

# SEG

# SSN Ecosystem GUI

## Quick Start Guide

Version 0.3.3

Date: April 2019

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## List of Abbreviations

AIS	Automatic Identification System
ABM	Automated Behaviour Monitoring
AOI	Area of Interest
ATA	Actual Time of Arrival
ATD	Actual Time of Departure
CSN	CleanSeaNet
C&I	Command and Info card
CMS	Copernicus Maritime Surveillance Service (CMS)
EO	Earth Observation
ETA	Expected Time of Arrival
ETD	Expected Time of Departure
GUI	Graphical User Interface
IMDATE	Integrated Maritime Data Environment
IMS	Integrated Maritime Services
IVTMIS	Integrated Vessel Traffic Monitoring and Information System
LRIT CDC	Long Range Identification and Tracking Cooperative Data Centre
MMSI	Maritime Mobile Service Identity
MRS	Mandatory Reporting System
NCA	National Competent Authority
PoC	Point of Contact
PoI	Place of Interest

PSC	Port State Control
SAR	Synthetic Aperture Radar
SAR SURPIC	Search and Rescue Surface Picture
SEG	SafeSeaNet Ecosystem Graphical User Interface
SSN	SafeSeaNet
Tol	Target of Interest
TTT	Tables, Thumbnails and Timeline
VDS	Vessel Detection Service
VMS	Vessel Monitoring System
Vol	Vessel of Interest

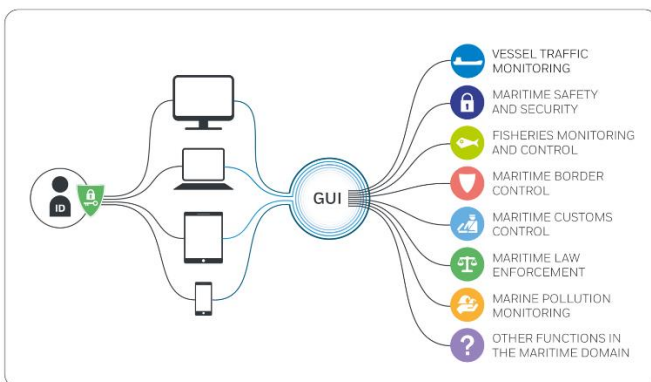
# 1. Introduction

The SafeSeaNet Ecosystem GUI<sup>1</sup> (SEG) is a common Graphical User Interface providing access to EMSA’s applications/services and their data sets:

- SafeSeaNet (SSN)
- Long Range Identification and Tracking (LRIT)
- CleanSeaNet (CSN) / Earth Observation Data Centre (EODC)/Copernicus Maritime Surveillance Service (CMS)
- Integrated Maritime Services (IMS) for Member States as well as other EU institutional users

The SafeSeaNet Ecosystem GUI replaces the SSN Graphical Interface (GI), the IMS-IMDatE Web User Portal (WUP), the CSN GIS Viewer and (partly) the LRIT User Web Interface (UWI). The SSN Textual Interface (TI) will remain available. The LRIT UWI will remain for administrative functions only. This common GUI may be configured to serve multiple maritime user domains.

Figure 1 The SEG GUI serves multiple maritime user domains.

