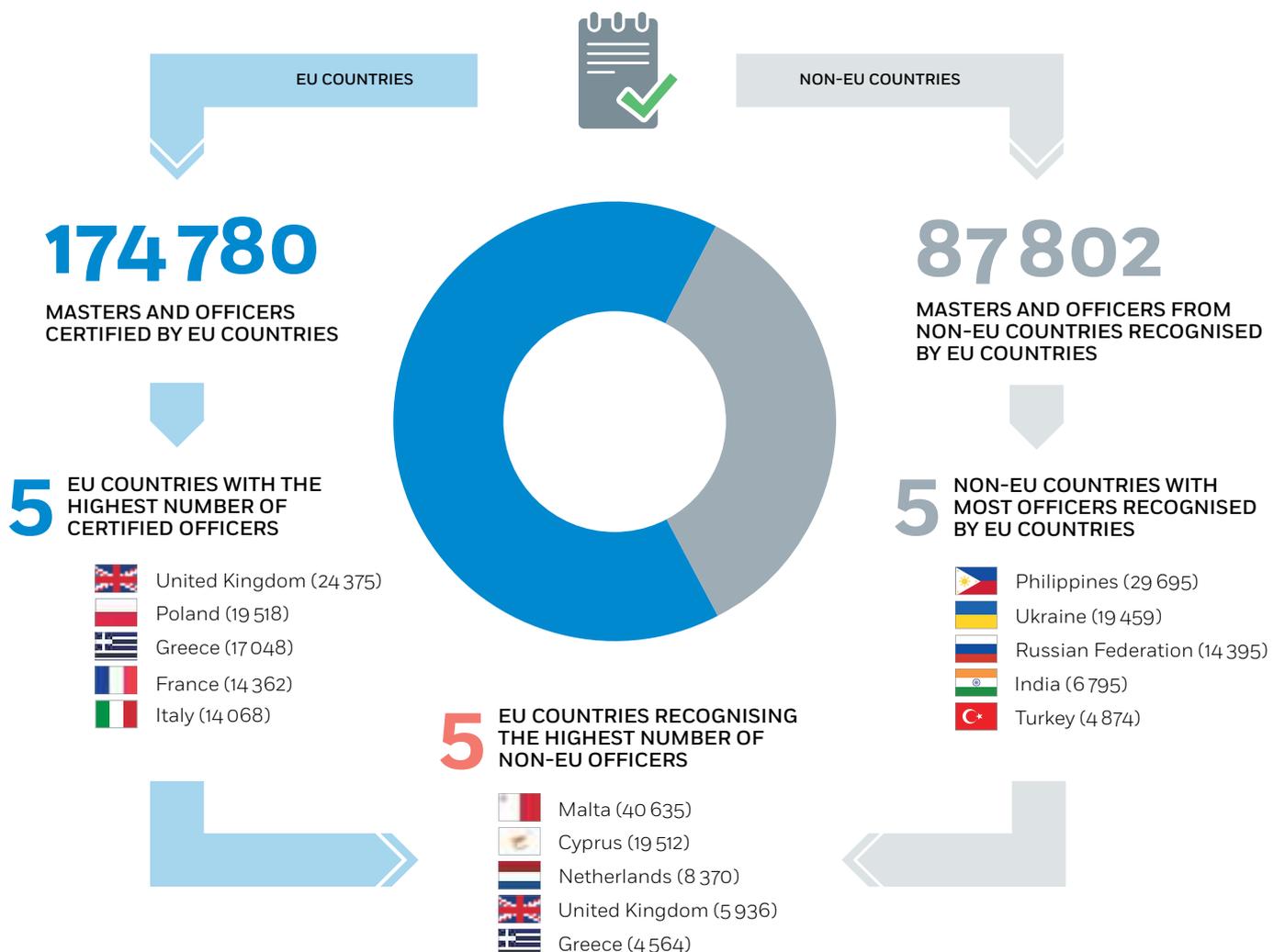
**STANDARDS OF TRAINING**

**CERTIFICATION AND WATCHKEEPING**

Many EU registered ships are manned by seafarers who are not nationals of EU member states. To ensure that these crew members are appropriately educated and trained, EMSA carries out inspections in the supplying countries. EMSA staff have been conducting such inspections for over ten years, assessing their level of compliance with the requirements of the IMO's Convention on Standards of Training, Certification and Watchkeeping. EMSA also runs the STCW information system. This system contains objective and comparable information on seafarers holding EU certificates/endorsements and therefore able to work on board EU registered ships. In 2019 EMSA will conduct up to five inspections to non-EU countries and up to four visits to EU countries.

