### European Maritime Safety Agency



# MARITIME INFORMATION SERVICES CATALOGUE

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### Maritime information services catalogue



### **INTRODUCTION**

The EMSA Maritime Information Services Catalogue provides a central source of information on the ICT-based maritime services delivered by EMSA to external users, their features, and present status.

Over a number of years, EMSA has been gaining experience and developing expertise in operating and managing a suite of individual systems and tools. The Agency has been combining information from these systems and from other sources to provide relevant and targeted information on activities in the maritime domain. The resulting services are provided to Member State authorities, the European Commission, and other European bodies, to supplement and enhance both national and EU level capacity. The tools developed by the Agency support Flag State, Port State and Coastal State functions, with added value for the national competent authorities engaged in the implementation of international and EU legislation in the fields of maritime safety and protection of the marine environment.

In addition, following the revision of its Founding Regulation in 2013, EMSA provides technical assistance to States applying for the accession to the Union, and, where applicable, to European Neighbourhood Partner (ENP) countries. The systems and tools that support the EU Member States are offered to ENP countries sharing sea basins with the EU in order to enhance standards and support capacity building in the region.

By enabling the exchange of maritime, vessel and voyage-related information, through EU or international information exchange systems, and by offering supporting tools to the Flag, Port and Coastal State functions, EMSA supports users at EU and Member State level in:

- the efficient and timely response to incidents or pollution at sea
- the improvement of the quality, completeness and efficient use of maritime traffic information for safety, security, port logistics purposes, and against the threat of intentional unlawful acts
- the gathering of objective and reliable information on pollution by ships and offshore installations, thereby enabling users to take the necessary steps against polluters and to improve the prevention of marine pollution
- the effective implementation of Coastal, Port and Flag State functions through the collection and distribution of vessel and other maritime information from various sources (AIS, LRIT, satellite earth observation) and tools with different sets of information available (accident investigation, STCW, MarED, THETIS and its modules, RuleCheck, MaKCs)
- the effective enforcement of EU legislation, thereby creating a level playing field and enhancing relevant standards in the EU region.

EMSA implements high standards in terms of performance, availability and reliability of all the maritime information systems and tools hosted at the Agency, as well as ensuring security of data and proper application of access rights. Providing relevant information through EU level services avoids duplication of effort, overlapping infrastructures and unnecessary expenditure. EMSA systems are complementary and closely linked with related systems at national level.

### Maritime information services catalogue



### **EMSA SERVICES FOR USERS: SERVICE CLASSES**

INTEGRATED MARITIME SERVICES	EARTH OBSERVATION	VESSEL IDENTITY AND TRACKING	POLLUTION RESPONSE AND MARINE ENVIRONMENT	SHIP SAFETY AND POLLUTION PREVENTION	HUMAN ELEMENT
MEMBER STATES	CLEANSEANET	SAFESEANET	DUET	EMCIP	STCW-IS
EUNAVFOR ATALANTA	[DATA TO INTEGRATED MARITIME SERVICES]	LRIT SERVICES	MAR-ICE	MARED	E-LEARNING (MAKCS)
EUNAVFOR SOPHIA		CENTRAL SHIP DATABASE	MAR-CIS	THETIS	RULECHECK
EFCA		CENTRAL HAZMAT DATABASE	POLLUTION RESPONSE (CONTINGENCY PLAN)	THETIS-EU	SAFEMED
FRONTEX					TRACECA
MAOC-N					
SAFEMED					
TRACECA					

MARITIME SUPPORT SERVICES

COPERNICUS MARITIME SURVEILLANCE SERVICE

### **DATA SOURCES**

EMSA's services are based on advanced data processing, using data available either directly through the Agency's maritime applications or from external sources. Depending on the user, different combinations of data can be streamed directly to national systems, presented on a user-friendly graphical interface, and delivered on mobile devices. Data is distributed according to established access rights. An overview of some of the main data sources is provided below.



#### AUTOMATIC IDENTIFICATION SYSTEM (AIS)

AlS is a maritime broadcast system, based on the transmission of very high frequency radio signals. Every six minutes, ships send reports with ship identification, position and course, as well as information on cargo. In Europe, the exchange of AlS messages is done through the SafeSeaNet system.



### SYNTHETIC APERTURE RADAR SATELLITE IMAGES

Satellite radar sensors measure the roughness of the sea surface independent of weather and sunlight conditions. On the satellite image, oil spills appear as dark areas, and vessels and platforms as bright spots. This is used in vessel detection systems (VDS) as well as pollution monitoring.



#### SATELLITE AIS

Satellites can also receive AIS position messages. This extends the geographical range over which ships can be tracked using the AIS system.



#### **OPTICAL SATELLITE IMAGES**

Earth observation imagery from satellite sensors operating in the optical spectrum, providing high resolution images of vessels or coastal areas, and pollution.

### European Maritime Safety Agency



#### **RPAS**

EMSA is currently exploring the possibility of using data from remotely piloted aircraft systems (unmanned aerial vehicles) for a variety of activities in the maritime domain.



#### LONG RANGE IDENTIFICATION AND TRACKING

LRIT is a global ship identification and tracking system based on communications satellites. Under IMO regulations, passenger ships, cargo ships (300 gross tonnage and above), and mobile offshore drilling units on international voyages send mandatory position resports once every six hours.



#### **VESSEL MONITORING SYSTEM (VMS)**

VMS uses communications satellites for tracking commercial fishing vessels. Vessels are equipped with on-board transceiver units which transmit messages every two hours.



### METEOROLOGICAL OCEANOGRAPHIC DATA

In situ remote sensing and model forecast meteorological and oceanographic data including wind, wave, temperature, currents, sea level, etc.



### ADDITIONAL SHIP-RELATED AND VOYAGE INFORMATION

Member States also exchange additional data (on ships, voyages, inspections and other related information) through the EMSA systems. This includes, among others: inspection data and alerts related to international or EU regulations (THETIS, THETIS EU); accident investigation reports (EMCIP); seafarers' certification data (STCW-IS); marine equipment approvals (MarED); notifications of port arrival and departure, carriage of hazardous goods, and incident reports (SafeSeaNet).



