European Maritime Safety Agency

EMSA FACTS & FIGURES 2020

EMSA

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FOREWORD

I am pleased to present EMSA's 2020 Facts and Figures report, which sets out our main achievements over the course of the last year. This document is itself a shortened version of the Consolidated Annual Activity Report of the Agency, prepared each year for our Administrative Board. This edition contains the first overview of our work under EMSA's five-year strategy (2020-2024).

Overshadowing all our activities in 2020 was the COVID-19 pandemic, which had – and which continues to have – a global impact. But throughout the year, our work in EMSA, like that of the maritime community as a whole, continued at an increased pace. As lockdowns spread around the world, the shipping industry showed its resilience and its strength, delivering vital supplies and helping to drive global trade. And in EMSA, we continued to give full support to the maritime sector, and to all who use our services.

To help understand the full impact of the pandemic on the sector, we issued weekly reports on its effect on maritime transport. With the European Centre for Disease Prevention and Control (ECDC), we published guidance on the resumption of cruise ship operations, something that was welcomed by the industry and Member States alike. We pioneered remote visits and inspections as well as moving our capacity-building and knowledge-sharing portfolio to online mode.

All this was done against the backdrop of increased demand for our products and services, and the full operationalisation of our five-year strategy – our roadmap for the future.

We developed our strategy in a transparent and inclusive way, seeking feedback from our primary stakeholders on how EMSA could help them meet the challenges, and optimise the opportunities, in the years to come. Now, despite the difficulties of 2020, I can report that our strategy is delivering fully across its five pillars of sustainability, surveillance, safety, security and simplification. Our strategic journey is a reality, supported by a reorganisation of our internal structure to enable us to fully implement our vision for the coming years.

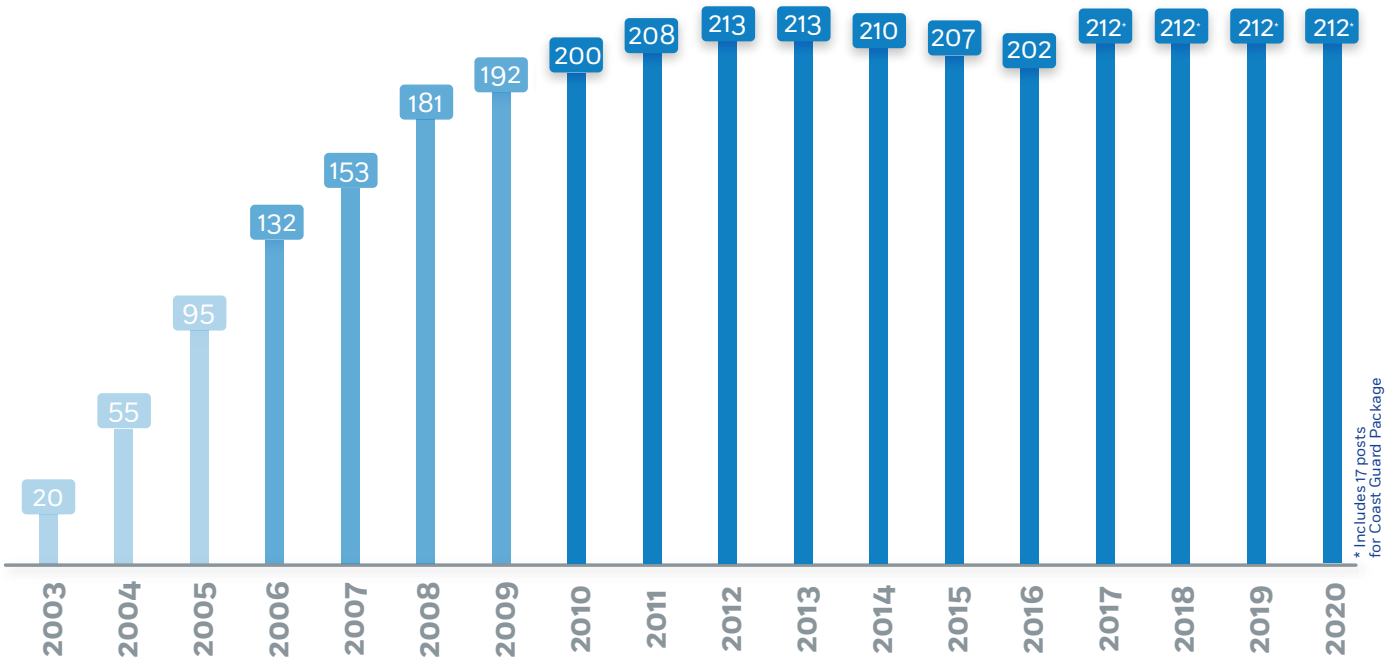
For this, and for the realisation of all the actions carried out in the framework of our mandate, I wish to thank all our partners across Europe, in particular the Members of the Administrative Board. Under the leadership of our Chair, Andreas Nordseth, our Board gave us strong and unstinting support throughout the course of 2020.

And, of course, my thanks are due to EMSA's own staff. Despite the restrictions imposed by the pandemic, they proved, yet again, their resilience and capacity to deliver high quality work for stakeholders, users and European citizens alike.

Maja Markovčić Kostelac
Executive Director

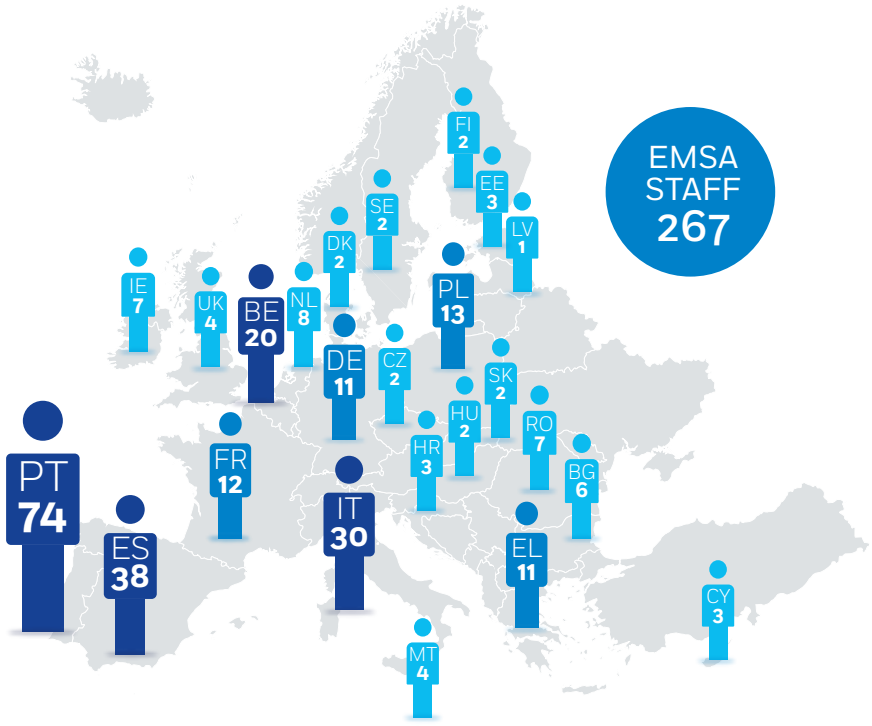
ESTABLISHMENT PLAN FIGURES

EMSA statutory staff from 2003 to 2020



EMSA STAFF BY NATIONALITY 2020

Figures include statutory and non-statutory staff



CHAPTER 1

SUSTAINABILITY

CONTRIBUTING TO THE EUROPEAN GREEN AGENDA FOR MARITIME TRANSPORT BY STRENGTHENING THE EU CAPACITY TO PROTECT THE MARINE ENVIRONMENT, MANAGE CLIMATE CHANGE AND RESPOND TO NEW ENVIRONMENTAL CHALLENGES

The European Green Deal, presented at the end of 2019, sets out the EU's ambition to be the first climate-neutral continent, with a far-reaching growth strategy based on a just and inclusive transition. Throughout 2020, EMSA gave full support to the European Commission on the maritime dimension of the Green Deal, through its expertise, data, and unique position as a hub of maritime information and excellence.

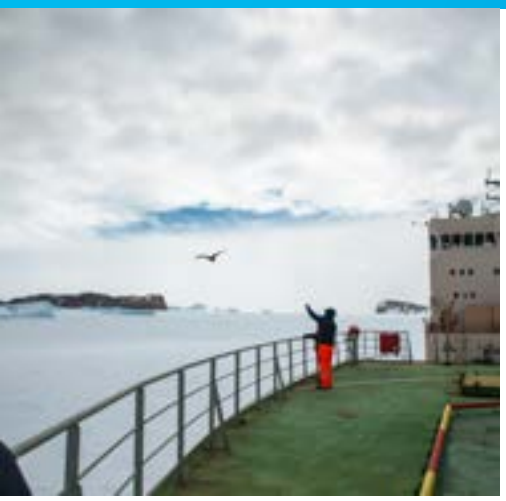
SUPPORTING THE EUROPEAN GREEN DEAL

To shape effective policies and strategies that provide real benefits to citizens, evidence-based facts and data are crucial. To this end, in 2020, work progressed on the European Maritime Transport Environmental Report (EMTER) – the first report of its kind – together with the European Environment Agency. The report will provide a comprehensive assessment of the environmental performance of the maritime transport sector in the European Union and will be published in 2021. In order to further inform the report's development, a successful stakeholder consultation process and an online workshop were also held at the end of 2020. The findings of the EMTER report will feed into the European Commission's array of policy initiatives linked to the European Green Deal. EMSA is now intensifying its efforts to become a hub for environmental data related to maritime transport.

In 2020, EMSA provided technical support and data to the European Commission and Member States on the FuelEU Maritime initiative, which aims to increase the use of sustainable alternative fuels in European shipping and ports. Support was also given on the Zero Pollution Action plan initiative. In addition, the Agency participated in the relevant Technical Groups linked to the implementation of the Marine Strategy Framework Directive, including in the areas of marine litter and underwater noise, for which a dedicated study was launched in 2020. EMSA also ensured its support as technical secretariat of the European Sustainable Shipping Forum.

To further support the EU's sustainability goals and the transition to greener shipping, preparation for a tender related to studies on alternative fuels and sources of renewable energy was completed in 2020.

As from 31 December 2020, the EU Ship Recycling Regulation obliges all existing EU flagged ships and non-EU flagged ships calling to an EU port or anchorage to carry an Inventory of Hazardous Materials (IHM) on-board, with a certificate or statement of compliance as appropriate. EMSA contributed to the drafting of the Commission Notice of Guidelines on the enforcement of obligations under the Regulation and released a dedicated module in THETIS-EU for the recording of inspections on inventories of hazardous materials.