**SEAFARER STATISTICS IN THE EU**

A SNAPSHOT OF SEAFARERS HOLDING CERTIFICATES OF COMPETENCY & ENDORSEMENTS ATTESTING RECOGNITION BY EU COUNTRIES VALID IN 2016, AS REPORTED IN EMSA'S STCW INFORMATION SYSTEM



**CHAPTER 3**

**PROVIDING TECHNICAL AND**

**SCIENTIFIC ASSISTANCE AND**

**FACILITATING TECHNICAL COOPERATION**



## ACCIDENT INVESTIGATION

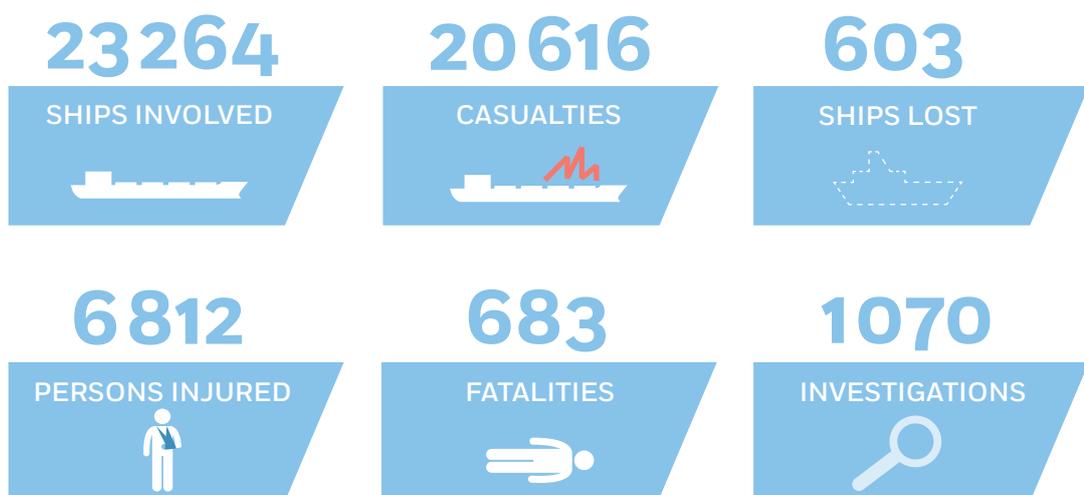
Technical investigations into marine casualties contribute to raising the overall level of maritime safety in Europe by helping to prevent such casualties resulting in loss of life, loss of ships and pollution from happening again. EMSA's role in this process involves gathering together the member states' accident investigation bodies to encourage a more uniform approach as well as to provide technical support and training.

EMSA runs the EMCIP database of accidents which is populated by the accident investigation bodies. The information contained in this database is a valuable basis for sound decision-making in areas such as passenger ship damage stability and ro-ro vehicle deck fires. Some 4 000 casualties and incidents are recorded on average each year in the database.

The EMCIP platform was upgraded in 2018 and will continue to be enhanced to ensure it offers an efficient and user-friendly service, including direct assistance to investigators and simplified data analysis. In 2019, EMSA will also be actively involved in analysing EMCIP data to identify the lessons to be learned at EU level according to ship type. This will build on the two studies released in 2018 on the lessons to be learned from casualties involving fishing vessels and those involving ro-ro ferries.

The yearly overview of marine casualties and incidents will be published on the EMSA website towards the end of 2019, covering data extracted from EMCIP since its creation in 2011.

## OVERVIEW OF KEY FIGURES OF MARINE CASUALTIES AND INCIDENTS RECORDED FOR THE PERIOD 2011 - 2017



## MARINE EQUIPMENT AND SHIP SAFETY STANDARDS

EMSA contributes to the safety of ships and marine equipment at European level by closely monitoring the development and implementation of harmonised safety standards. It also provides technical support to member states and the European Commission at international level through the work of the International Maritime Organisation (IMO).