#### **USER SPECIFIC DATA**

EMSA can also process other varied forms of national data provided by users. To date, this has included encrypted position reports from patrolling vessels and position reports from leisure crafts.

# THE COPERNICUS MARITIME SURVEILLANCE SERVICE

In 2016 EMSA began implementing the Copernicus Maritime Surveillance Service, receiving a budget of €40 000 000 over the period 2016-2020 to operate the service on behalf of the European Commission. The Copernicus Maritime Surveillance Service will offer users an extended range of satellite data (synthetic aperture radar and optical data in a variety of scene sizes and resolutions) from a wide number of providers. It provides support to national authorities with functions in the maritime domain and selected European bodies and institutions, not only by providing additional information through existing applications, but also by providing opportunities to use earth observation data in new contexts.



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### 5. SHIP SAFETY AND POLLUTION PREVENTION

- EMCIP European Marine Casualty Information Platform
- MARED Marine Equipment Database
- THETIS
- THETIS-EU

### **6. HUMAN ELEMENT**

- STCW-IS: Seafarer Training Certification and Watchkeeping Information System
- E-learning
- Rulecheck
- SAFEMED
- TRACECA

### 7. MARITIME SUPPORT SERVICES

• Maritime Support Services



### INTEGRATED MARITIME SERVICES

Getting a comprehensive overview of activity at sea can be challenging. To implement maritime policies effectively, governments and authorities need detailed, reliable knowledge about what happens at sea, in real time.

EMSA's integrated maritime services tailor information according to the unique operational requirements of a diverse range of authorities working in the maritime domain, in accordance with their access rights to different data sets. The integrated services are based on advanced maritime data processing, combining information from all the Agency's maritime applications as well as other external sources. Extended access to earth observation data is supported by the Copernicus Programme.

As part of a tailor-made maritime traffic picture, users can choose the most relevant information, such as specific data sets or maritime activities in defined areas of interest. Users are now able to access vessel particulars, traffic information, earth observation data, vessel behaviour patterns as well as meteorological and oceanographic data, for example. Based on user feedback, EMSA refines and implements the individual services, ensuring that each one is focused on the key objectives specified.

- INTEGRATED MARITIME SERVICES FOR MEMBER STATES AUTHORITIES
- EUNAVFOR SOPHIA
- EUROPEAN FISHERIES CONTROL AGENCY SERVICE
- FRONTEX SERVICE
- MARITIME ANALYSIS AND OPERATIONS CENTRE NARCOTICS SERVICE
- SAFEMED
- TRACECA
- EUNAVFOR ATHENA ATALANTA

#### SERVICE INTEGRATED MARITIME SERVICES FOR MEMBER STATE AUTHORITIES

#### The Integrated Maritime Services (IMS) provide an enhanced real-time maritime domain awareness picture

The IMS services to Member States support the activities performed by EU Member State authorities executing functions in the maritime domain. The service is based on a vast array of position information and satellite data, and responds to operational users' specific needs, providing additional, complementary and supportive tools and functionalities. Users have access to the service through a web-based graphical user interface as well as standardised system-to-system interfaces. The service follows all relevant agreed access rights, and fosters the sharing and exchange of data between different users and applications.

#### EMSA KEY PERFORMANCE INDICATORS

Scoreboard activity	IMDATE AVAILABILITY	
	percentage per year availability of IMDatE platform	95% min
KPI Indicator	hours maximum continuous downtime of IMDatE platform	12 max
Scoreboard activity	INTEGRATED SERVICES	
KPI indicator	percentage per year availability to Member States	95%

### **RELATED AGREEMENTS**

N/A

### SERVICE EUNAVFOR SOPHIA

This service provides support to the EU Naval Forces (EUNAVFOR) Operation Sophia, which has the mission to undertake systematic efforts to identify, capture and dispose of vessels suspected of being used by migrant smugglers or traffickers.

EMSA is currently enhancing EUNAVFOR Sophia's maritime picture by providing satellite AIS data (system to system) in the Mediterranean region.

### EMSA KEY PERFORMANCE INDICATORS

Scoreboard activity	IMDATE AVAILABILITY	
KPI indicator	percentage per year availability of IMDatE platform	95% min
KPTITUCALOI	hours maximum continuous downtime of IMDatE platform	12 max
Scoreboard activity	INTEGRATED SERVICES	
KPI indicator	percentage per year availability to EU NAVFOR	95% min

### **RELATED AGREEMENTS**

Data Access Agreement defining the conditions of use of satellite AIS data provided by EMSA for the purpose of the EUNAVFOR Operation Sophia

### SERVICE EUROPEAN FISHERIES CONTROL AGENCY SERVICE

# This service provides support to the European Fisheries Control Agency (EFCA) for the implementation of Joint Deployment Plan operations for monitoring fisheries activities.

EMSA provides EFCA with an operational service to support fisheries control campaigns in the Mediterranean and Black Sea, in the Atlantic Ocean, and North and Baltic Seas.

The EFCA service provides a dynamic image of fishing vessel activity in the areas defined as of interest for EFCA. The service has the following features:

- data fusion of vessel position reports (terrestrial AIS, satellite AIS, LRIT and vessel monitoring system [VMS])
- display of ship particulars (including vessel identifiers, ship type and length, and fishing vessel information)
- fisheries control data (visual sightings, information resulting from inspections)
- SafeSeaNet data
- earth observation data
- automated behaviour monitoring.

### EMSA KEY PERFORMANCE INDICATORS

Scoreboard activity	IMDATE AVAILABILITY	
KDLindicator	percentage per year availability of IMDatE platform	95% min
KPI Indicator	hours maximum continuous downtime of IMDatE platfo	orm 12 max
Scoreboard activity	INTEGRATED SERVICES	
KPI indicator	percentage per year availability to EFCA	95% min

### **RELATED AGREEMENTS**

Service Level Agreement between the European Fisheries Control Agency and the European Maritime Safety Agency for the MARSURV-3 monitoring services

### SERVICE FRONTEX SERVICE

#### Border control and migration monitoring

EMSA supports Frontex, the EU Border Control Agency, in operations to address irregular migration and crossborder crime along European maritime borders. A service level agreement (SLA) defines the service conditions.