With approximately 600 individual ports across the European Union, waste management is a key concern for national authorities and industry alike. Through the Port Reception Facilities Directive, the EU has worked to reduce pollution from the waste produced by ships, while ensuring the smooth operation of maritime traffic. In 2020, EMSA supported the European Commission and the Member States on the revised Directive (Directive (EU) 2019/883), including through the drafting of two Implementing Acts necessary for its entry into force. EMSA also began to adapt the current Port Reception Facilities (PRF) THETIS-EU module to align it with the requirements of the revised Directive.

The support provided under the EMSA-EFCA service level agreement (SLA) contributed to reducing the adverse impacts that overfishing can have on ecosystems, especially in sensitive areas, as well as to improving sustainability of fisheries resources through enhanced monitoring, control, and surveillance.

The MRV Regulation ((EU) 2015/757) is part of the EU's efforts to include the maritime transport sector in its overall policy to reduce greenhouse gas emissions. In support of the Regulation, EMSA developed and hosts the THETIS-MRV system, which supports the monitoring and reporting of verified data on CO_2 emissions by shipping. In June 2020, data gathered by the Agency on ships of over 5000 gross tonnage operating in EU waters (relating to approximately 12000 ships) was published, providing a picture of CO_2 emissions from shipping in the EU for the second year in a row. Moreover, EMSA further supported the European Commission in analysing emissions data, ahead of the publication of a report in 2021 which will assess both the CO_2 emissions and the energy efficiency of maritime transport. Overall, the MRV system is expected to lead to emission reductions of up to 2% compared with a business-as-usual scenario.

2020 marked an important step forward in tackling the issue of sulphur emissions at international level, with the entry into force (on 1 January) of the global sulphur cap, which cut the maximum sulphur content of marine fuels from 3.5% to 0.5% worldwide. EMSA assisted the European Commission in monitoring the implementation of the sulphur cap in the EU, and gave support, under the Barcelona Convention framework, to the potential establishment of a Sulphur Oxides Emissions Control Areas (SECA) in the Mediterranean Sea.

Throughout 2020, EMSA's technical contributions fully supported the range of policy initiatives developed and launched by the European Commission with the goal of making Europe climate neutral by 2050.

PROMOTING GREATER SUSTAINABILITY AT GLOBAL LEVEL

At the International Maritime Organization (IMO) the Agency participated actively in the Marine Environment Protection Committee (MEPC), the Sub-Committee on Pollution Prevention and Response (PPR) and in several meetings of the Working Group (ISWG-GHG) on Reduction of GHG emissions from Ships, as part of the EU delegation. EMSA provided technical contributions to the EU coordination process and to several IMO submissions by the EU, including on pollution prevention topics such as: the International Convention on the Control of Harmful Anti-fouling Systems on Ships (the AFS Convention), through a dedicated study on cybutryne; on the evaluation and harmonisation of rules on the discharges and residues from Exhaust Gas Cleaning Systems (EGCSs); and on a proposal for a mandatory goal-based technical and operational short-term measure.

Through its participation in several IMO Correspondence Groups, EMSA has engaged in discussions on guidance on technical and operational measures to enhance the energy efficiency of international shipping, including important environmental actions like increasing the energy efficiency of existing ships, the ship energy efficiency management plan, rating mechanisms and carbon intensity indicators (CIIs). EMSA's role in the implementation of the EU MRV Regulation, which governs the monitoring, reporting and verification of carbon emissions from shipping, puts it in a strong position to assist in the future development of potential carbon intensity indicators through this forum. In addition, EMSA participated in other Correspondence Groups related to air pollution or marine litter.

POLLUTION RESPONSE

Today, the Agency maintains a fully equipped, and constantly increasing, 'toolbox' of pollution response services. This is at the disposal of coastal Member States of the EU to help them deal quickly, effectively and efficiently with oil or chemical marine pollution incidents from ships and oil and gas installations. The services also include emissions monitoring, an important part of the current service array, which is expected to increase in demand in the future.

Located in ports around the EU, these services are designed to top-up and complement existing response resources at national and regional level. When a pollution event occurs, Member States can choose the response mechanism that best fits their needs from a catalogue of products, including oil spill response vessels (with and without dispersants), remotely piloted aircraft systems (RPAS) services, an equipment assistance service (EAS), stockpiles of dispersants, and satellite-based images from CleanSeaNet.

EMSA both maintains and renews this set of services, while engaging with the Member States and the European Commission in a 'bottom-up' approach, to ensure the appropriateness of all components offered, in a cycle of continuous improvement and optimisation. Discussions were held within the context of the Agency's Administrative Board on how to enhance the toolbox offered by EMSA, to reflect emerging challenges and needs. The outcome of such discussions will be taken into account when planning future activities.

As a first result, in 2020, the Agency invested in new medium-sized equipment to complement the existing range of response resources. EMSA also continued improving the operational capabilities of its response units by equipping four additional vessels with RPAS capacity, reaching a total of eight RPAS-enabled vessels by the end of 2020.

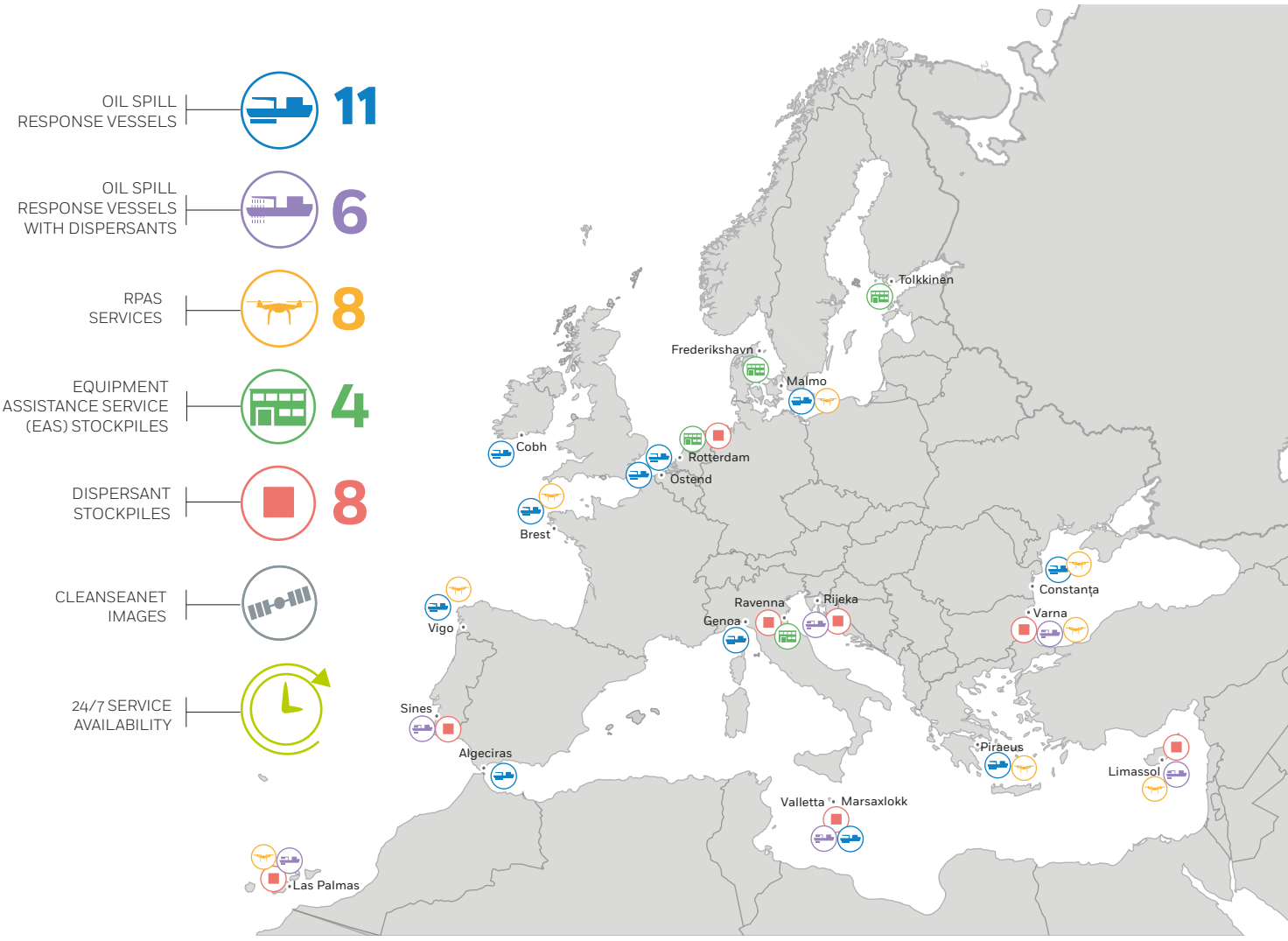
Overall, the services provided for the response to pollution caused by ships, as well as the response to marine pollution caused by oil and gas installations, have become more adaptable and flexible to better reflect regional capacity, requirements and risks.

Moreover, despite the restrictions caused by the pandemic, the two EAS stockpiles and three recovery vessels that were in preparation phase were accepted for standby service.

In addition, all EMSA contracted services confirmed their availability for emergency services, and almost all drills and Equipment Condition Tests due for 2020 were successfully completed.