EMSA maintains the list of flag state-approved safety standards for marine equipment, as well as the MarED database containing details on the equipment authorised for use in EU flagged merchant vessels. All this is governed by the European Marine Equipment Directive. In 2019, EMSA will begin to develop a new database to support the electronic tagging of marine equipment.

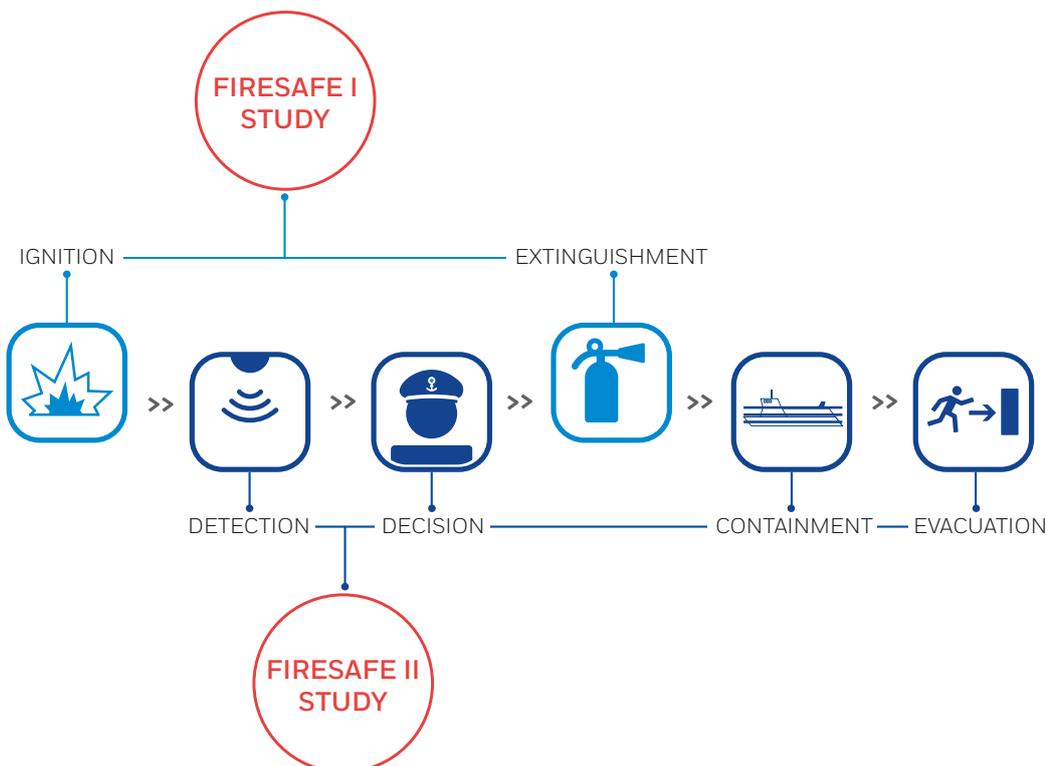
Ro-ro vehicle deck fire safety will remain on the agenda as EMSA coordinates technical discussions between member state administrations and accident investigation bodies. EMSA will follow up on any issues arising from the Firesafe studies conducted in 2016, 2017 and 2018.

Follow-up actions will continue on the so-called refit (or regulatory fitness) of passenger ship safety legislation that began in 2014, simplifying the relevant legislation governing safety rules and standards, registration of people on board, and mandatory surveys of ro-ro ferry and high speed craft passenger services, for example.

Technical support will also be given in the area of Maritime Autonomous Surface Ships (MASS). Work is underway to assess how MASS - which range from remotely controlled to fully autonomous ships - are likely to impact both the international and European regulatory framework for maritime safety.



New electronic tagging standard for better marine equipment safety





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operation



Sulphur training on board cruise ship

## SHIP INSPECTION SUPPORT

Ship inspections are used to verify that the condition of a ship and its equipment fulfil the necessary legal requirements and that the ship is manned and operated according to these rules. Increasing transparency in this area, by publishing reliable and objective information on the safety of ships and their operation, helps to encourage quality shipping and eradicate substandard practices.