EMSA provides services, information products and tools tailored to Frontex needs, including:

- vessel monitoring and tracking: provides Frontex with the most recent ship positions
- vessel detection: provides Frontex with information layers of detected objects at sea, derived from SAR satellite data
- anomaly detection: activates alerts based on specific vessel behaviour patterns
- activity detection: provides information about detected activity in coastal areas and the interpretation of highresolution optical imagery
- vessel reporting: supports Frontex in identifying vessels that give rise to suspicion to be involved in illegal migration or cross-border crime.

Scoreboard activity	IMDATE AVAILABILITY	
	percentage per year availability of IMDatE platform	95%
KPI Indicator	hours maximum continuous downtime of IMDatE platfe	orm 12 max
Scoreboard activity	INTEGRATED SERVICES	
KPI indicator	percentage per year availability to Frontex	95% min

### EMSA KEY PERFORMANCE INDICATORS

#### **RELATED AGREEMENTS**

Service Level Agreement between Frontex and EMSA for the provision of services for the implementation of the "Application of surveillance tools to Border Surveillance 'Concept of Operations' (CONOPS) within EUROSUR"

### SERVICE MARITIME ANALYSIS AND OPERATIONS CENTRE - NARCOTICS SERVICE

#### Counter narcotic operations service for the Maritime Analysis and Operations Centre - Narcotics (MAOC-N)

Following the signature of a cooperation agreement between EMSA and MAOC-N, a service was established for the provision of terrestrial AIS, satellite AIS, LRIT, SafeSeaNet, and earth observation data, and automated behaviour monitoring. Data is fused and provided via a graphical user interface to the MAOC-N operational control centre. This service assists MAOC-N in operations to apprehend vessels carrying narcotics on board.

### EMSA KEY PERFORMANCE INDICATORS

Scoreboard activity	IMDATE AVAILABILITY	
KDI indicator	percentage per year availability of IMDatE platform	95% min
KPI Indicator	percentage per year availability of IMDatE platform	12 max

### **RELATED AGREEMENTS**

Cooperation Agreement between the European Maritime Safety Agency and Maritime Analysis and Operations Centre-Narcotics



### SERVICE SAFEMED

# The SafeMed III Project is a response to the interest of the European Union to develop Euro-Mediterranean cooperation in the field of maritime safety and security, prevention of pollution from ships and marine environmental issues.

This project is implemented by EMSA as an integrated service, leveraging on existing systems, services and contracts. The Integrated Maritime Service offered is based on the integration of three data sources: terrestrial AIS from SafeMed countries, satellite AIS and CleanSeaNet.

Eligible beneficiary countries of the SafeMed III Project are Algeria, Israel, Jordan, Lebanon, Morocco, and Tunisia (not all currently access EMSA services).

### EMSA KEY PERFORMANCE INDICATORS

Scoreboard activity	IMDATE AVAILABILITY	
KDI in director	percentage per year availability of IMDatE platform	95%
KPI Indicator	hours maximum continuous downtime of IMDatE platform	12 max

### **RELATED AGREEMENTS**

Three types of agreement are in place:

- grant contract with the Commission for the SAFEMED III project
- conditions of use (CoU) signed between EMSA and each participant beneficiary for the CleanSeaNet service
- SLA signed between EMSA, the participant beneficiaries and the Italian Coast Guard for the provision of satellite AIS and terrestrial AIS through the SafeSeaNet Regional server and the IMDatE platform.

### SERVICE TRACECA

## EMSA manages and implements the TRACECA Maritime Safety and Security technical assistance project, supporting the EU strategy on regional sea basins, for beneficiary countries around the Black and Caspian Sea.

The service is based on the integration of satellite AIS and CleanSeaNet. The service is provided to the users through a single web user portal.

EMSA implements a two year TRACECA II complementary project according to a grant contract signed with the European Commission, DG DEVCO. The grant contract foresees the provision of the CleanSeaNet service to the eligible TRACECA beneficiary countries (Azerbaijan, Georgia, Kazakhstan, Turkmenistan and Ukraine) taking into account restrictions and only to countries which sign the conditions of use (not all currently access the service).

### EMSA KEY PERFORMANCE INDICATORS

Scoreboard activity	IMDATE AVAILABILITY	
KDLindiaatar	percentage per year availability of IMDatE platform	95% min
KPI Indicator	hours maximum continuous downtime of IMDatE platform	12 max

### **RELATED AGREEMENTS**

There are two types of agreements in place:

- grant contract with the Commission for the TRACECA II project
- conditions of use (CoU) signed between EMSA and each participant beneficiary for the CleanSeaNet service integrated with satellite AIS data.

### SERVICE EUNAVFOR ATHENA ATALANTA

# This service provides support to the EU Naval Forces (EUNAVFOR) Atalanta anti-piracy operations off the coast of Somalia and the Indian Ocean area for the EU merchant fleet.

EMSA, at the request of EUNAVFOR, developed a permanent integrated maritime monitoring service to track vessels in high risk piracy areas in parts of the Indian Ocean. The resulting service delivers value to the end user via a web interface, and includes:

- fusion of data streams from satellite AIS, LRIT, and from assets on scene (configurable on demand)
- display of ship-specific risk information and vessel position data supplied by EUNAVFOR risk registry records.