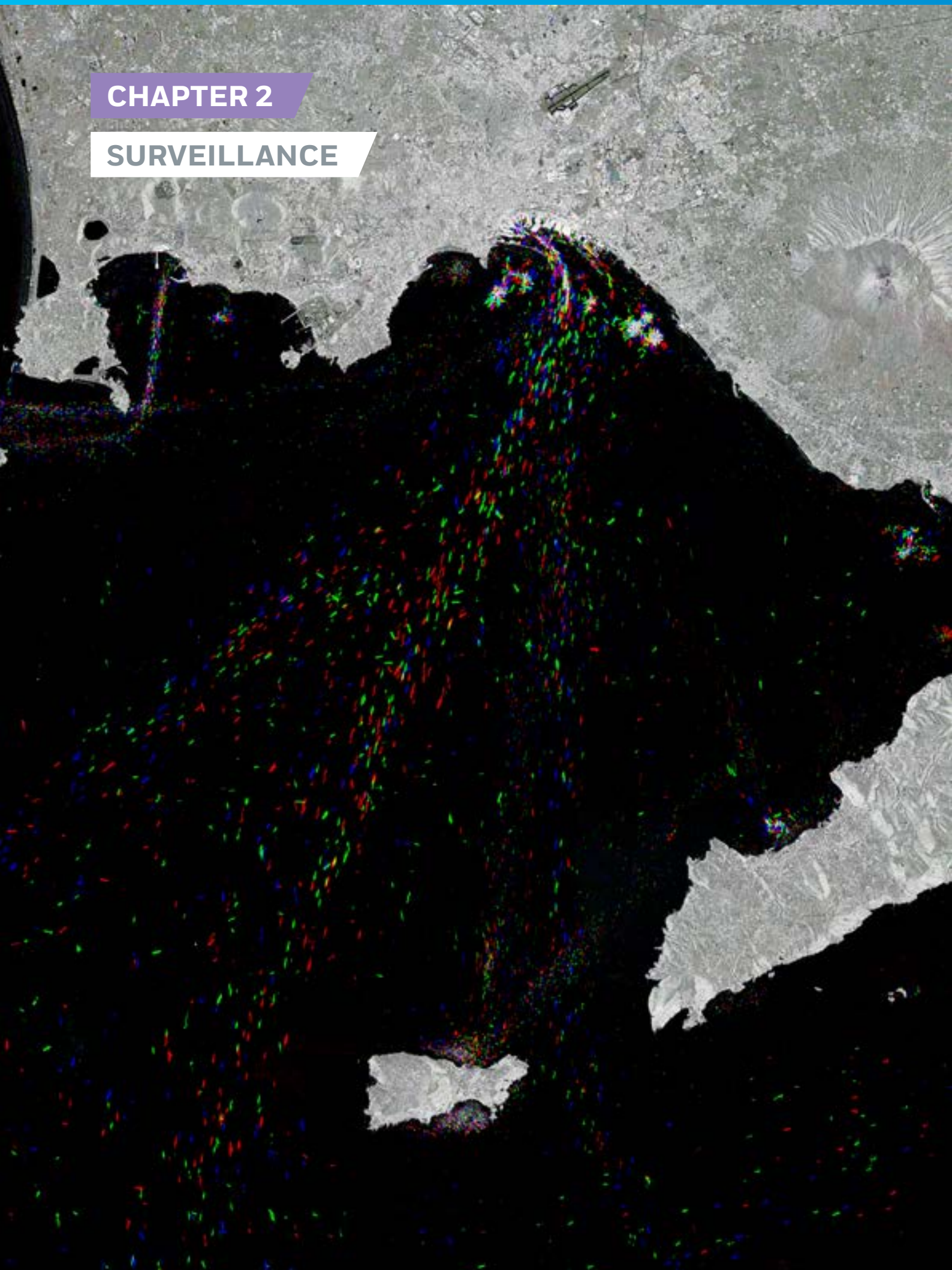
Chemical pollution – the release of harmful contaminants into water – represents another area in which EMSA provides support. In the event of a marine spill of hazardous and/or noxious substances, EU Member States can avail of the Marine Chemical Information Sheets (MAR-CIS) which consists of datasheets of chemical substances developed by EMSA. MAR-CIS is an important support when chemical spills occur, and in 2020 the database was updated and complemented with a new tool – 'Be Chem' – to assist in determining what physical behaviour could be expected for substances which are not listed in the MAR-CIS database when released in water.

Network of EMSA's pollution response services available to the coastal Member States of the EU up until December 31 2020



CHAPTER 2

SURVEILLANCE



STRENGTHENING EMSA'S ROLE AS THE CORE INFORMATION MANAGEMENT HUB FOR MARITIME SURVEILLANCE

THE EU'S EYES ON THE SEA

Getting a reliable overview of human activity at sea is a complex and demanding task. The vast areas covered by our oceans resist wide-scale surveillance from the ground, making satellites, and their on-board sensors, a reliable, efficient, and cost-effective option for maritime safety, security, and sustainability purposes.

Accessing data from 16 different satellites, EMSA's Earth Observation services provide a wealth of data for two main EU surveillance programmes – CleanSeaNet, which detects oil spills and potential polluters, and the Copernicus Maritime Surveillance programme, which provides a better awareness of human activity at sea.

Throughout 2020, EMSA's investments in satellite-based surveillance solutions created substantial dividends, enabling the Agency to meet increased demand for monitoring services against the backdrop of disruption caused by the COVID-19 pandemic.

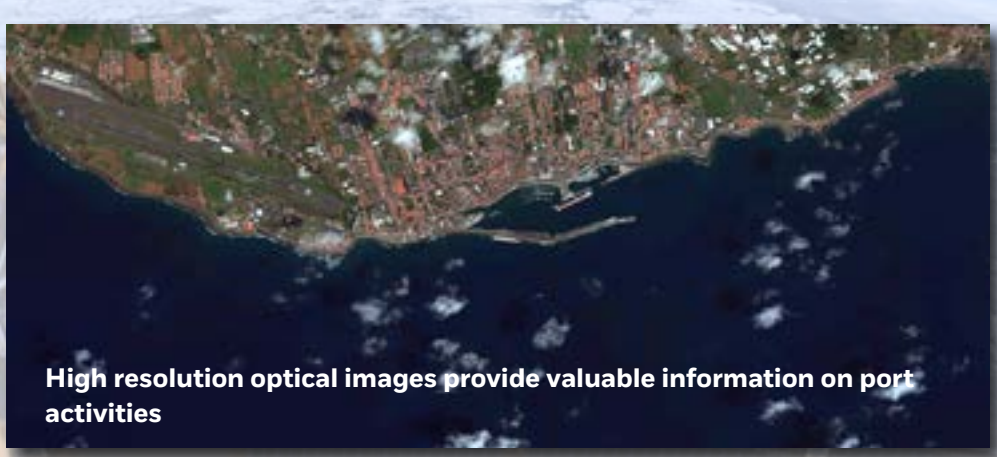
In 2020, the services provided by CleanSeaNet and the Copernicus Maritime Surveillance programme continued to develop, delivering the capabilities of satellite-based maritime surveillance through both programmes, and also through the service provided by EMSA to the European Border and Coast Guard Agency (Frontex), for border control-related maritime surveillance.

Overall, the Earth Observation products delivered by EMSA to Member State administrations and EU institutions in the scope of CleanSeaNet, Copernicus Maritime Surveillance, and support to Border Control activities grew by 15% in 2020, compared to 2019. This constitutes the largest overall volume of services delivered since EMSA began implementing Earth Observation services, representing almost 2 billion km^2 of sea surface monitored over the course of the year.

The operational services under the Copernicus Maritime Surveillance Services, executed on behalf of the European Commission, saw a 22% growth compared with 2019 in the number of organisations served; 50 Member State Administrations and EU institutions are now supported by this service. The number of Earth Observation products delivered by the Copernicus Maritime Surveillance system also grew substantially (40% compared to 2019), fuelled in part by the growth in its user base, but also by the significant uptake of Earth Observation services during the COVID-19 pandemic.

EMSA provided satellite monitoring to Member States in response to 20 emergencies at sea, linked with oil pollution, search and rescue, and anti-piracy, which represents a 33% increase compared to 2019.

Given its natural role as the premier EU hub for the maritime awareness picture, EMSA also facilitated the sharing of EO products between key user communities serviced by EMSA. Accordingly, 8 310 EO products acquired under the CleanSeaNet oil spills monitoring and vessel detection service were shared with Frontex and EFCA.



High resolution optical images provide valuable information on port activities

Satellite images can be used to determine the exact location of fish farm installations

Specific features seen in optical images can be useful to detect suspect vessels

The Copernicus Maritime Surveillance can be used in areas of European interest to address issues of regional or global concern

REMOTELY PILOTED AIRCRAFT SYSTEMS

During 2020, EMSA continued to offer capabilities based on remotely piloted aircraft systems (RPAS) technology to support maritime surveillance. The Agency further increased its level of activities in this area, becoming a reference, both within the EU and globally, for the use of RPAS services for maritime surveillance in the civil domain.

2020 marked the third full year of RPAS operations at EMSA, with a total delivery of 1384 operational days, supporting coast guard functions at Member State level, and in the framework of cooperation with the European Fisheries Control Agency (EFCA).

During the course of 2020, EMSA delivered RPAS surveillance and related satellite communication services in eight different Member States across 14 different locations. EMSA also participated in two oil pollution response exercises: Balex Delta in Estonia; and Breeze in Bulgaria. In addition, the Agency permanently deployed lightweight RPAS on board EFCA's chartered vessel, the Lundy Sentinel, to support fishery monitoring activities. RPAS services also supported various search and rescue operations at Member State level in 2020, with remote live access provided to all service users through the EMSA RPAS Data Centre.

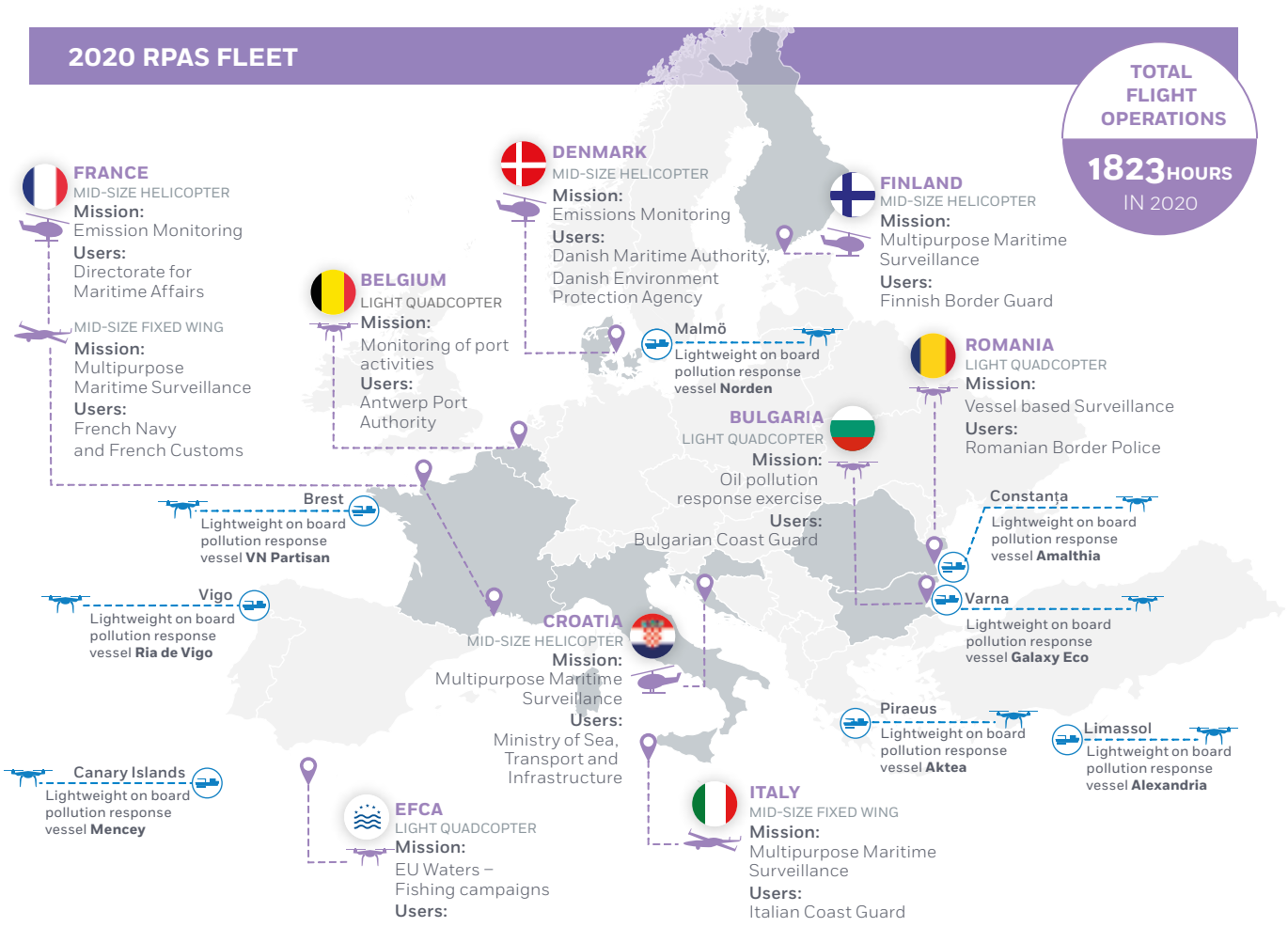
Moreover, in 2020, the first steps were taken towards setting up more permanent regional deployments, in which RPAS services can serve users from more than one Member State in the same geographic region, thereby providing more efficient support to coast guard functions.