EMSA hosts the management unit of Equasis, an online database providing details on port state control inspections, ship-related information from classification societies and P&I ship specific data. The information is supplied by port state control regions (Paris MoU, Caribbean MoU, Indian Ocean MoU, US coast guard, etc.) as well as industry based organisations. In 2019 Equasis will continue to work on the priorities identified in its five-year strategy, bringing in more data providers and attracting new members. A statistical report on the world shipping fleet is published each year based on data extracted from the Equasis database.

EMSA also runs the MARINFO information system which collects data from commercial sources worldwide on ship characteristics, accidents, movements, ownership, and ship history. This internal system offers valuable information to EMSA staff when preparing their visits and inspections, as well as to the European Commission when making ex-post assessments of legal provisions.

In 2019, a new platform giving a dynamic overview of national authorities will be developed to help national authorities carrying out coast guard functions. The purpose of the DONA platform is threefold: it offers a public country profile; serves as a single point for member states to report to the European Commission; and, gives member states access to up-to-date statistics.

## PREVENTION OF POLLUTION BY SHIPS

EMSA offers expertise in the field of environmental protection helping the European Commission and member states to address a wide variety of ship-sourced pollution and emission-related issues. Assistance in 2019 will be directed towards the implementation of legislation relating to CO<sub>2</sub> emissions, sulphur content of marine fuel, port reception facilities, ship recycling, ship-source pollution and shipowner insurance for maritime claims.

The European Sustainable Shipping Forum provides a platform for structured dialogue among maritime industry stakeholders and the European Commission with a view to address the environmental sustainability challenges confronting the EU maritime transport sector. EMSA has been highly active in this arena as the forum's technical secretariat.

On the international front, EMSA will continue to contribute to the wide-ranging developments at the IMO including among others enhancing the energy efficiency of international shipping, a global data collection system, greenhouse gas emissions, ballast water management, and the safe recycling of ships.



## TRAINING, COOPERATION AND CAPACITY BUILDING

EMSA's wide portfolio of training courses offers support to national maritime authorities in their day-to-day duties as flag, port and coastal state authorities. It includes e-learning courses which are available to member states, EFTA, and enlargement and European Neighbourhood Policy countries. The courses are devised to address the needs of the maritime administrations which meet together under the framework of the Consultative Network for Technical Assistance (CNTA). In 2019, EMSA plans to hold up to 16 training sessions for member states and 6 for enlargement countries.

EMSA will continue to maintain the RuleCheck information system which was set up to inform inspectors on the complex international rules governing port state control related ship inspections by clearly showing the rules that apply to a selected ship at the time of inspection. The system will be further expanded to cater to authorities carrying out coast guard functions, as well as to an increasing number of user groups.

MaKCs, the e-learning platform primarily for port state control officers, will be fully updated in 2019. This highly flexible learning environment will be made available offline as well as via an app to a broad geographical spread, spanning Paris MoU countries, European neighbourhood countries, as well as the Indian Ocean and Caribbean MoU countries .