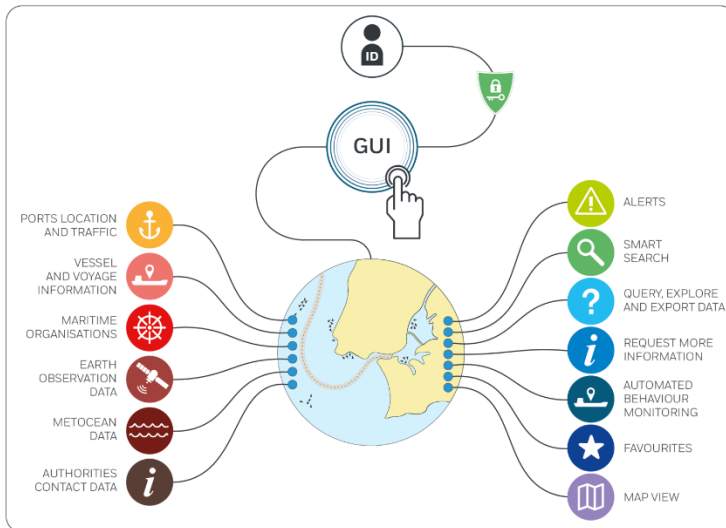


<sup>1</sup> SafeSeaNet Ecosystem GUI is the new interface for the Union Maritime Information and Exchange System, which may be defined as the technical framework encompassing the following maritime applications: SafeSeaNet, Integrated Maritime Data Environment (IMDatE), Earth Observation Data Centre (EODC) and LRIT Cooperative Data Centre (LRIT CDC). To improve situational awareness in the maritime domain and to provide tailor made solutions to authorities, the VTMIS Directive (2002/59/EC) was amended by Commission Directive 2014/100/EU. This allows information gathered and exchanged through SSN to be integrated with data from the EU’s other monitoring and tracking systems, such as CleanSeaNet, EU LRIT CDC, THETIS, and from external systems such as satellite AIS.

## 2. Purpose of this Document

The purpose of this Quick Start Guide is to help users to get up-and-running on the SEG. This guide introduces the interface, an overview of the main menu items and associated features, and how to use them.

Figure 2 The SEG GUI provides access to multiple functions and data sets.



## 3. Devices & web browsers

The SEG is designed to work on fixed and mobile devices including those enabled for touchscreen.

- Desktops
- Laptops
- Tablets (via HTML browsers)

### 3.1 Web Browsers

Supported web browsers are the most recent versions of Chrome, Mozilla Firefox, and Safari. When opening the application, the browser will request permission to track your physical location. Accepting this request will enable the SEG to locate and identify the user's physical position based on the local IP address. The map will be centred on the user's physical position. Alternatively, the user may specify the starting viewpoint under Preferences/Map/Starting viewpoint as 'User specified' or Current geographical position'.

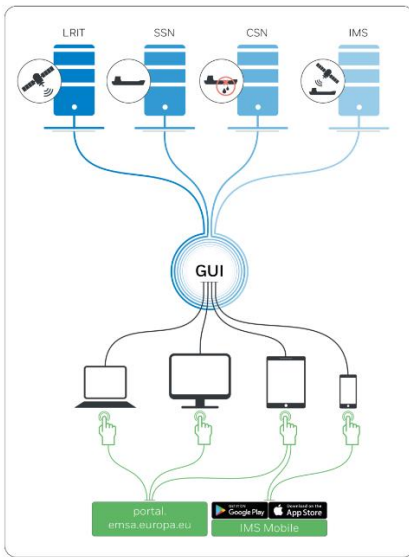
### 3.2 Requirements

- Computer screens should have a minimum resolution of 1280 x 1024.
- Recommended web browsers are the most recent version of Chrome (preferred) or Mozilla Firefox. The SEG is also compatible with Safari.
- Cable or fast internet connection is preferred. The LAN bandwidth should be 100 Mbps (Megabit per second), with minimum 6 Mbps Internet connection as download speed. It is possible to check using a site such as <http://www.speedtest.net/>

### 3.3 IMS Mobile App

The IMS Mobile App is adapted for mobile devices running Android or iOS operating systems. The App is available from Google Play and the App Store. The SEG and the IMS Mobile App have a similar look and feel in terms of map layout, features, and layers management.