### EMSA KEY PERFORMANCE INDICATORS

Scoreboard activity	IMDATE AVAILABILITY	
KDI indicator	percentage per year availability of IMDatE platform	95%
KPI Indicator	hours maximum continuous downtime of IMDatE platform	12 max
Scoreboard activity	INTEGRATED SERVICES	
KPI indicator	percentage per year availability to EUNAVFOR	95 min

### **RELATED AGREEMENTS**

Technical cooperation between EUNAVFOR and EMSA for the delivery of an integrated maritime monitoring service (as amended)

Integrated maritime services



### EARTH OBSERVATION

Earth Observation data offers an unique view of Europe's oceans and coasts. Satellites can provide routine surveillance over wide areas or can target selected locations for monitoring specific operations. Radar images provide day and night coverage, regardless of weather conditions. Optical images, acquired only in daylight and cloud free conditions, provide high resolution colour images of areas of interest.

Data from satellites is downlinked to a network of ground stations, processed into images, analysed, and then sent to the EMSA Earth Observation Data Centre.

At EMSA, earth observation images are primarily used for the CleanSeaNet oil spill and vessel detection service (see facing page), and to support EMSA's Integrated Maritime Services once integrated with vessel traffic and other maritime information (see previous chapter).

EMSA provides fast access to radar and optical satellite images, on a routine basis, in emergencies, or for specific operations at sea. The Agency ensures reliable delivery, which is important for coordination with maritime surveillance assets (vessels or planes), and offers accurate, high quality information in a user-friendly format.

The Earth Observation services at EMSA benefit from the extended range and volume of satellite data available through the Copernicus Programme. EMSA implements the Copernicus Maritime Surveillance Service, providing an additional component to the earth observation capabilities on offer, and allowing more users working in the Maritime Surveillance domain to access the information they need.

- CLEANSEANET
- INTEGRATED MARITIME SERVICES (SEE PREVIOUS CHAPTER)

### SERVICE CLEANSEANET

### CleanSeaNet is a European satellite-based oil spill and vessel detection service.

CleanSeaNet offers assistance to participating States for the following activities:

- identifying and tracing oil pollution on the sea surface
- monitoring accidental pollution during emergencies
- contributing to the identification of polluters.

Synthetic Aperture Radar (SAR) images are processed and analysed, resulting in oil spill and vessel detection information including spill location, spill area and length, spill class (class A is a probable spill; class B is a possible spill) and supporting information on the potential source of the spill (i.e. detection of vessels and oil and gas installations).

As soon as spill information is available, an alert report is generated and sent to participating States. Analysed images, including detected spills, are usually available within 30 minutes of the satellite image acquisition.

### EMSA KEY PERFORMANCE INDICATORS

Scoreboard activity	SATELLITE IMAGES	
KPI indicator	number of images ordered and analysed per year	2000 min
Scoreboard activity	ASSISTANCE FOR ACCIDENTAL SPILLS	
KPI indicator	percentage response rate to assistance requests	100%
Scoreboard activity	EARTH OBSERVATION DATA CENTRE OPERATIONAL	
KPI indicator	percentage per year availability of CleanSeaNet	97.5%

### **RELATED AGREEMENTS**

Agreements signed with each of the States receiving the CleanSeaNet service

### VESSEL IDENTITY AND TRACKING

EMSA facilitates technical cooperation between Member States and the European Commission for the exchange of EU vessel traffic information (SafeSeaNet), the long-range identification and tracking of vessels (LRIT), and to support EU operational reporting services, including the electronic transmission of reporting formalities.

Vessel identity and tracking data, and supporting information, can be used for a wide range of purposes, including maritime safety, port and maritime security, marine environment protection and efficiency of maritime traffic and maritime transport. The services depend on the quality of data in the systems, which is a joint responsibility of all parties involved (e.g. maritime authorities, ship operators and industry partners, agents and masters of the ships). Quality improvements can also be supported by appropriate databases, which serve not only as a resource of information, but also a means of cross-checking that information is complete and correct.

- SAFESEANET
- LONG RANGE IDENTIFICATION AND TRACKING (LRIT) SERVICES
- CENTRAL SHIP DATABSE
- CENTRAL HAZMAT DATABSE

### SERVICE SAFESEANET

SafeSeaNet is a vessel traffic monitoring and information system, established in order to enhance maritime safety, port and maritime security, marine environment protection, efficiency of maritime traffic and maritime transport.

The system links maritime authorities from across Europe through a network for maritime data exchange, including:

- vessel information, e.g. ship identification, position, course, speed, persons on board, and dangerous and polluting goods cargo. This is based on AIS and Mandatory Reporting System (MRS) messages
- PortPlus, which includes the following information: port call, e.g. time of arrival and departure, advance pre-arrival information; hazmat; security; and waste and cargo residues
- notifications regarding accidents, emergencies and incidents, for example related to ship safety (e.g. collisions), the environment (e.g. pollution), or other categories (e.g. banned ships).

Scoreboard activity	SAFESEANET SYSTEM OPERATIONAL, INCLUDING REQUIREMENTS UNDER THE REPORTING FORMALITIES DIRECTIVE (2010/65/EU)		
	percentage per year availability of central SSN system	99% min	
KDI indiaatar	hours maximum continuous downtime of central SSN system	12 max	
KPI Indicator	reports per year (AIS)	1800 million min	
	notifications per year (Port +, Incident reports, MRS)	3.5 million min	
Scoreboard activity	SAFESEANET PERFORMANCE, INCLUDING REQUIREMEN DIRECTIVE 2010/65/EU	TS UNDER	
KPI indicator	percentage of response to Member States' requests to SafeSeaNet delivered on time	99% min	

### EMSA KEY PERFORMANCE INDICATORS

### **RELATED AGREEMENTS**

The Interface and Functionalities Control Document (IFCD), approved by the High Level Steering Group, provides governance of the system and defines performance standards.

### SERVICE LONG RANGE IDENTIFICATION AND TRACKING (LRIT) SERVICES

## The LRIT system was set up by the International Maritime Organization for the purposes of maritime security, search and rescue, maritime safety and protection of the marine environment.