In terms of emissions monitoring, EMSA scaled up its portfolio of RPAS to cope with high demand from Member States. The Agency supported the implementation of the Sulphur Directive by delivering remotely piloted aircraft systems (RPAS) services to monitor ship emissions in two Member States, performing a total of 245 measurements, and reporting on results through THETIS-EU. The Agency also delivered lightweight RPAS services to the Port of Antwerp, mainly for monitoring pollution within the port, but also to monitor the safety of ship movements, degassing, and floating debris.

Throughout 2020, EMSA continued to provide global satellite automatic identification system (SAT-AIS) data services to end-users, in real time via high-performance satellites. A new contract for services was put in place to ensure a backup at all times, and to complement the existing data stream. A new commercial terrestrial automatic identification system (T-AIS) source to support Frontex was also integrated at EMSA during the course of the year.

2020 RPAS FLEET

TOTAL FLIGHT OPERATIONS
1823 HOURS IN 2020



RPAS IN SUPPORT OF

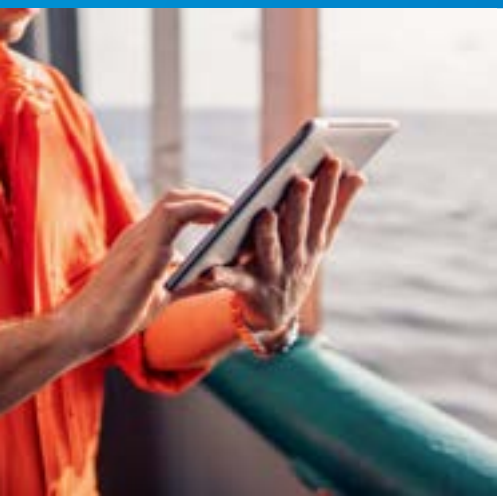
SEARCH & RESCUE	EMISSIONS MONITORING	TRAFFIC MONITORING	MARINE POLLUTION	FISHERIES CONTROL	TRAFFICKING
Optical scanner EPIRB AIS	SOx/NOx sniffer EO/IR camera AIS	Radar & optical scanner EO/IR camera AIS	EO/IR camera Radar AIS	Radar & optical scanner EO/IR camera AIS	Radar & optical scanner EO/IR camera AIS

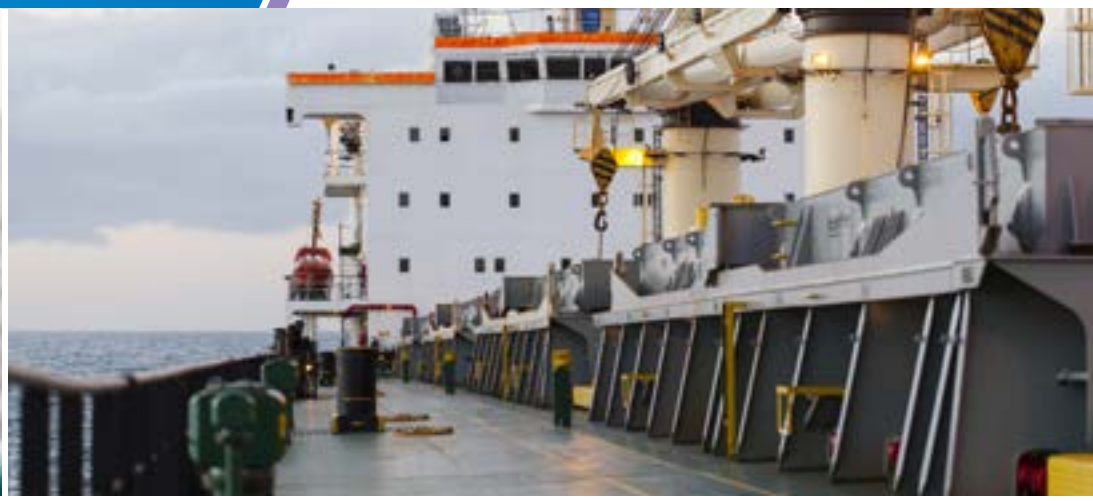
RPAS IN ACTION: 2020 EXAMPLES

JULY 2020
RPAS emission monitoring in Denmark

JULY 2020
RPAS multipurpose surveillance in France

JULY 2020
RPAS multipurpose surveillance in Romania



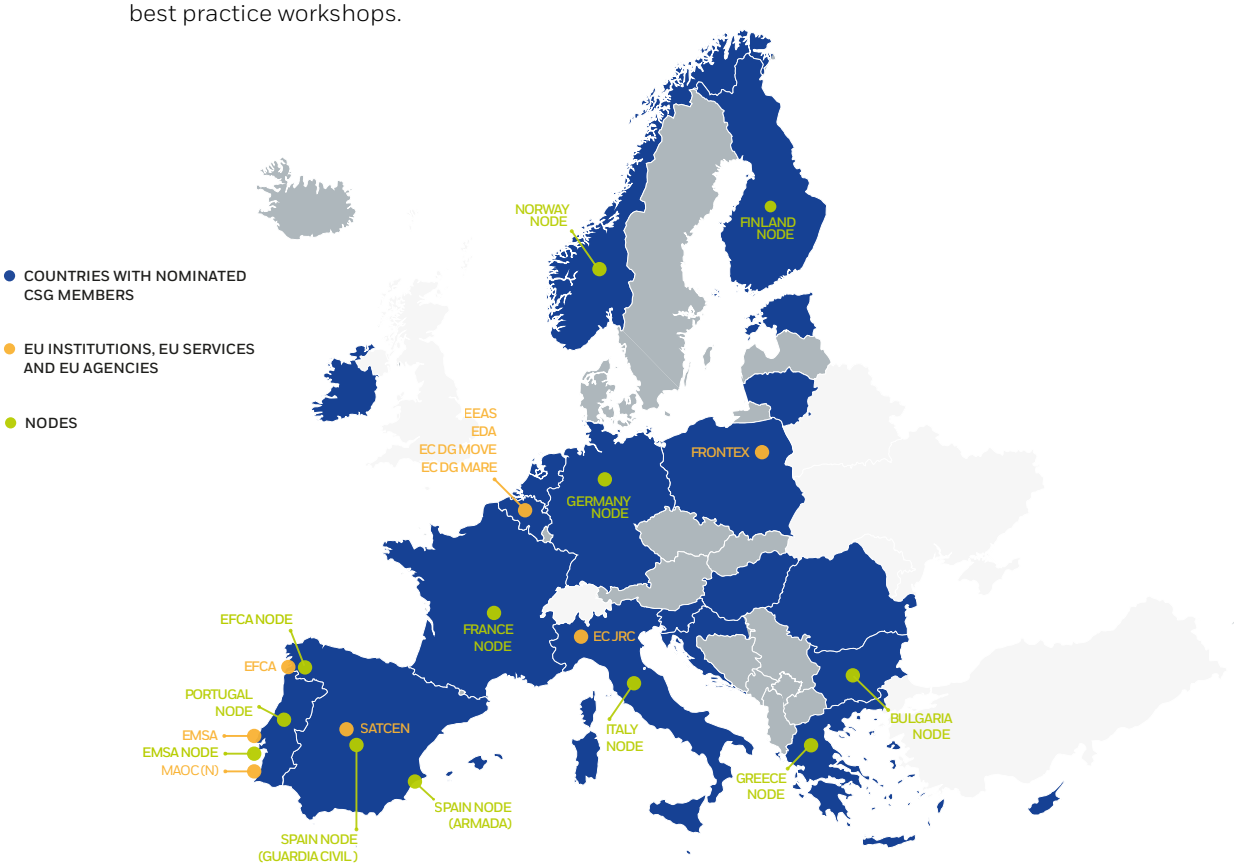


COMMON INFORMATION SHARING ENVIRONMENT

The goal of the Common Information Sharing Environment (CISE) is to integrate existing surveillance systems and networks to give all relevant authorities access to the information they need for their missions at sea. It will make different systems inoperable so that data and other important information can be exchanged easily through the use of modern technologies.

EMSA has been tasked by the European Commission to set up and coordinate the preparatory actions for the operational implementation of CISE (the transitional phase), during which it will transform from a research project to an EU-wide operational maritime surveillance network, available to all Member States and EU Agencies.

During 2020, the second grant agreement between DG MARE and EMSA was signed, and EMSA coordinated a number of meetings and training sessions in the context of the project, including the CISE Stakeholder Group meetings, working group meetings, and best practice workshops.



CHAPTER 3

SAFETY AND SECURITY

CONTRIBUTING TO HIGHER MARITIME SAFETY STANDARDS, ANTICIPATING NEW MARITIME SAFETY CHALLENGES AND EXPECTATIONS, AND PROVIDING KNOWLEDGE-BASED SOLUTIONS WITH THE AIM OF CONTRIBUTING TO THE REDUCTION OF MARINE CASUALTIES AND LOSS OF LIFE. STRENGTHENING MARITIME SECURITY IN EUROPE AND GLOBALLY WHERE THERE IS A EUROPEAN INTEREST.