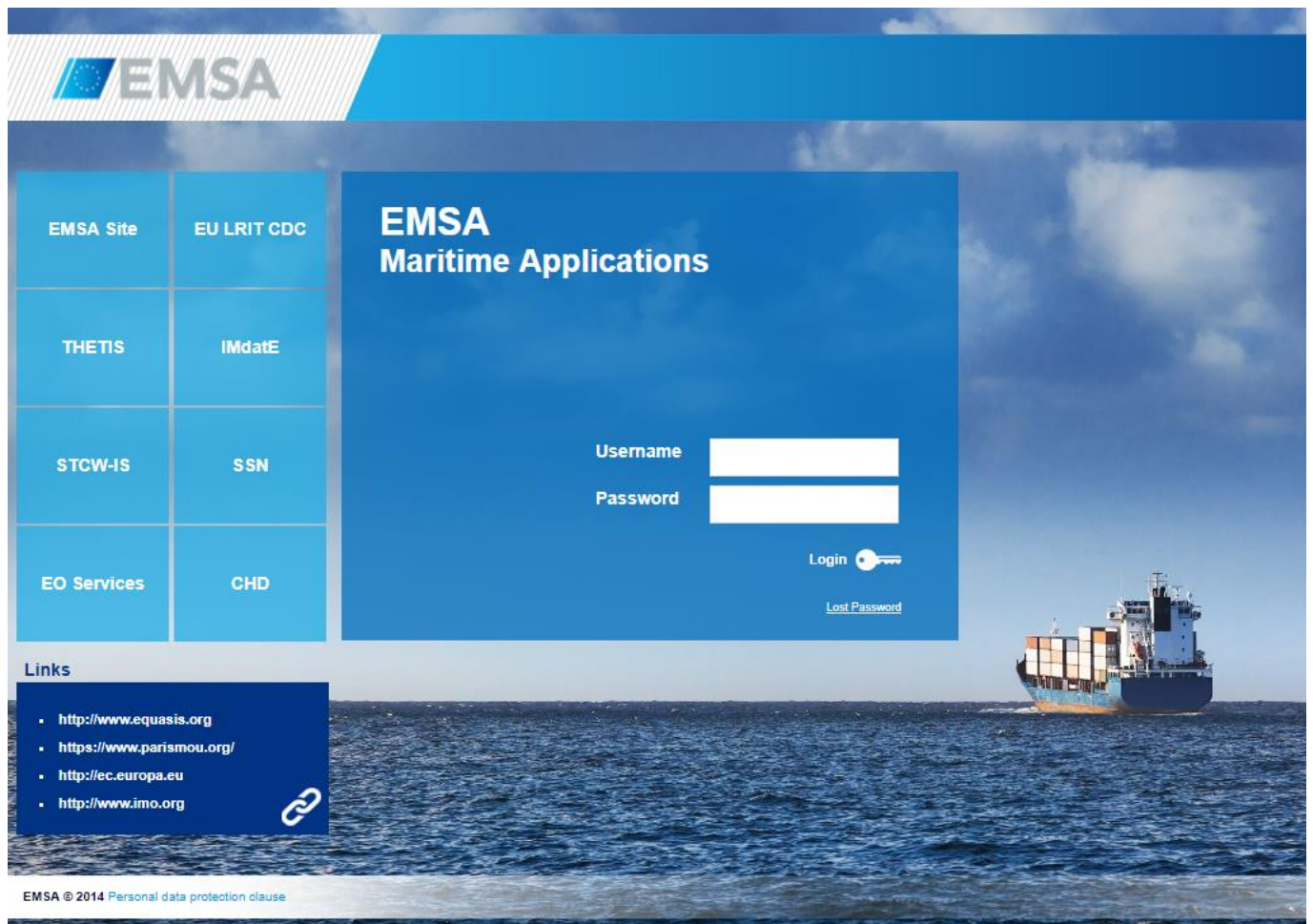
Figure 3 Fixed and Mobile Devices for SEG and IMS App



## 4. Maritime Application Portal (MAP)

To access the SEG from your desktop, laptop or tablet, open the web browser and enter the EMSA Maritime Application Portal URL in the address field. <https://portal.emsa.europa.eu>.

Figure 4 Maritime Applications Portal





## 4.1 Existing users

The SEG is a web application that is accessed by entering a valid login and password provided by EMSA. If you have an existing user name and password for one of the following maritime applications (SSN, LRIT, IMS or CSN) the same username and password may be used to log onto the SEG.