LRIT Services operated at EMSA include the European Union Long Range Identification and Tracking Cooperative Data Centre (EU LRIT CDC) and EU LRIT Ship Database, and the LRIT International Data Exchange (IDE). Vessels send automatic position reports, which are received by satellite and securely transferred to data centres. The EU LRIT CDC identifies and tracks participating countries' vessels worldwide. Specific services are provided to Flag, Coastal, Port and Search and Rescue users. The Ship Database stores data on vessels of participating countries. The IDE is the central module of the LRIT network, and routes messages between Data Centres.

Scoreboard activity	EU LRIT CDC SYSTEM OPERATIONAL	
KDI indicator	percentage per month availability of LRIT DC	
KPI mulcator	hours maximum continuous downtime of LRIT DC	4 max
Scoreboard activity	EU LRIT CDC REPORTING PERFORMANCE	
KPI indicator	position reports delivered according to IMO requirements 99%	
Scoreboard activity	EU LRIT CDC WEB USER INTERFACE	
KPI indicator	percentage per month availability to users	
Scoreboard activity	LRIT IDE SYSTEM OPERATIONAL	
KPI indicator	percentage per year availability of LRIT IDE	99.5% min
	hours maximum continuous downtime of LRIT IDE	4 max

### EMSA KEY PERFORMANCE INDICATORS

### **RELATED AGREEMENTS**

Conditions of use are signed with each of the EU LRIT CDC participating States

### SERVICE CENTRAL SHIP DATABASE

# The central ship database (CSD) can be used to cross-check ship identity data stored within national ship databases or received from reporting parties.

The CSD is hosted at EMSA, and provides a common service for internal EMSA users and all Member States. The Central Ship Database is premised on the fact that each ship has an active ship identity which is valid at a particular moment. Information from the CSD can be used by Member States as a reference for their national systems, for example for the national single window, or for cross-checking with data stored within national ship databases. Ships' identifiers (IMO, MMSI, name and call sign) are stored in the CSD, and it also includes other particulars (e.g. tonnage, length, beam) when these details are provided by relevant stakeholders. The current data sources are the notifications received from the SafeSeaNet, THETIS, and LRIT applications, and this might be extended in future. There is a validation process which uses external sources.

### EMSA KEY PERFORMANCE INDICATORS

**KPI indicator** 

Measured according to internal indicators

### **RELATED AGREEMENTS**

N/A



### SERVICE CENTRAL HAZMAT DATABASE

# The main objective of this service is to enhance the quality of reporting dangerous and polluting goods information in the SafeSeaNet system.

The Central Hazmat [Dangerous and Polluting Goods] Database (CHD) will include a comprehensive list of all the dangerous and polluting goods that have to be notified in accordance with Directive 2002/59/EC establishing a Community vessel traffic and monitoring system, as amended. It will also provide access to the marine chemical information sheets (MAR-CIS) database of associated hazards and risks of dangerous and polluting products.

The CHD will be accessible to Member State authorities and industry. Users may either use the database to search for the details of dangerous and polluting goods or download the database in their own systems.

### EMSA KEY PERFORMANCE INDICATORS

KPI indicator	Measured according to internal indicators	
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### **RELATED AGREEMENTS**

N/A

### Vessel identity & tracking



### POLLUTION RESPONSE AND MARINE ENVIRONMENT

Prevention of pollution by ships was one of the main tasks given to EMSA when it was first established. Following the sinking of the oil tanker, Prestige, the Agency was given additional tasks in the field of marine pollution preparedness and response. The framework for such activities is described in full in the Action Plan for Oil Pollution Preparedness and Response, the Action Plan for Hazardous and Noxious Substances Pollution Preparedness and Response, and the Action Plan for Response to Marine Pollution from Oil and Gas Installations.

In support of these activities, a number of tools, applications and information resources have been developed. These support tools and networks can aid in better spill preparedness, planning and response, and are intended as an aid for decision-makers and operators alike.

- DUET: DISPERSANT USAGE EVALUATION TOOL
- MAR-ICE: MARINE INTERVENTION IN CHEMICAL EMERGENCIES NETWORK
- MAR-CIS: MARINE CHEMICAL INFORMATION SHEETS
- POLLUTION RESPONSE CONTINGENCY PLAN

### Pollution response & marine environment

### SERVICE DUET: DISPERSANT USAGE EVALUATION TOOL

# The Dispersant Usage Evaluation Tool (DUET) provides support for decision-making regarding the use of dispersants when responding to a pollution incident.

Based on 3D modelling software, EMSA and Member States can obtain information on the potential fate and trajectory of oil spills including: the application of dispersants, the oil-in-water concentrations of naturally- and chemically-dispersed oil, dissolved hydrocarbons, as well as the surface area impacted by floating oil. The information from DUET is intended for training and contingency planning purposes.

### EMSA KEY PERFORMANCE INDICATORS

KPI indicator	Number of decision support tools 1
Scoreboard activity	DEVELOPMENT OF DECISION SUPPORT TOOLS

### **RELATED AGREEMENTS**

N/A



### SERVICE MAR-ICE: MARINE INTERVENTION IN CHEMICAL EMERGENCIES NETWORK

# A network of chemical experts supports states in responding to marine pollution emergencies by providing information on chemical substances.

EMSA, in close cooperation with the European Chemical Industry Council (Cefic) and the Centre of Documentation, Research and Experimentation on Accidental Water Pollution (Cedre), established the 'MAR-ICE Network' (Marine Intervention in Chemical Emergencies Network).

All EU member states, coastal EFTA states and EU candidate countries can request assistance from the MAR-ICE Network for marine pollution emergencies involving chemicals in EU waters, in accordance with the service's operational procedures. Incoming requests to the MAR-ICE Network for marine pollution emergencies are channelled through the MAR-ICE Contact Point, which acts as a single interface and first contact point to the network. This interface is accessible 24 hours a day/7 days a week, via contact numbers and a dedicated email address disseminated to the national maritime administrations.