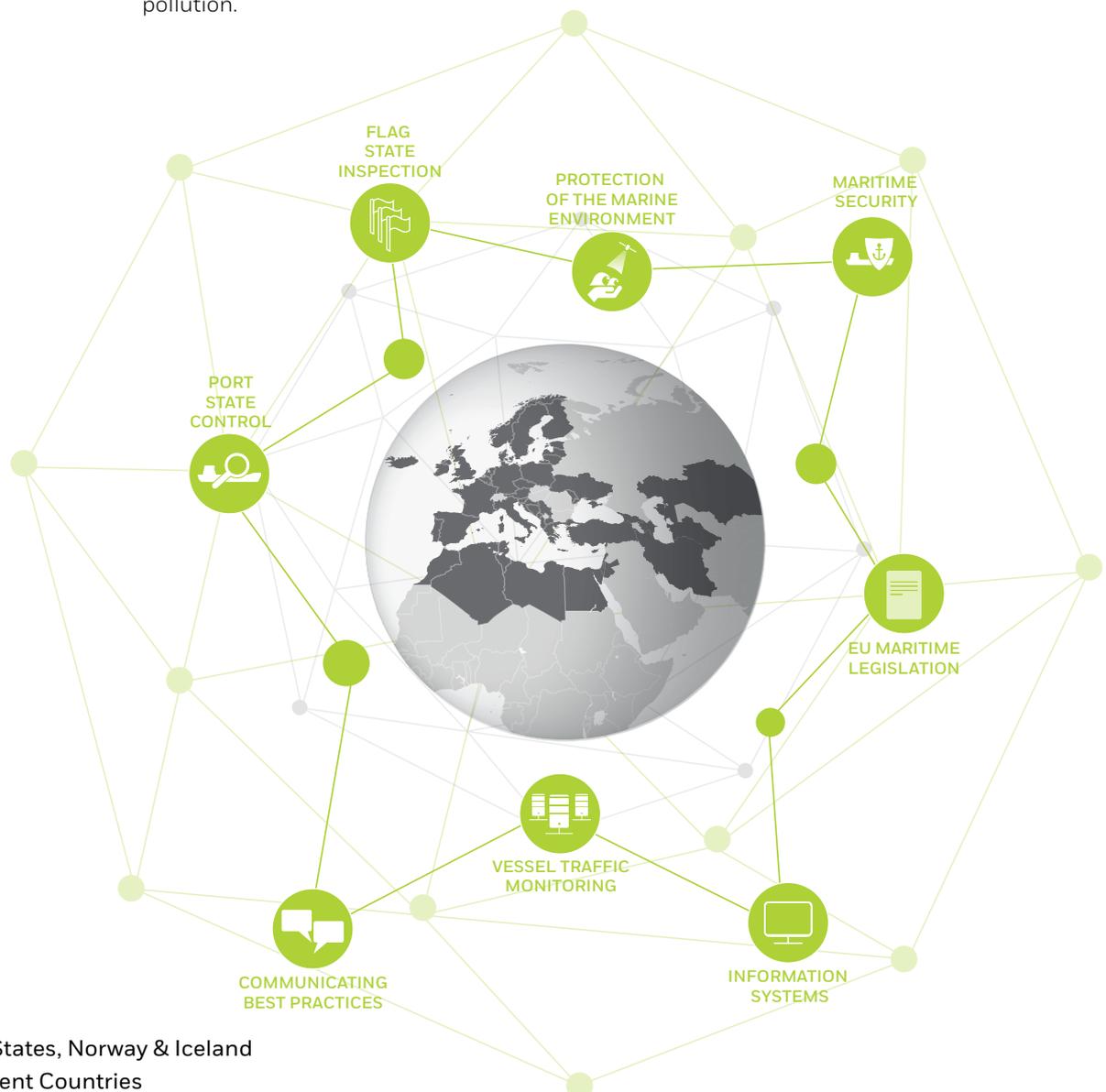
EMSA will also be looking to extend its training capabilities through new technologies – virtual reality and 3D simulations could be used to make the learning experience more engaging and immersive.

## EUROPEAN NEIGHBOURHOOD COUNTRIES

Through the Safemed project, EMSA works with southern Mediterranean partner countries to help enhance their technical capacity in the fields of maritime safety, security and marine pollution. Beneficiaries include Algeria, Egypt, Israel, Jordan, Lebanon, Libya, Morocco, Palestine, Tunisia and Turkey. The current phase of the project is expected to run until 2021.

Seminars, workshops and training sessions will be held in 2019 and access to both RuleCheck and MaKCs will be provided to the relevant authorities of the beneficiary countries. An oil pollution response simulation exercise is expected to be held gathering experts from the member states and their counterparts in the beneficiary countries. The exercise will entail the deployment of EMSA standby oil spill response vessels as well as the European Commission's Emergency Response Coordination Centre.

Similarly, EMSA works with eastern European neighbourhood countries around the Black and Caspian seas. This current phase of the project is also expected to run until 2021 and aims to promote a harmonised approach to maritime safety, security and marine pollution.