Maritime safety has been at the heart of EMSA's activities since its inception and is both foundation and pillar for all its present and future work. The wealth of technical actions that have been carried out by the Agency in relation to passenger ship safety, marine equipment, and fire safety underlines its pivotal role. EMSA's work also addresses emerging trends, potential future risks, and new technologies, in support of the European Commission and the Member States at EU and IMO level.

But 2020 ushered in a new set of safety challenges for the maritime industry, with the advent of the COVID-19 pandemic and its associated impact on sea transport. Together with the European Centre for Disease Prevention and Control (ECDC), EMSA developed COVID-19 EU Guidance for the gradual and safe resumption of cruise ship operations in the EU; something that was welcomed by the industry and Member States alike. The guidance was also circulated and published by the International Maritime Organisation in August 2020.

In addition, due to the travel restrictions linked to the pandemic, throughout 2020 the Agency has carried out as many visits and inspections as feasible using remote auditing techniques, to ensure as comprehensive a continuity of service as possible.

SUPPORTING MARITIME SAFETY IN THE EU AND BEYOND

At international level, EMSA's FIRESAFE II study, which analyses fire safety on board ro-ro passenger ships, was the main document within the IMO for the ongoing discussions on amending the Safety of Life at Sea (SOLAS) convention, and other relevant instruments. A study on Steering and Manoeuvrability was also conducted throughout 2020, with finalisation set for 2021, to further promote discussions at IMO level. EMSA also continued its active participation at IMO level in maritime safety correspondence groups.

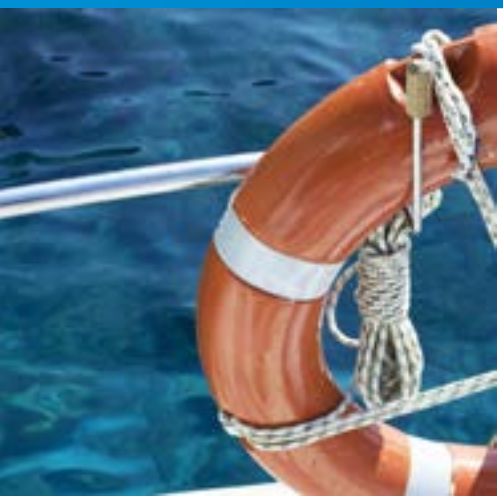
At EU level in the area of passenger ship safety, EMSA has continued assisting the European Commission by assessing requests for national exemptions to both Directive 98/41/EC (three closed cases in 2020) and Directive 2009/45/EC (five on-going cases and one closed case in 2020). Similarly, support was provided on the follow-up and review of the recently launched European Commission study on Small Passenger Ships, which will be finished by early 2022.

EMSA continued to provide support to the European Commission and Member States in the ongoing technical discussions in relation to the damage stability of ro-ro passenger ships in the EU and, in particular, in the ongoing review of Directive 2003/25/EC. In terms of container ship safety, the Agency created a multidisciplinary task force in 2020, which has begun the process of drafting a technical analysis covering different aspects of safety in this area, with the aim of identifying knowledge and regulatory gaps.

The use of alternative fuels and new power technologies is an important area for the maritime sector as it evolves towards greater sustainability. Against a backdrop of increasing research and innovation, EMSA confirmed and deepened its relevance as a key partner for the European Commission and Member States in the development of a safety and standardisation framework for new alternative energy systems for ships, at EU and IMO level.

In the same context, EMSA supported the European Commission and Member States in the development of an adequate analysis framework related to the multi-dimensional safety aspects of electrical systems, encompassing energy storage onboard and shore side electricity (SSE). This work also included the drafting of best practices. The Agency continued its work on the development of SSE Guidance, covering different safety and standardisation aspects of the interoperability and interconnectivity of shore side electricity and onshore power supply to ships at berth. A wide range of stakeholder views were gathered during 2020, with the SSE Guidance due to be published in 2021.

In terms of Maritime Autonomous Surface Ships (MASS), EMSA continued to follow the latest developments from a technological and regulatory point of view, with a dedicated Task Force established to deal with MASS-related issues. The SAFEMASS study was published in 2020 and was made available to EU Member State Administrations to support them in understanding and developing regulations on MASS, as well as in identifying emerging risks that are posed by the implementation of the different degrees of MASS. More specifically on risks associated with MASS operations, the Agency started the process for developing a Risk Based Assessment Tool (RBAT) for MASS.

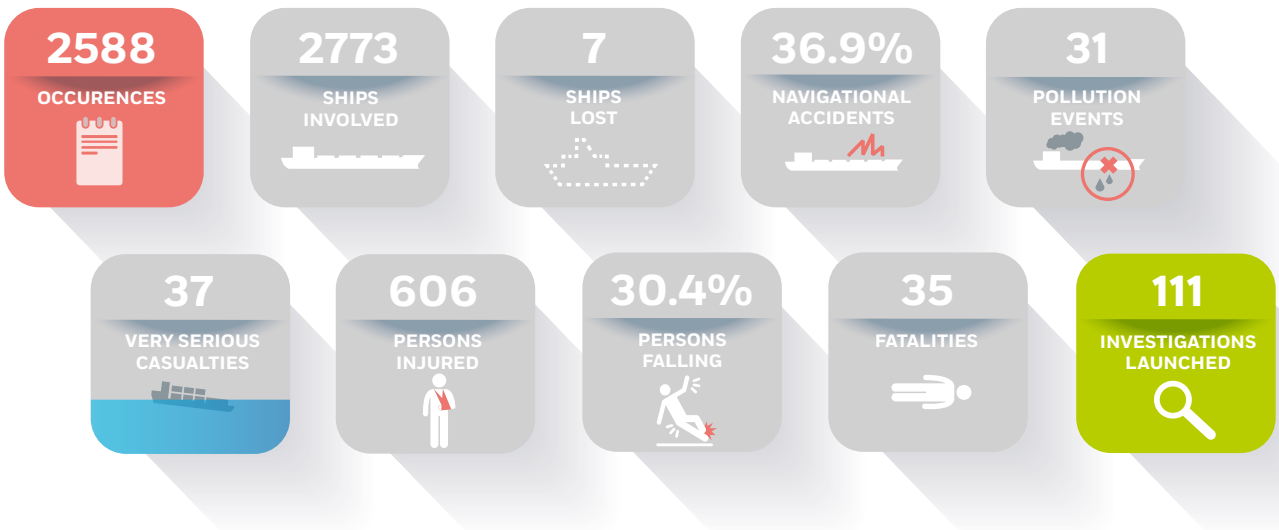


ACCIDENT INVESTIGATION

The European Marine Casualty Information Platform (EMCIP) is a centralised database, through which Member States store and analyse information on maritime casualties and safety incidents. EMCIP's data can add value by identifying safety issues, as well as pointing out possible measures that could be made to implement an enhanced safety culture at sea. EMSA has previously applied a dedicated methodology to EMCIP data in order to analyse safety on ro-ro ships and on fishing vessels, and in 2020, the Agency extended this methodology to container ships. 156 investigations reported in EMCIP were analysed to detect possible safety issues based on the accident events and the factors that contributed to the occurrences, as well as potential prevention measures.

Throughout 2020, EMSA continued in its role as Secretariat of the Permanent Cooperation Framework, which brings together the accident investigation boards (AIBs) of EU Member States. Through this body, EMSA facilitated technical cooperation between the various AIBs, which is essential for the proper implementation of EU maritime safety legislation.

2020
MARITIME CASUALTIES
KEY FIGURES (extracted in February 2021)



THE HUMAN ELEMENT

Even in an increasingly technologically advanced shipping sector, most accidents that occur on board ships still involve human error. A key part of EMSA's mandate involves supporting the human element of the maritime industry, in the area of education, training, certification and working conditions, to reduce accidents on board ships and increase safety across the board.

At international level, EMSA prepared a submission proposing the review of the International Convention on Standards of Training, Certification and Watchkeeping for Seafarers (STCW) at the IMO, working alongside the European Commission and the Member States throughout 2020. The Agency also organised a workshop with Member States to discuss the submission. In parallel, in the context of the review of the International Convention on Standards of Training, Certification and Watchkeeping for Fishing Vessel Personnel (STCW-F), EMSA supported the European Commission's work in the IMO through participation in the relevant working group and correspondence group.

The Agency has also fostered the implementation of the Maritime Labour Convention via a dedicated workshop organised together with the IMO, the International Labour Organization (ILO) and the European Commission. This confirmed the role of EMSA as facilitator and platform to share lessons learnt and best practices beyond the EU, in support of enhancing a level playing field and ensuring the ratification and implementation of the Convention in the interest of maritime safety and the protection of seafarers.

Throughout 2020, work continued towards the further development of EMSA's STCW-IS, a web-based information system designed to help all those wishing to find reliable information on both national maritime administrations and maritime education and training institutions. In addition, the system continues to provide reliable information on the number of seafarers available to serve on the EU fleet.

SEAFARER STATISTICS IN THE EU

A SNAPSHOT OF THE NUMBER OF SEAFARERS HOLDING CERTIFICATES OF COMPETENCY & ENDORSEMENTS ATTESTING RECOGNITION BY EU COUNTRIES VALID IN 2018, AS REPORTED IN EMSA'S STCW INFORMATION SYSTEM

TOP 5 EU COUNTRIES WITH THE HIGHEST NUMBER OF CERTIFIED OFFICERS

- United Kingdom (30 716)
- Poland (20 467)
- Greece (20 450)
- Norway (16 366)
- Croatia (14 291)

TOP 5 EU COUNTRIES WITH MOST OFFICERS RECOGNISED BY OTHER EU COUNTRIES

- Poland (9 897)
- Romania (6 203)
- Greece (5 002)
- Croatia (4 099)
- United Kingdom (4 065)

TOP 5 EU COUNTRIES RECOGNISING THE HIGHEST NUMBER OF NON-EU OFFICERS

- Malta (45 655)
- Cyprus (19 411)
- Norway (10 111)
- The Netherlands (8 008)
- Portugal (7 729)

TOP 5 NON-EU COUNTRIES WITH MOST OFFICERS RECOGNISED BY EU COUNTRIES

- Philippines (39 145)
- Ukraine (23 449)
- Russian Federation (16 766)
- India (8 594)
- Turkey (4 997)

Source: EMSA

CYBERSECURITY

Increased digitalisation and connectivity have helped to transform modern shipping. These technologies are not just used to operate and manage systems on board vessels; they also impact the safety and security of crews, cargo and the marine environment. At the same time, ports have also been undergoing a digital transformation for some years now, adapting to and integrating new technologies. But with increased digitalisation comes increased risk in the shape of cyberattacks, which are recognised at national, EU, and international level as a serious threat. Cybersecurity is therefore now an integral part of maritime security.