## 4.2 New users

To add new users, the National Competent Authority (NCA) or the official Point of Contact (PoC) for each application (SSN, LRIT services, IMS or CSN) may apply for the new accounts by contacting the MSS by email ([MaritimeSupportServices@emsa.europa.eu](mailto:MaritimeSupportServices@emsa.europa.eu)). The MSS will validate and set-up the accounts as appropriate.

## 4.3 Maritime Applications Portal home page

Once logged in to the Maritime Applications Portal, the home page will display tiles for various maritime applications and services, according to permission settings and data access rights associated with the logged user. The home page header displays information regarding the user currently logged in.

Start the SEG by selecting the SEG Home Page tile, or by selecting Portals/SEG.

Figure 5 MAP page and SEG tile



## 5. SEG User Interface

## 5.1 Maritime information

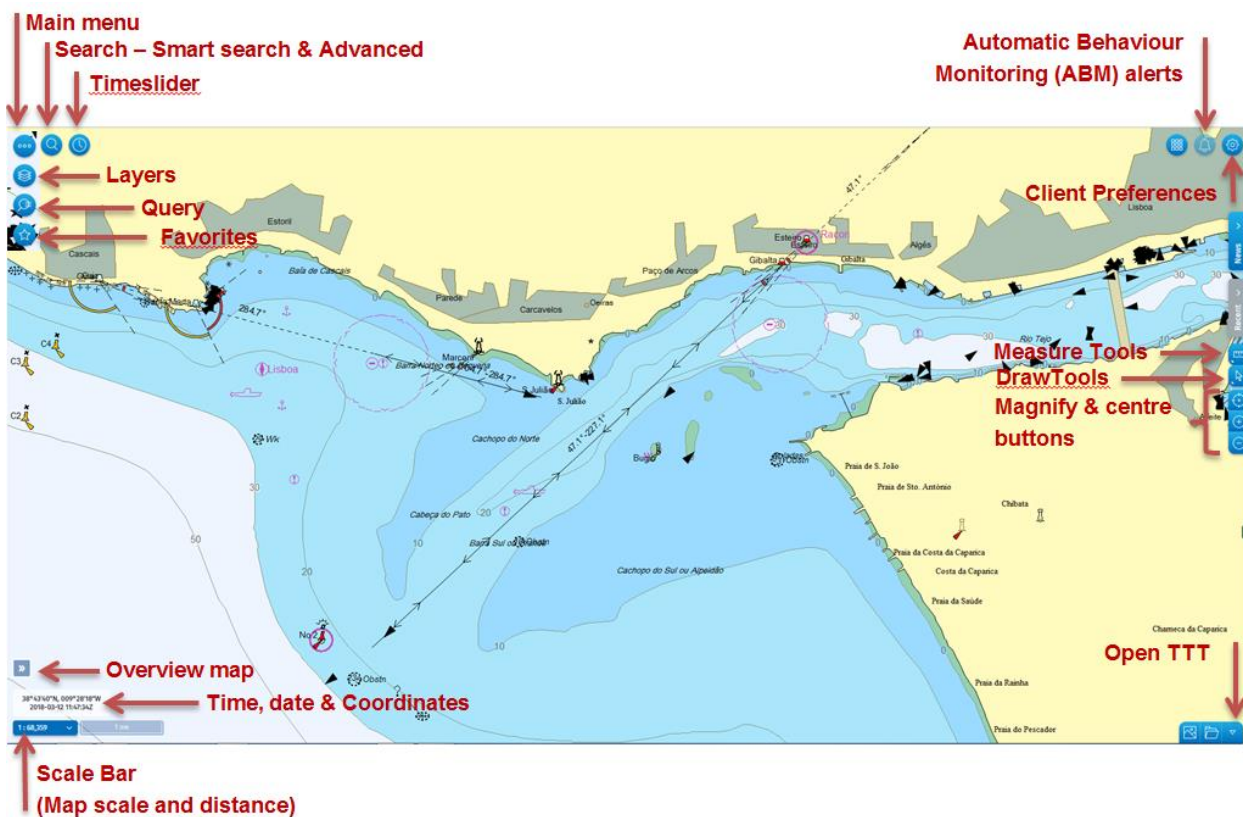
Maritime information is available in accordance with the individual users' data access rights and permission settings. The default vessel information displayed is the most recent vessel position (from an available tracking source within the last 24 hours) regardless of the tracking source LRIT, S-AIS, T-AIS, MRS, VMS, VDS).