- Member States, Norway & Iceland
- Enlargement Countries
- BCSEA Project
- SAFEMED IV Project

## CHAPTER 4

### POLLUTION PREPAREDNESS

### DETECTION AND RESPONSE



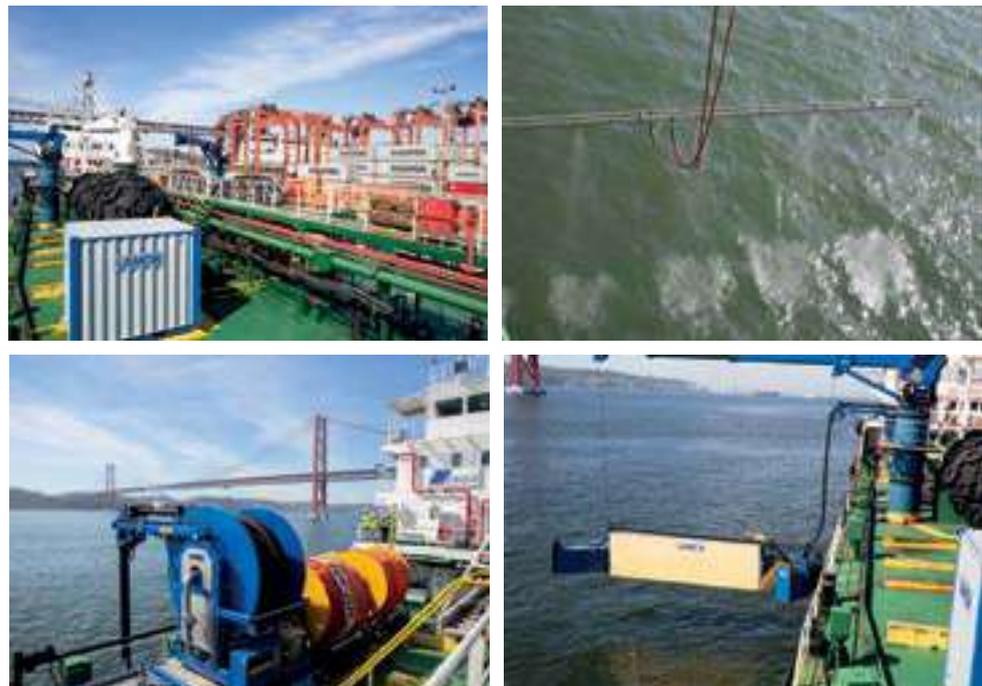
## OPERATIONAL POLLUTION RESPONSE SERVICES

EMSA offers a range of pollution response services to protect the areas in and around the European coastline. Various options are available to member states on request via the European Commission's Emergency Response Coordination Centre. These can be selected based on the particular circumstances of the spill and the type of pollutant involved.

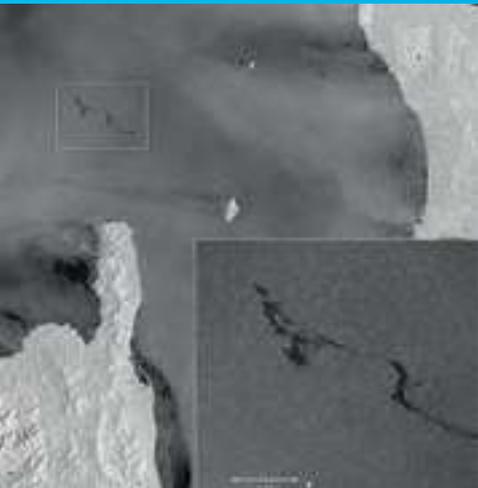
EMSA's services target marine pollution from both ships and oil and gas installations, and are intended to top up the capacity of coastal states in the event of a major spill at sea. The services are also in the process of being made available to countries sharing a regional sea basin through the eastern and southern European neighbourhood projects.

At the heart of these services is a network of oil spill response vessels which remains on standby at all times. Related equipment and land-based stockpiles can be used, taking into consideration various specificities, such as the amount of dangerous cargo being transported, ship traffic density, as well as the coastal state's existing pollution response capacity. In recent years, dispersants have also been made available in selected places as a response option. In addition, an equipment assistance service is available in the Baltic Sea, North Sea and Adriatic Sea offering specialised equipment for use by vessels of opportunity. The service is expected to be extended to the northern Baltic Sea in 2019.

In 2019, EMSA will continue to be involved in organising international multi-partner, multi-purpose exercises at sea with member states as part of ongoing cooperation on coast guard functions.