### EMSA KEY PERFORMANCE INDICATORS

Scoreboard activity	RESPONSE TO REQUESTS FOR ASSISTANCE TO MAR-ICE	
<b>VDL indicator</b>	percentage of responses within 2 hrs	>75 %
KPTINUCator	percentage of responses within 4 hrs	<25 %

### **RELATED AGREEMENTS**

Three-party Memorandum of Understanding establishing the MAR-ICE network

Pollution response & marine environment

### SERVICE MAR-CIS: MARINE CHEMICAL INFORMATION SHEETS

## The overall objective of the marine chemical information sheets (MAR-CIS) is to provide specialised information for emergency response in case of chemical spills at sea.

The MAR-CIS tool contains detailed information of 213 chemical substances, which are stored in a database that can be searched and viewed on screen. The information can also be displayed, printed and exported in the form of datasheets in pdf format. The MAR-CIS datasheets provide concise information on the substances' physical and chemical properties, handling and emergency spill response procedures, and maritime transport requirements for safe transport at sea.

### EMSA KEY PERFORMANCE INDICATORS

KPI indicator	number of datasheets produced	25
Scoreboard activity	DEVELOPING DATASHEETS	

### **RELATED AGREEMENTS**

N/A



### SERVICE POLLUTION RESPONSE CONTINGENCY PLAN

# The EMSA Contingency Plan describes how monitoring and incident alerting for pollution response is carried out by the Maritime Support Services (MSS) on a 24/7 basis, and actions taken by EMSA in the event of a maritime emergency such as a major oil spill.

The plan describes immediate actions as well as mid-term measures in EMSA in the event of a maritime emergency, including the following possible types of assistance:

- alert and continuously inform EMSA and the Commission about an emergency and its evolution
- report on the emergency circumstances, actors and assistance provided
- satellite monitoring (see CleanSeaNet service)
- mobilisation of oil recovery vessels from EMSA's standby oil spill response vessel network
- expert mobilisation, sending experienced EMSA staff to assist.

Apart from the continuous monitoring and reporting actions, EMSA will also liaise with the Emergency Response Coordination Centre (ERCC) managed by the European Commission, national Maritime Rescue Coordination Centres (MRCC), Member State authorities, and contractors to manage the required assistance actions.

### EMSA KEY PERFORMANCE INDICATORS

KPI indicator

Measured according to internal indicators

### **RELATED AGREEMENTS**

N/A

### Pollution response & marine environment



### SHIP SAFETY AND POLLUTION PREVENTION

Learning from shipping accidents is essential if the safety level of maritime transport is to be improved. Under Directive 2009/18/EC, Member States have an obligation to ensure that accidents are reported and properly investigated in order to identify safety issues. The implementation of common standards at EU level for ensuring the performance of equipment on board ships also contributes to significantly improve safety. On behalf of the European Commission and the Member States, EMSA has responsibilities in these areas, which include the development and management of the European Marine Casualty Information Platform (EMCIP) and the EU approved marine equipment database (MarED).

The Port State Control (PSC) Directive 2009/16/EC as amended, aims to ensure that there is effective control of ships sailing in EU waters and calling EU ports regarding their compliance with international and EU standards. EMSA develops and maintains the inspection database (THETIS) which is a single window combining port call and inspection data as well as a targeting mechanism foreseen by the PSC Directive. In addition, through the THETIS EU module, competent authorities in the Union can implement provisions related to Port State Control which are not included in the PSC Directive or Flag State Control requirements. THETIS EU currently supports pollution prevention activities, namely the implementation of the Sulphur Directive and the Port Reception Facilities Directive.

- EMCIP: EUROPEAN MARINE CASUALTY INFORMATION PLATFORM
- MARED: MARINE EQUIPMENT DATABASE
- THETIS
- THETIS-EU

### Ship safety & pollution prevention

### SERVICE EMCIP: EUROPEAN MARINE CASUALTY INFORMATION PLATFORM

### The European Marine Casualty Information Platform (EMCIP) stores, shares and assists analysis of casualty data and investigation reports submitted by the Member States.

EMCIP stores data relating to the particulars and consequences of all notified marine casualties, incidents, and occupational accidents. Additionally, on completion of a safety investigation, the Member States' investigative bodies report data relating to the sequence of accidental events, the identification of contributing factors, including human factors and others relating to shipboard operations, shore management and regulatory influence, and any resulting safety recommendations.

EMSA is in charge of the management of EMCIP. Population of EMCIP with data on marine casualties and incidents is mandatory for EU Member States. User support is given via regular data quality improvement processes and via the coordination of an EMCIP user group. Maintenance, enhancement and hosting are dealt with through a Service Level Agreement. EMCIP is used for the analysis and dissemination of accident data. The system is accessible to the competent authorities of the Member States of the European Union, Norway and Iceland.

### EMSA KEY PERFORMANCE INDICATORS

Scoreboard activity	ACCIDENT DATABASE	
KPI indicator	number of occurrences notified in EMCIP during the year	3500 min

### **RELATED AGREEMENTS**

Service Level Agreement between EMSA and the Joint Research Centre (JRC) for provision of services concerning the EMCIP Platform

### SERVICE MARED: MARINE EQUIPMENT DATABASE

# The MarED database gathers all the references to the certificates for marine equipment as approved according to the Marine Equipment Directive (MED) conformity assessment procedure. This database is accessible for free to registered users through a unique dedicated website (www.mared.org).

The MarED group is the coordination group for the Notified Bodies, acting on behalf of the Member States administrations, to carry out the conformity assessment procedures referred to in Directive 2014/90/EU.

According to the MED Directive, the European Commission has the obligation to keep "an up-to-date list of approved equipment and applications withdrawn or refused and shall make it available to interested parties". At the request of the European Commission, EMSA ensures the implementation of this requirement through a contract for the MarED product database, the website and the MarED technical secretariat.

The database available for any interested parties (e.g. administrations, ship-owners, ship yards, classification societies) and currently lists more than 100 000 datasets.

### EMSA KEY PERFORMANCE INDICATORS

Scoreboard activity	DATABASE AVAILABILITY	
KPI indicator	percentage per year availability of MarED DB	99% min

### **RELATED AGREEMENTS**

N/A

### Ship safety & pollution prevention

### SERVICE THETIS

### THETIS provides a comprehensive overview of ships for inspection authorities in the Paris Memorandum of Understanding (PMoU) area, to guide and support the inspection process.