EMSA has included cybersecurity as a key objective in its new five-year strategy (2020-2024), and during 2020, the Agency engaged in active cooperation with the European Union Agency for Cybersecurity (ENISA) in the context of their guidelines on cyber risk management for ports. EMSA also handled the hosting of the cybersecurity working group web platform and set up a dedicated in-house cybersecurity task force within EMSA in 2020. The task force conducted a mapping and gap analysis on maritime cybersecurity on ships and in port facilities, in order to provide tailor-made guidance and to address identified gaps.

CHAPTER 4

DIGITALISATION & SIMPLIFICATION

FACILITATING THE SIMPLIFICATION OF EU SHIPPING BY SUPPORTING EU-WIDE DIGITAL MARITIME SOLUTIONS.

Through its Integrated Maritime Services (IMS), EMSA provides a complete maritime awareness picture in Europe. Drawing on a vast range of data from multiple sources, the Agency's services help ensure the safety of maritime traffic, assist in improving response to accidents and dangerous situations at sea, and contribute to a better prevention and detection of pollution by ships. EMSA's systems and thematic services are now a pivotal part of Member State monitoring, information and surveillance functions, and benefit an ever-expanding list of EU agencies and bodies.

The maritime sector is embracing new technologies at an ever-increasing rate, and EMSA is no exception. Across the Agency's services, state-of-the-art technology is key. Cloud-based solutions, possible future blockchain integrations, machine learning, and leveraging artificial intelligence all form part of EMSA's digitalisation drive in the context of its five-year strategy.

INTEGRATED MARITIME SERVICES

The process of enriching and tailoring the maritime awareness picture made available by EMSA to its key stakeholders via IMS continued during 2020 with the integration of new data, information and functionalities. IMS are currently delivered to 27 EU Member States and Montenegro, over 500 organisations and/or authorities and six EU Agencies/ Bodies, making a total of approximately 6500 users.

IMS receives approximately one billion messages per month. This "big data" pool is then exploited by various maritime focused analytical tools, providing unique operational information to the IMS user communities.

Throughout 2020, the continual process of data integration and incorporating new data sources and functionalities, such as further enhancing Automated Behaviour Monitoring (ABM), adding new algorithms combining fishing vessel positions and Member State-specific data, as well as the IMS mobile app, continued to add value for a growing number of end-users showing increasing interest in tailor-made services.

DATA PROCESSED BY EMSA INFORMATION SERVICES
(activities on 06/06/2020)

39 million
TOTAL MESSAGES RECEIVED BY EMSA IN ONE DAY

S - AIS	26 249 377
T - AIS	12 291 482
SHIP-AIS	580 487
VMS	152 412
LRIT	34 163
MRS	1 036

121 687
NUMBER OF DISTINCT VESSELS DETECTED IN ONE DAY BY MORE THAN ONE SOURCE

78 374	S - AIS
53 244	T - AIS
9 064	LRIT
6 083	VMS
2 150	SHIP-AIS
554	MRS

New data, information and functionalities were added to the IMS service in 2020, including the availability of new vessel position reports and vessel enrichment information, long-term historical vessel tracking queries, and new system-to-system interfaces. A new version of the SafeSeaNet Ecosystem Graphical User Interface (SEG) replaced legacy single-system interfaces, offering a common and combined view of maritime information provided by several back-end systems operated by the Agency.

The implementation of major improvements to the customised IMS version used by the European Fisheries Control Agency (EFCA) continued in 2020 and are due to be completed in 2021. In addition, integrated maritime Earth Observation products were shared with Frontex and EFCA.

The deepening cooperation with the Maritime Analysis and Operation Centre – Narcotics (MAOC-N), an inter-governmental taskforce set up to tackle maritime drug smuggling towards Europe, resulted in a new Cooperation Agreement between the two organisations being signed on 17 December 2020.

Continual evolution to add greater value to the services provided by the Agency is a hallmark of EMSA's digitalisation drive. As a result, and building on the existing business intelligence platform used by the Agency, the EMSA Maritime Analytics Tool (EMAT) was developed as a prototype to provide analytical capabilities by combining different data sets, in support of the risk assessment activities of Member States and EU Bodies. The tool combines and aggregates data for strategic analysis purposes that was traditionally presented separately in EMSA systems.

Traffic Density Maps

In 2020, the enhancement of Traffic Density Mapping Service (TDMS) continued and a new development for additional types of maps, such as detailed maps, vector maps and comparative maps was started.

Automated Behaviour Monitoring (ABM) analyses ship positions for the automatic detection of abnormal and specific vessel activity. The system analyses ship position reports, using data from available tracking systems such as Long-Range Identification and Tracking (LRIT), Terrestrial-AIS, Satellite-AIS, the Vessel Monitoring System (VMS) and Earth Observation satellites, among others. Throughout 2020, new algorithms were introduced, for purposes including the monitoring of zones around ships, or for using vessel detection services' uncorrelated data.

The ABM and Advanced Analytics Workshop was held in 2020 to present and discuss ABM developments, share best practices, and discuss potential future changes, including the EMSA Maritime Analytics Tool and AI and machine learning scenarios.

Efforts to support the digitalisation/simplification of maritime transport continued in 2020 with approval by the HLSG of the business rules and technical specifications for a major upgrade of SafeSeaNet (SSN version 5). This new version 5 will support the legal requirements for registration of persons on board passenger ships, the revised Port Reception Facilities Directive, improved Incident reports and additional security measures. The technical developments will start beginning of 2021 for both the central and the national systems of the Member States.

During 2020, progress continued regarding the development of the central Ships, Locations, HAZMAT and Organisations databases.

SIMPLIFICATION

When a ship enters, stays or leaves a port, its maritime transport operator has to submit a set of information to a number of bodies. This reporting process is currently not harmonised between ports, placing an excessive administrative burden on shipping operators. The entry into force of Regulation (EU) 2019/1239 on the European Maritime Single Window environment (EMSWe) brings all the reporting linked to a port call together into one digital space, to harmonise reporting procedures for shipping operators and to ensure the efficient sharing and reuse of data. The measures within the Regulation will apply from 15 August 2025.

During 2020, and in cooperation with experts from Member State administrations and shipping industry associations, EMSA drafted the technical specifications to be used by the European Commission for the delegated and implementing acts of the EMSWe Regulation. The technical specifications will be used as the reference for the Member States when setting up their Maritime National Single Windows.

In addition, through its interoperability project, EMSA is developing solutions to allow seamless information exchange between EU and Member State systems; in particular to assist Member States as they work on improving their National Single Windows and associated interfaces with SafeSeaNet, in accordance with the requirements of Directive 2010/65/EU and Directive 2002/59/EC. In the course of 2020, the interoperability project continued with a revised plan and set of activities, focussing on the EMSWe. The project executed a number of its deliverables, including as a study on security and interoperability solutions for SafeSeaNet, a study on the use of block-chain for SafeSeaNet, specifications for a harmonised EMSWe dataset, and processes related to reporting obligations in ports and automated traffic density maps.

EMSA continued the provision of Long-Range Identification and Tracking (LRIT) services in accordance with IMO performance standards during 2020.

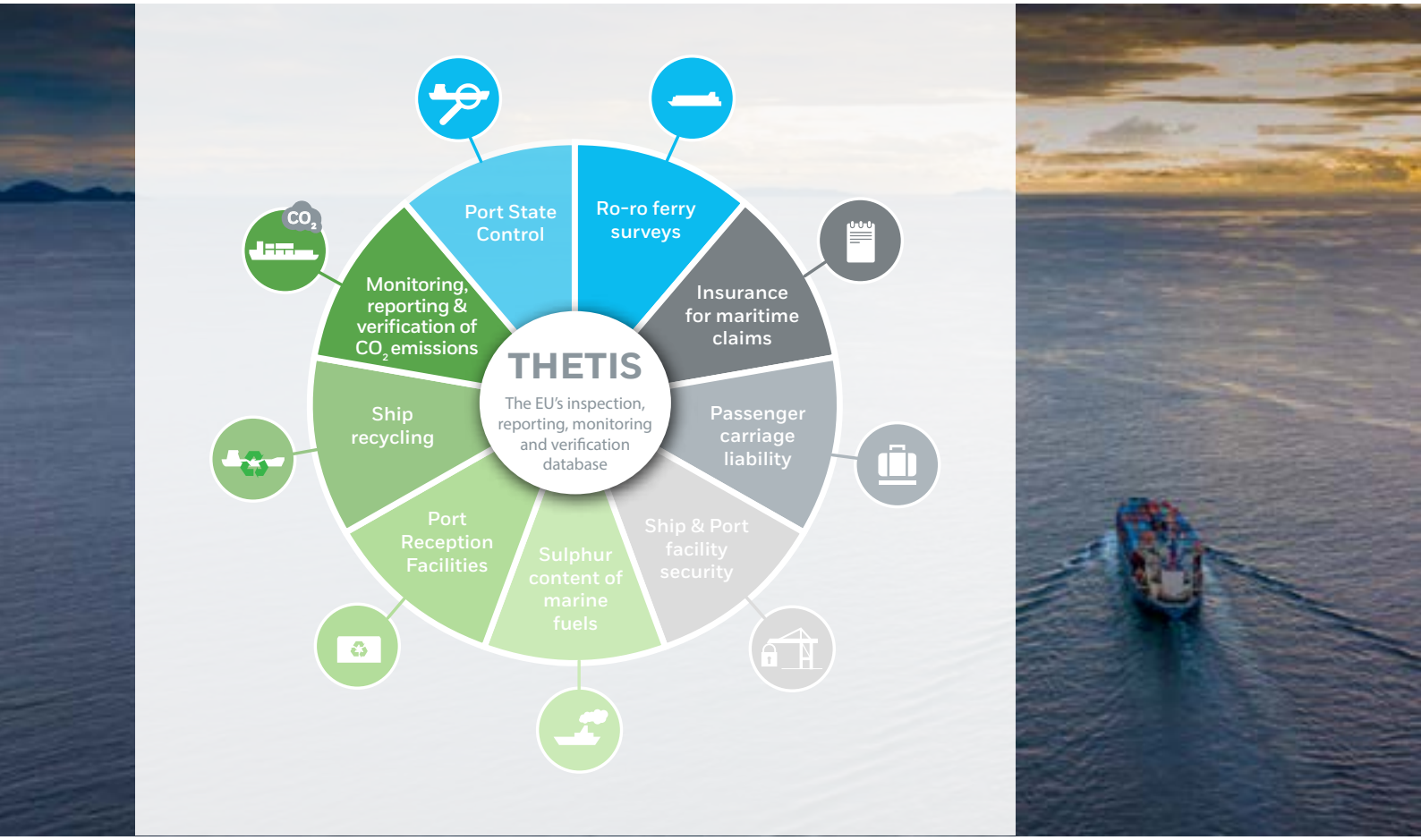
The maritime awareness picture is made available by EMSA to its key stakeholders via IMS

THETIS AND ITS ASSOCIATED MODULES

The THETIS system was launched to allow port state authorities in the EU, as well as Paris MoU members (Canada, Iceland, Norway and Russia) to manage inspection data in one single window. THETIS also supports the European Commission by providing data on inspection results. Over the years, the system has evolved to support new modules, including:

- THETIS-MRV, which supports CO_2 emissions monitoring,
- THETIS-MED, specifically created for the relevant authorities participating in the Mediterranean MoU on Port State Control, and,
- THETIS-EU, for data on inspections and verifications required by EU legislation and not covered by the Port State Control Directive.