Specialised clean-up equipment on board the Bahia Tres, one of EMSA's standby oil spill response vessels, stationed in Lisbon for an open ship event during Portugal Shipping Week in September 2018



An oil spill response vessel was deployed from EMSA's fleet to help in the clean-up operations following a collision between two vessels, north of Corsica on 7 October 2018. CleanSeaNet satellite-based images were also requested and used to help monitor the extent and spread of the oil slick.



## DETECTING AND DETERRING MARINE POLLUTION

EMSA's satellite-based oil spill surveillance and vessel detection service, CleanSeaNet, analyses images from earth observation satellites to detect possible oil spills on the sea surface. The Sentinel-1 satellite mission, followed by Radarsat-2 and TerraSar-X, is the main supplier of images from Synthetic Aperture Radar. This data can be correlated with vessel traffic reports to identify likely spill sources, making the system a powerful deterrent to would-be polluters.

Through EMSA's Earth Observation Data Centre (EODC) which manages and distributes the EO information (oil spill detection, vessel detection, activity detection), the CleanSeaNet service is also accessible from the SafeSeaNet ecosystem (SEG).

Having set up a service for RPAS drones, EMSA will continue to make this service available to interested member states and thereby give them extended operational capabilities for the purpose of pollution detection, monitoring and response. The Agency will be looking into enhancing access to satellites on the one hand and, on the other, into complementing satellite imagery with RPAS monitoring services to allow for more flexible and intensive detection and monitoring of illegal discharges.