The Earth Observation imagery shown on the map are the images that have been acquired within the last 72 hours and those images that are planned for the next 72 hours.

Pointing (hovering) on a vessel, or other feature on the map, will display a label with information on the feature's attributes. Clicking (selecting) a vessel, or other feature on the map, will reveal more information on the feature in the Command and Info window. Additional information on the feature can be requested and viewed through the Command and Info menu options.

The GUI is map centric. Menus and Tabs are managed in the corners of the screen and may be expanded and collapsed to maximise map coverage.

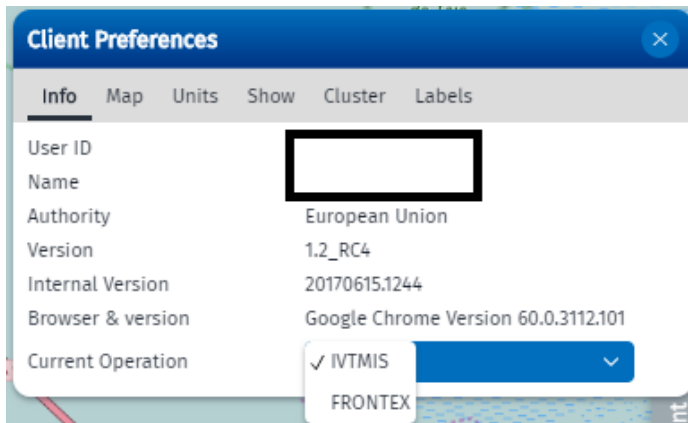
Figure 6 SEG User Interface



## 5.2 Preferences: Info and Operations

Under Client Preferences/Info tab, the user will see the Current Operation they are in. From here the user may be able to change to another Operation depending on the user rights and permissions. Operations may be created upon request to EMSA. In Client Preferences, information on User ID, User Name, Authority, SEG release version, and Internet Browser and version are shown.

Figure 7 Client Preferences /Info/Current Operation



### 5.3 Client Preferences: Map Starting Viewpoint, Map overview and Coordinates grid.

Under Client Preferences/Map the starting viewpoint may be configured by the user. From here it is also possible to view or hide the Coordinates grid and the Map overview.

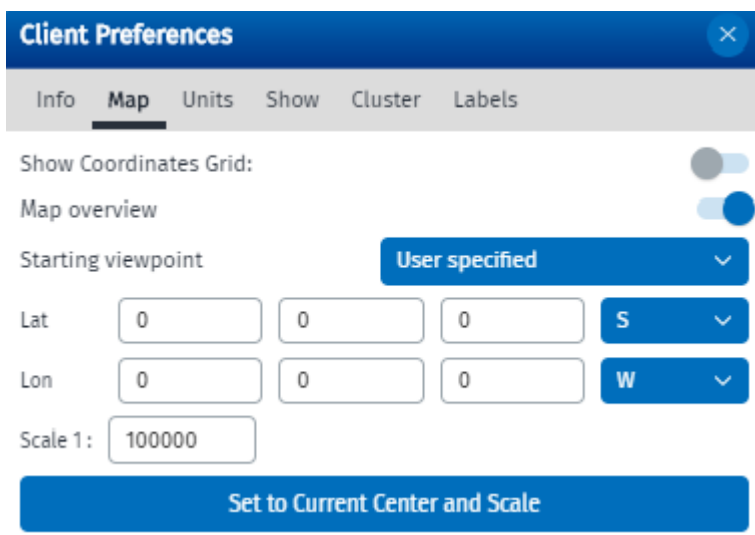
The map starting viewpoint may be set as the current geographical position or as User specified. By selecting the Starting viewpoint “User specified” and “Set to Current Centre and Scale” the map starting viewpoint will be updated accordingly.