THETIS and its modules are continually being improved and developed by EMSA to cover more areas of operation, and to offer more services to support the daily work of the relevant authorities at Member State level.



Work has also been ongoing to link the national registries of Denmark and Belgium with THETIS so that statutory certificates issued by the Flag States can be obtained. From 19 December 2019, THETIS and THETIS-EU catered for the Port State and Flag State provisions of Directive EU 2017/2110 on a system of inspections for the safe operation of ro-ro passenger ships and high-speed passenger craft in regular service.

In February 2020, THETIS-MED became available for the relevant authorities participating in the Mediterranean MoU (MedMoU) on Port State Control. This system, built at the request of the MedMoU along the lines of THETIS, will make it possible to apply a harmonised and optimised inspection regime for ships operating in these waters.

Preparations were made, including contributions to related discussions and decision-making processes, for the imminent modification of the Port Reception Facility (PRF) module as a result of the modification of the PRF Directive.

In order to further enhance the services provided to Member State authorities, initial discussions opened with DG SANTE on the creation of a dedicated module of THETIS-EU in support of Regulation (EC) 1/2005 on the protection of animals during transport.

CHAPTER 5

TECHNICAL & OPERATIONAL ASSISTANCE

INSPECTIONS CONDUCTED IN 2020

5 RECOGNISED ORGANISATIONS

Offices

- 1 Croatia
- 1 France
- 1 Norway
- 1 Russian Federation
- 1 USA

2 STANDARD FOR TRAINING, CERTIFICATION & WATCHKEEPING

- Brazil
- The Philippines

CONSOLIDATING EMSA'S SUPPORT TO THE COMMISSION FOR THE DEVELOPMENT OF EU AND INTERNATIONAL LEGAL ACTS AND FOR ASSESSING THEIR IMPLEMENTATION; EXTENDING AND FORMALISING EMSA'S TRAINING SCHEMES; SUPPORTING EU NEIGHBOURHOOD AND SEA BASIN POLICIES TO LEVEL-UP AND HARMONISE STANDARDS.

EMSA provides crucial support to the development and implementation of EU standards and regulation in the maritime sector through a programme of visits and inspections, corresponding reports and horizontal analyses. The Agency also underpins the continuous expansion of the maritime knowledge base through its provision of training courses and works at EU neighbourhood and sea basin level to build capacity and improve maritime security, safety, and environmental protection in the vicinity of European waters.

During 2020, EMSA published weekly reports on the impact of COVID-19 on shipping activities, to understand the impact of the pandemic on the sector, and to provide valuable data for the European Commission, Member States, stakeholders, and industry. The travel restrictions that persisted for most of 2020 saw the Agency pivot to an agile, online approach for its training and capacity-building remit to ensure that work here could still continue. 2020 also saw further development of the EMSA Academy, a flagship project for the Agency under its five-year strategy.

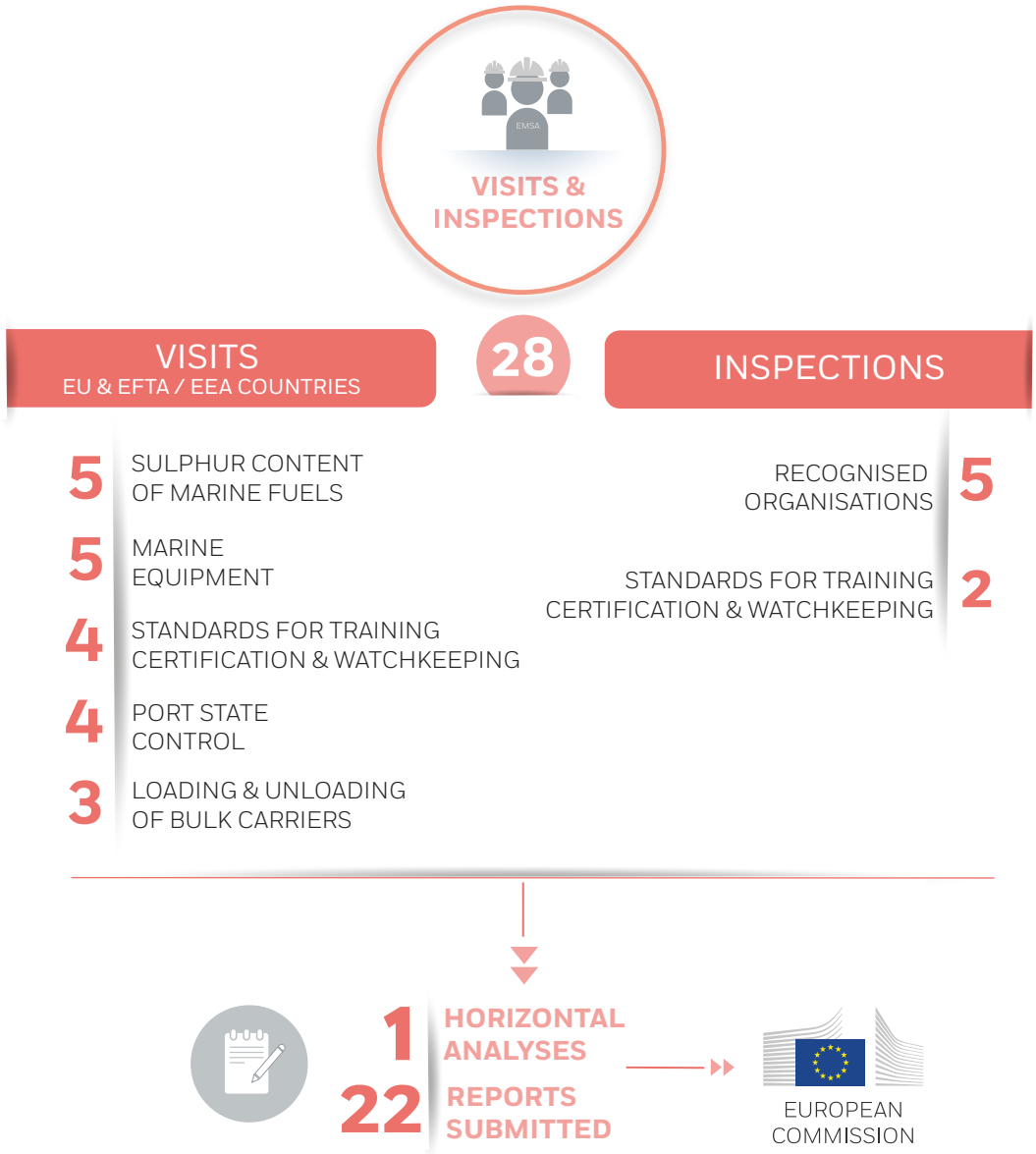
VISITS AND INSPECTIONS

To achieve a converged and coherent application of EU maritime law, EMSA provides technical assistance to the European Commission and the EFTA Surveillance Authority (ESA) by conducting visits and inspections.

During 2020, the planned programme of visits and inspections was impacted by the COVID-19 pandemic. Following a suspension of visits and inspections between March and September, a revised programme, based on a combination of field visits and remote sessions was put in place. However, the overall number of visits, and in particular inspections relating to Recognised Organisations (RO), and those carried out in the framework of the International Convention on Standards of Training, Certification and Watchkeeping (STCW), was lower than planned. In the case of RO-related activity, following a request by the European Commission, EMSA focused its efforts on a monitoring exercise to gauge how ROs adapted their activity in the light of the pandemic, using remote survey techniques. A report was provided to the European Commission and shared with the competent authorities of the Member States, and based on the analysis provided, a dedicated series of inspections - supported by remote auditing techniques - of RO head offices was launched.

Preparatory work was concluded on a new cycle of visits for passenger ship safety, the first cycle to cover multiple Directives, with a pre-cycle workshop being held with the Member States. However, the start of the visit cycle, originally planned for 2020, was deferred to 2021 due to its substantial component of field work, including visits to ships.

The horizontal analyses, which incorporate a cost-efficiency assessment, confirmed their added value both for Member States and the European Commission and a mid-cycle analysis on the Marine Equipment Directive was delivered in 2020. In addition, the Quality Management System for Visits and Inspections, covering the full scope of the Agency's visits and inspections activities continued to be implemented and provides a solid framework for continuous improvement.



THE EMSA ACADEMY

September 2020 - EMSA's Executive Director during the inauguration of the agency's virtual reality environment for ships inspections

In the maritime industry, knowledge is key. EMSA's training courses have, for many years, served as a vital source of information and learning for maritime job profiles that fall under the remit of the Agency. In 2020 however, this service took a giant leap forward via the concept of capacity building, implemented through the flagship project of the Agency, the EMSA Academy.

This project aims to support professional development by providing learning services outside formal education, both for beneficiary organisations and for individuals. It follows a structured and modular approach, with a focus on the development and implementation of common core curricula for selected job profiles. Skills, knowledge, and competencies are the focus of single working activities and topics, or form part of professional development schemes covering entire functions relevant for the competent authorities of EU Member States.

The Virtual Reality Environment for Ship Inspection (VRESI).

The EMSA Academy's training programme is backed up by a range of innovative new technologies, to provide training participants with an immersive and real-world learning experience. The Maritime Knowledge Centre (MaKCs 2020) has been recently redesigned, thus allowing trainers and trainees to now use a globally used and recognised learning management system in support of courses developed and offered by the Agency in synchronous or asynchronous mode. The development of the Virtual Environment for Ship Inspections (VRESI) started as an innovative application to facilitate and enrich training on ship inspections. Using state-of-art technology, it creates a realistic and fully configurable space that allows course participants to perform ship inspections in a safe and controlled environment. Users can to connect to the platform remotely, either by wearing virtual reality goggles or by using a desktop computer. Once connected, VRESI allows participants to undergo a full safety inspection experience on board an array of different ships. The tool is also available through EMSA's MaKCs 2020 e-learning platform.