## COOPERATION FOR EFFECTIVE POLLUTION

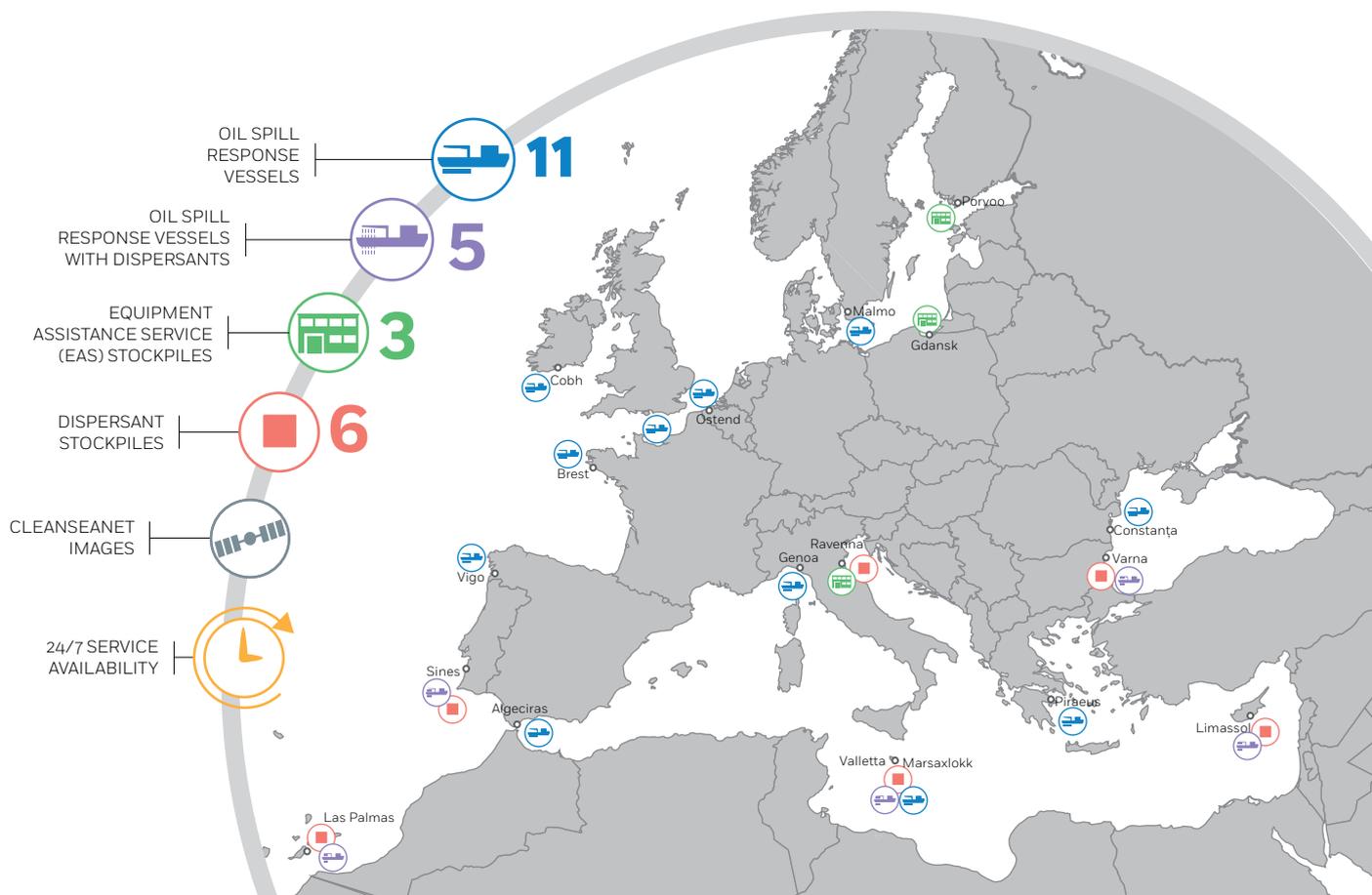
### PREPAREDNESS AND RESPONSE

Careful planning is essential to effectively deal with marine pollution incidents. EMSA's role involves disseminating best practices and exchanging information between member states, the Regional Agreements, the International Maritime Organisation and other relevant international bodies.

Special care is required for chemical spills of hazardous and noxious substances given their wide array of properties and how these can affect the environment. EMSA offers specialist information and expertise to member states through the MAR-ICE chemical experts network, the MAR-CIS database of information on chemical substances, as well as through the DUET dispersant usage evaluation tool. All this is provided executing the Hazardous and Noxious Substances action plan.

In 2019, EMSA will conduct a review on measures which have been and are being taken to remove marine litter particularly plastic, through initiatives such as 'Ocean Cleanup' and 'Fishing for Litter'. This will help to inform decision-making in the European context to tackle this widespread problem.

# EMSA NETWORK OF STANDBY OIL SPILL RESPONSE VESSELS, EAS & DISPERSANT STOCKPILES



2019

**CHAPTER 5**

**MANAGEMENT, QUALITY CONTROL**

**RESOURCES AND COMMUNICATION**



**MANAGEMENT, QUALITY CONTROL****RESOURCES AND COMMUNICATION**

Efficient and effective administration is essential not only for the smooth running of the Agency but also, even more importantly, for the fulfilment of its objectives. In 2019, EMSA will continue to monitor its performance and make efficiency gains where possible.

EMSA's Quality Management System for visits and inspections activities received ISO9001:2015 certification from TÜV Rheinland Portugal and these activities are now well into a three-year cycle of verification and re-certification. In 2019, the Agency will take this forward and work on gaining certification also for the ICT service management system.

The Administrative Board whose main task it is to supervise the work undertaken by the Agency – adopting the work programme, budget and establishment plan, for example – will meet three times in 2019. Their work and decision-making will continue to be facilitated by the Administrative and Finance Committee.

EMSA will foster staff development and redeployment to enhance overall efficiency and increase mobility in response to the new priorities. In 2019, the Agency will put in place the action plan for gender balance signed at the end of 2018. Efforts will also continue to ensure an efficient document, record management and archiving policy within the Agency. Electronic workflows are increasingly the rule rather than the exception since the implementation of the ARES document management system was introduced.

This is also the case for procurement, where new e-tools were put in place to facilitate the smooth running of EMSA's internal procedures. Further improvements to EMSA's environmental performance are being explored, such as the possible introduction of the EU's eco-management and audit scheme (EMAS).

In the field of ICT, EMSA will prioritise service delivery and business continuity, striving for improvements in performance and reductions in costs. The overall objective in 2019 will be to support efficient, reliable, stable and secure operations with smooth releases of application/infrastructure enhancements, new applications and pilots, all in line with EMSA's evolving ICT landscape.

Communication remains a crucial aspect of EMSA's activities and efforts throughout 2019 will be directed towards four focus areas as per the 2014-2020 communication strategy: providing general communication support to ensure concise, up-to-date information on EMSA's activities; increasing the user friendliness of this information; rationalising the use of resources through greater synergies within the Agency to avoid duplication of effort; and, tailoring information to the Agency's core stakeholders.



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## 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

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