THETIS is an information system, hosted, maintained and operated by EMSA, developed to support the PMoU's New Inspection Regime for Port State Control. This service provides users with functionalities for reporting, consulting and correction of inspection reports.

THETIS stores and processes ship call information; calculates the Ship Risk Profile and Priority for each ship in the database on a daily basis; organises the workflow from call to inspection, report and follow up action; and provides and publishes information. The system receives ship arrival and departure information from SafeSeaNet, and from the Canadian and Russian equivalents, which allows THETIS to work as the central system of the PMoU rather than just the EU. The system is accessible to all parties of the PMoU.

Scoreboard activity	SYSTEM OPERATIONAL	
KDI indicator	percentage per year availability of THETIS	96% min
KPI Indicator	hours maximum continuous downtime	6 max
Scoreboard activity	HELPDESK SERVICE	
KDLindicator	average time in working hours for feedback on user requests	3 max
KPI Indicator	average time in working hours for feedback on user requests	4 max
Scoreboard activity	LINKS WITH THIRD PARTY SYSTEMS	
KPI indicator	percentage per year availability for data imports	90% min

### EMSA KEY PERFORMANCE INDICATORS

### **RELATED AGREEMENTS**

An arrangement with the Paris MoU establishing the role of EMSA (agreed meeting room document PSCC44/2011) details basic features of the system and hosting arrangements

### SERVICE THETIS-EU

# THETIS-EU provides a single source of information for competent authorities and the European Commission on compliance with relevant EU legislation.

THETIS-EU has been established as the EU's reference database for inspections of ships' reporting, monitoring and verification, to support the member states in meeting their obligations towards enforcement and inspection. Authorities implementing Port State Control-related provisions not included the PSC Directive (2009/16/EC) or flag state requirements can use the THETIS-EU module. Currently THETIS EU supports the Sulphur Directive (1999/32/EC) and the Port Reception Facilities Directive (2000/59/EC).

The system provides a platform where inspectors enforcing compliance with the respective directive or regulation throughout the EU can retrieve and record relevant inspection and targeting information on ships. The system is accessible to the competent authorities of the Member States of the European Union, Norway and Iceland.

<b>.</b>	
SYSTEM OPERATIONAL	
96% min	
6 max	
3 max	
4 max	
90% min	

### EMSA KEY PERFORMANCE INDICATORS

### **RELATED AGREEMENTS**

For the sulphur component: Cooperation Agreement between EMSA and the Commission (DG ENV)

### Ship safety & pollution prevention



### HUMAN ELEMENT

Human error is one of the causal factors of accidents in the maritime sector and this is closely associated with a seafarer's education, training and working conditions. This issue is addressed in the IMO's Standards of Training, Certification and Watchkeeping (STCW) Convention, the ILO's Maritime Labour Convention (MLC) and in EU legislation through Directives 2008/106/EC, 2009/13/EC, 2013/38/EC and 2013/54/EC. The STCW-IS is a web-based information system designed to provide reliable information on both national maritime administrations and maritime education and training institutions. The system is also used to gather information on the certificates and endorsements issued to seafarers by Member States with the objective of compiling and publishing reliable statistics on seafaring manpower in the EU.

EMSA offers e-learning courses to maritime administrations in fields related to the interpretation and implementation of EU and international legislation. These courses cover maritime safety and security, as well as the prevention of pollution from ships.

RuleCheck supports the Port State Control officers of the EU and Paris Memorandum of Understanding (MoU) by providing access to EU legislation, international conventions, as well as Paris MoU control-related documents and procedures. RuleCheck is now also partially accessible to SAFEMED and TRACECA beneficiary States, as well as to parties of the Mediterranean MoU and Black Sea MoU.

- STCW-IS: SEAFARER TRAINING CERTIFICATION AND WATCHKEEPING INFORMATION SYSTEM
- E-LEARNING
- RULECHECK
- SAFEMED
- TRACECA

### SERVICE STCW-IS: SEAFARER TRAINING CERTIFICATION AND WATCHKEEPING INFORMATION SYSTEM

STCW-IS is an information system making available to the public information on the seafarers' certification systems in the Member States together with generic information on the EU maritime education and training institutions.

Information in STCW-IS includes details on the types of certificates issued to seafarers, seafarers' career paths, maritime education and training programmes and training facilities in the maritime education and training institutions. The information is provided or validated by the participating countries, which are responsible for the content of the respective webpages.

In addition, the STCW-IS gathers and compiles data on certificates and endorsements issued to seafarers by the EU maritime administrations with the objective of providing statistics to be used by Member States and the European Commission in policy making.

### EMSA KEY PERFORMANCE INDICATORS

Scoreboard activity	STCW INFORMATION SYSTEM	
KPI indicator	percentage per year availability	95% min

### **RELATED AGREEMENTS**

N/A



### SERVICE E-LEARNING

# E-learning is a cost-effective and efficient way of ensuring the distribution of up-to-date training material to a large number of users. To support e-learning, EMSA has developed and maintains the Maritime Knowledge Centre (MaKCs).

MaKCs is available to users from the Paris Memorandum of Understanding on Port State Control (PMoU) and to other Port State Control (PSC) regimes that apply the same PSC standards as those in the EU (such as the Black Sea and Mediterranean MoUs).

In addition, the Agency has developed modules as part of its task to support capacity building of the different functions of the Member States as Flag and Coastal States, aiming at providing technical assistance to build up the necessary capacity for the implementation of legal acts of the Union as well as facilitating the enforcement of maritime related legislation within the EU.