EMSA's Virtual Reality Room was equipped with state-of-the-art technology and inaugurated in 2020; it also hosts the eLaboratory of the Agency for the production of media content for innovative training activities as well as delivering online training and webinars.

The eLaboratory that is used to produce media contents for innovative training activities as well as delivering online trainings and webinars has been established.

In view of the travel restrictions and measures implemented at national level in response to the COVID-19 pandemic, EMSA's annual training plan was adapted. Training material and agendas were revised, and courses were offered on a live broadcasting synchronous mode using different online platforms. Throughout 2020, seven in situ training sessions were organised, at EMSA or in Member States, and were attended by 143 staff members from Member State administrations, while after the outburst of the pandemic, the Agency organised 27 virtual training sessions, which were attended by 634 experts from Member States.

A part-time online course on inspection principles and techniques for Flag State inspectors was developed and delivered by EMSA. The ten-unit course had a total duration of ten weeks, with participants committing around 60 hours of independent work and 18 hours of their time for online meetings with tutors and instructors. This innovative and first-of-its-kind course was attended by 16 participants from 15 States, and increased participants' capabilities in terms of inspection principles and techniques, thereby enriching their skill sets.

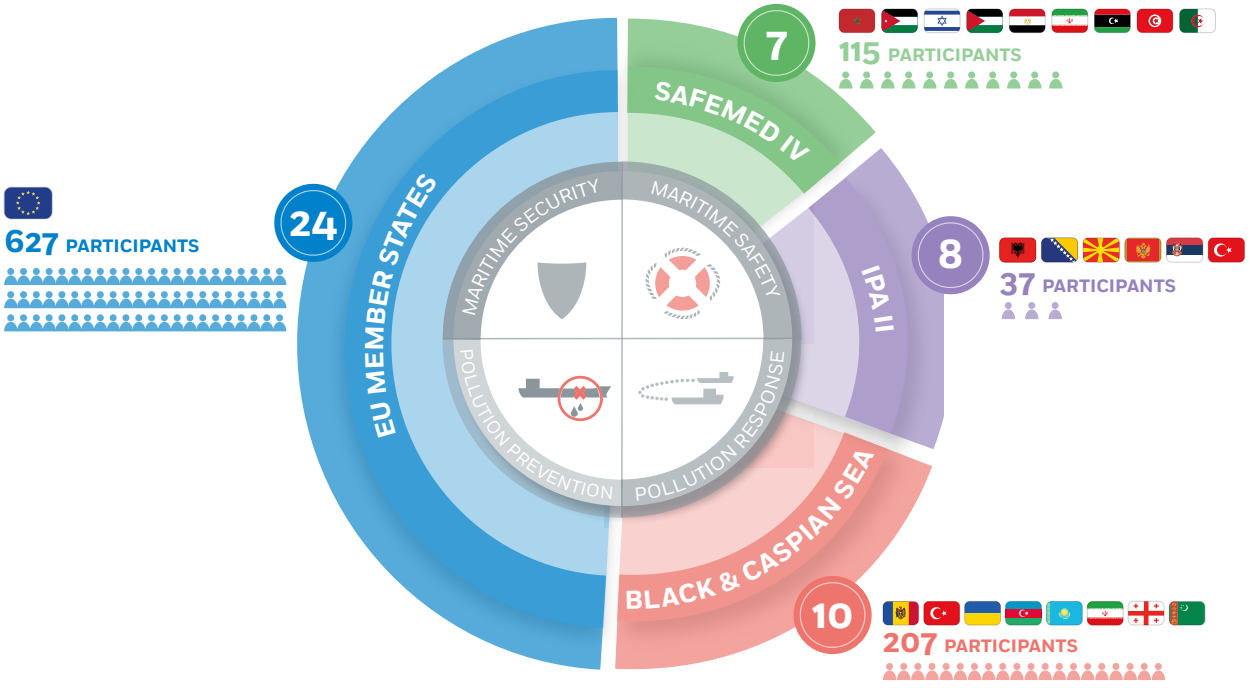
CAPACITY-BUILDING OUTSIDE THE EU

Throughout 2020, EMSA continued to be a centre of excellence for capacity building actions entrusted to it by the European Commission for Pre-Accession and European Neighbourhood Policy countries. The project Preparatory measures for the future participation of relevant IPA II beneficiary countries in the European Maritime Safety Agency (EMSA) funded by the EU through the Instrument for Pre-accession Assistance (IPA) with the beneficiary countries Albania, Bosnia-Herzegovina, the Republic of North Macedonia, Montenegro, Serbia and Turkey, started on 1 May 2020 and will be completed by the end of December 2023.

As maritime safety, maritime security and protection of the marine environment are common concerns of the EU Member States and third countries sharing the same sea basins, EMSA continued to implement two projects for technical assistance for the Mediterranean Sea (SAFEMED IV) and the Black and Caspian Sea (BCSEA), both of which were extended until 31 December 2021. These projects aim to contribute to the approximation of standards in maritime safety and security, pollution prevention and response. This is a crucial element in the EU's vision for its seas.

Throughout 2020, the COVID-19 pandemic made it necessary to adapt activities for which the physical presence of experts would have been needed. With the introduction of new working methods and online tools, the implementation of planned actions was ensured. Activities scheduled for the SAFEMED IV and BCSEA projects (including training courses, studies, operational support, and access to EMSA tools) were eventually delivered, despite pandemic restrictions.

2020
TRAINING SESSIONS
49



The efforts of the SAFEMED IV beneficiary countries to foster control and enforcement through Port State Control were enhanced in 2020 with the delivery by EMSA of THETIS-MED, a modern, state-of-the-art inspection database, equivalent to the version used by Member States within the context of the Paris MoU.

In 2020, the pilot project on AIS sharing between countries participating in MARES (beneficiaries and selected EU Member States) was extended beyond the MED region to the Black Sea. Georgia and Ukraine, having benefited from EMSA's provision of central nodes and AIS stations, started sharing their data and gained access to a better overall picture of maritime traffic, with improved maritime domain awareness and consequently supplementing and enhancing their national capacity for vessel traffic monitoring, Port State Control, and maritime pollution preparedness in the Black Sea.

Following the interest expressed by third countries, access to tools in support of Port State Control activities in different regions of the world was authorised by the EMSA Administrative Board, therefore confirming the potential for exporting the Agency's knowledge, and by extension EU standards and solutions, beyond the European geographical dimension.

In 2020, support of Port State Control activities in different regions was further enhanced by providing access to the RuleCheck tool and the Maritime Knowledge Centre (MaKCs) e-learning platform to the Riyadh MoU on Port State Control, and access to RuleCheck to the Tokyo MoU on Port State Control. This access will enhance global harmonisation of the implementation of the international conventions, ensure a level playing field for EU ships calling ports in the Tokyo and Riyadh MoU areas, and export worldwide solutions developed by the EU. Currently, seven out of nine port state control regimes in the world are using EMSA tools, namely RuleCheck and/or MaKCs.

Remote training on environmental legislation- 10 September 2020

The concept of the Dynamic Overview of National Authorities (DONA) platform was finalised in close cooperation with Member States and the European Commission, through online meetings and dedicated correspondence groups. DONA is an important step towards digitalisation and simplification that will provide the general public with added-value information via the Country Profile section, while at the same time offering Member States the possibility to greatly reduce their administrative burdens when using the DONA Reporting Gate to comply with their legal obligations for reporting vis-à-vis the European Commission.

CHAPTER 6

EMSA MANAGEMENT

For the first time in EMSA's history, two Administrative Board meetings took place remotely during 2020, ensuring that the vital governance work of the Agency and its activities could continue uninterrupted during the disruption caused by the pandemic. At operational level, the planning and monitoring of EMSA's work programme and budget continued throughout 2020, with a focus on the impact of COVID-19 on the Agency's several work areas. In parallel, the tool for monitoring the implementation of the Agency's work programme was further developed to meet these needs.

In full compliance with the guidance of EMSA's host country, Portugal, staff members worked remotely for large parts of 2020, assisted by a modern remote working infrastructure and video technology. EMSA's physical headquarters was transformed into a fully safe working environment, complying with strict national and EU public health guidelines.

2020 was also the first year of operation of EMSA's five-year strategy. Based on 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, the strategy moved from inception to delivery phase during the course of the year.

At the end of 2020, EMSA hosted the Annual European Coast Guard Event, which provides a platform for national authorities, EU agencies involved in the cooperation on coast guard functions and the European Commission, to exchange views 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. Under the theme of "The new normal for EU Coast Guard cooperation," the event was held virtually on 10 December, having been postponed from earlier in the year due to the pandemic.

For the first time in its history, the EMSA Administrative Board held its 58th meeting through video conference on 17-18 June.

2020
Highlights timeline

JAN

JUL

German ambassador in Portugal, Martin Ney

17

AUG

SEP

Moldavian ambassador in Portugal, Alexei Cracan

22

15

French minister for Europe & Foreign affairs, Jean-Yves Le Drian

Presentation at the Committee on Transport in a live broadcast at the European Parliament

10

NOV

25

Meeting with the Portuguese Minister of the Sea, Ricardo Serrão Santos

OCT

20

Maltese ambassador in Portugal, John Camilleri

Italian ambassador in Portugal, Carlo Formosa

FEB

11

Rear Admiral Jean-François Quérat, Deputy SG de la Mer

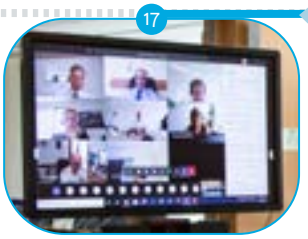
13

EU Ambassadors in Lisbon

28

JUN MAY APR MAR

17



58th Administrative Board meeting held through video conference

40th meeting of the Equasis Supervisory Committee

DEC

02

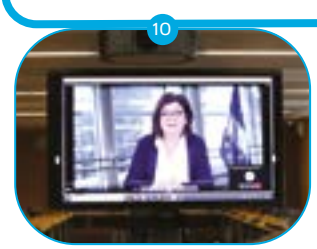
European Maritime Transport Environmental Report stakeholder workshop

08

Delegation from the Portuguese Ministry of Foreign Affairs, led by the Ambassador Rui Vinhas

17

10



3rd Annual European Coast Guard online event

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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.

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