### EMSA KEY PERFORMANCE INDICATORS

Scoreboard activity	MAKCS USER RESPONSE	
KPI indicator	Number of system errors per year	<10 max
Scoreboard activity	MAKCS AVAILABILITY	
KPI indicator	Hours downtime during EMSA business hours	<20 max

### **RELATED AGREEMENTS**

Agreement between EMSA and France for making the Maritime Knowledge Centre (MaKCs) available to the Indian Ocean MoU

Agreement between EMSA and the Netherlands for making MaKCs available to the Caribbean MoU (in progress)

### SERVICE RULECHECK

RuleCheck provides a digitised library of maritime legislation. It was originally designed and developed to give Port State Control officers in the Paris MoU region a complete list of all the rules and procedures which apply to ships to be inspected, based on the ship type and age.

The system allows easy access to Convention references supporting deficiencies found during inspections. Containing all relevant documentation from the International Maritime Organisation (IMO), the International Labour Organisation (ILO), the European Union (EU), and the Paris, Mediterranean and Black Sea Memoranda on Port State Control, it provides PSC officers with documentation applicable to any type of ship.

The availability of these documents and the ease of accessibility leads to improvements in the effectiveness and consistency of inspections carried out. RuleCheck has also been offered for use to SAFEMED and TRACECA beneficiary states.

EMSA KEY	PERFORM	<b>MANCE I</b>	NDICATORS
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Scoreboard activity	RULECHECK USER RESPONSE	
KPI indicator	Number of system errors per year	<10 max
Scoreboard activity	RULECHECK AVAILABILITY	
KPI indicator	Hours maximum continuous downtime	<20 max

### **RELATED AGREEMENTS**

N/A

### SERVICE SAFEMED

# The overall objectives of the SAFEMED III project are to: improve maritime safety and maritime security of ships and port facilities; reduce pollution to the marine environment; improve the level of maritime training and qualification of seafarers; and, improve living and working conditions on board ships.

Beneficiary countries are provided with operational support through the provision of EMSA services such as RuleCheck, and MaKCs. A number of e-learning courses have been developed and made available through MaKCs to the PSC officers within the MED MoU (beneficiary countries and Turkey).

RuleCheck has been adapted and made available to users from the MED MoU (beneficiary countries and Turkey).

### EMSA KEY PERFORMANCE INDICATORS

Scoreboard activity / service	RULECHECK USER RESPONSE	
KPI indicator	Number of system errors per year	<10 max
Scoreboard activity / service	RULECHECK AVAILABILITY	
KPI indicator	Hours maximum continuous downtime	<20 max
Scoreboard activity / service	MAKCS USER RESPONSE	
KPI indicator	Number of system errors per year	<10 max
Scoreboard activity / service	MAKCS AVAILABILITY	
KPI indicator	Hours maximum continuous downtime	<20 max

### **RELATED AGREEMENTS**

Grant contract with the Commission for the SAFEMED III project

### SERVICE TRACECA

The overall objectives of the TRACECA project are: improving maritime safety and maritime security of ships and port facilities; reducing pollution to the marine environment; improving the level of maritime training and qualification of seafarers; and, improving living and working conditions on board ships.

Beneficiary countries are provided among others with operational support through the provision of EMSA services such as RuleCheck, and MaKCs.

A number of e-learning courses have been developed and made available through MaKCs to the PSC officers within the Black Sea MoU (Georgia and Ukraine as beneficiary countries and Turkey).

RuleCheck has been adapted and made available to users from the beneficiary countries.

#### EMSA KEY PERFORMANCE INDICATORS

Scoreboard activity / service	RULECHECK USER RESPONSE	
KPI indicator	Number of system errors per year	<10 max
Scoreboard activity / service	RULECHECK AVAILABILITY	
KPI indicator	Hours maximum continuous downtime	<20 max
Scoreboard activity / service	MAKCS USER RESPONSE	
KPI indicator	Number of system errors per year	<10 max
Scoreboard activity / service	MAKCS AVAILABILITY	
KPI indicator	Hours maximum continuous downtime	<20 max

### **RELATED AGREEMENTS**

Grant contract with the Commission for the TRACECA II project

### MARITIME SUPPORT SERVICES

The Maritime Support Services (MSS) Centre is a 24/7 facility located at EMSA headquarters in Lisbon. MSS officers have access to the latest information from each of the systems at all times, which are monitored around the clock. This is particularly important as they need to be able to react quickly to any urgent information related to the maritime applications or to maritime emergencies, at the same time as carrying out their regular day-to-day work supporting users of the systems. The MSS is the single point of contact via which Member States and the European Commission can request support when there has been an accident or incident at sea.

The MSS provides information to EMSA management and decision makers in the EU institutions and elsewhere, so that they are kept fully informed of developments at all times. MSS officers also take part in regular exercises with Member States and contractors in order to ensure that the system is always in an effective state of preparedness to deal with the many different types of emergency that may occur.

### MARITIME SUPPORT SERVICES

### SERVICE MARITIME SUPPORT SERVICES

The Maritime Support Services (MSS) is operated on a 24/7 basis to oversee the availability and performance of the EMSA operational maritime information systems. It is the point of contact for maritime applications users and 24/7 contact in case of maritime pollution emergencies. The MSS provides operational and technical support to serve the European Commission and Member State users.

A more detailed breakdown of services offered by the MSS includes:

- general helpdesk service
- monitoring of EMSA applications and handling ICT-related incidents to restore the service
- monitoring of the Member State connections to the SafeSeaNet system
- reporting on SafeSeaNet implementation, data quality and availability by Member States
- on request, monitoring and reporting on specific ships or group of ships
- administration and monitoring of the expiration dates of user digital certificates.

Scoreboard activity	MSS 24/7 AVAILABILITY	
KPI indicator	average time in hrs for feedback or resolution of issues relating to emergencies, incidents in maritime applications urgent helpdesk requests	or <2 max
	average time in hrs for feedback or resolution of issues relating to non-urgent helpdesk requests or scheduled interventions	<8 max
Scoreboard activity	MSS DATA QUALITY REPORTS	
KPI indicator	reporting on the SafeSeaNet implementation and data quality (overall and per Member State)	20 reports min

### EMSA KEY PERFORMANCE INDICATORS

### **RELATED AGREEMENTS**





### 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.

### emsa.europa.eu

### Get in touch for more information

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