To set a preferred scale the user can write in the field ‘Scale 1’ the preferred scale and click F5.

The map will be updated to that specific scale.

By selecting the “Current geographical position” and clicking on F5 (refresh page/window) on the keyboard the Map scale will be set to the scale defined in “User Specified”.

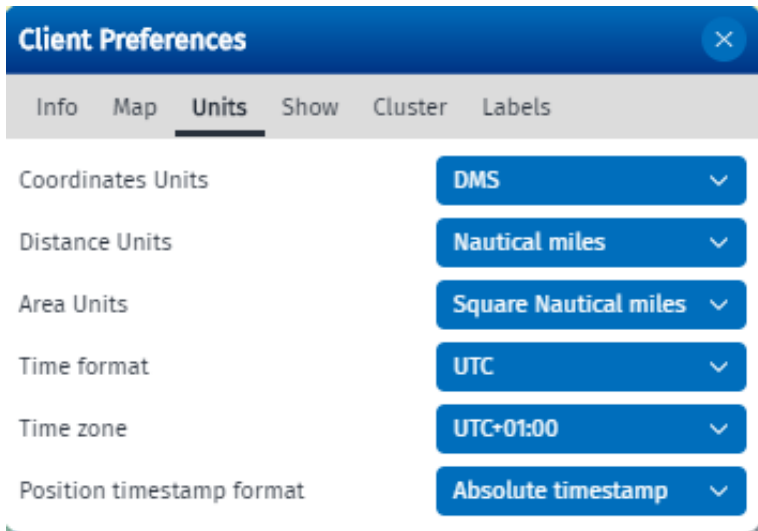
Figure 8 Client Preferences/Map/Starting Viewpoint.



### 5.4 Client Preferences: Units

Preferred distance, area and co-ordinates units may be selected. Choice of Time format /Time zone and display of absolute or relative timestamp is also given.

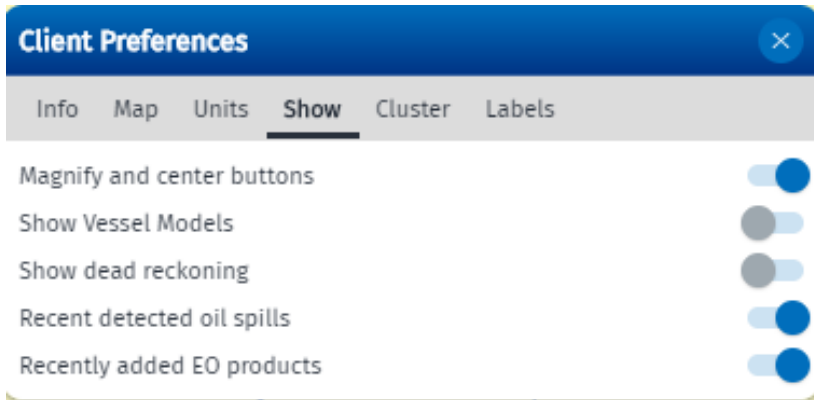
Figure 9 Client Preferences/Units



### 5.5 Client Preferences: Show

The user may show or hide map magnify and centre buttons, vessel models, vessel dead reckoning, recently detected spills and recently added EO Products.

Figure 10 Client Preferences/Show

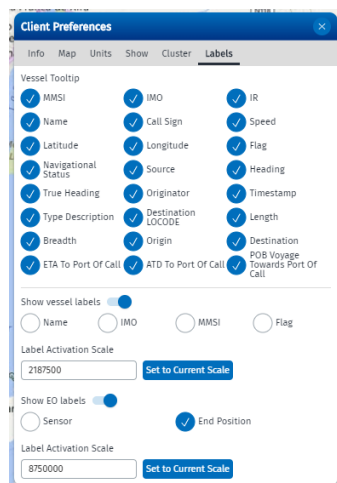


Show Vessels Models is displayed for scales below 1:4000.

### 5.6 Client Preferences: Labels

The user can select what summary information is displayed on the map for vessel Tooltips and labels and for EO labels. The user may set the label activation scale.

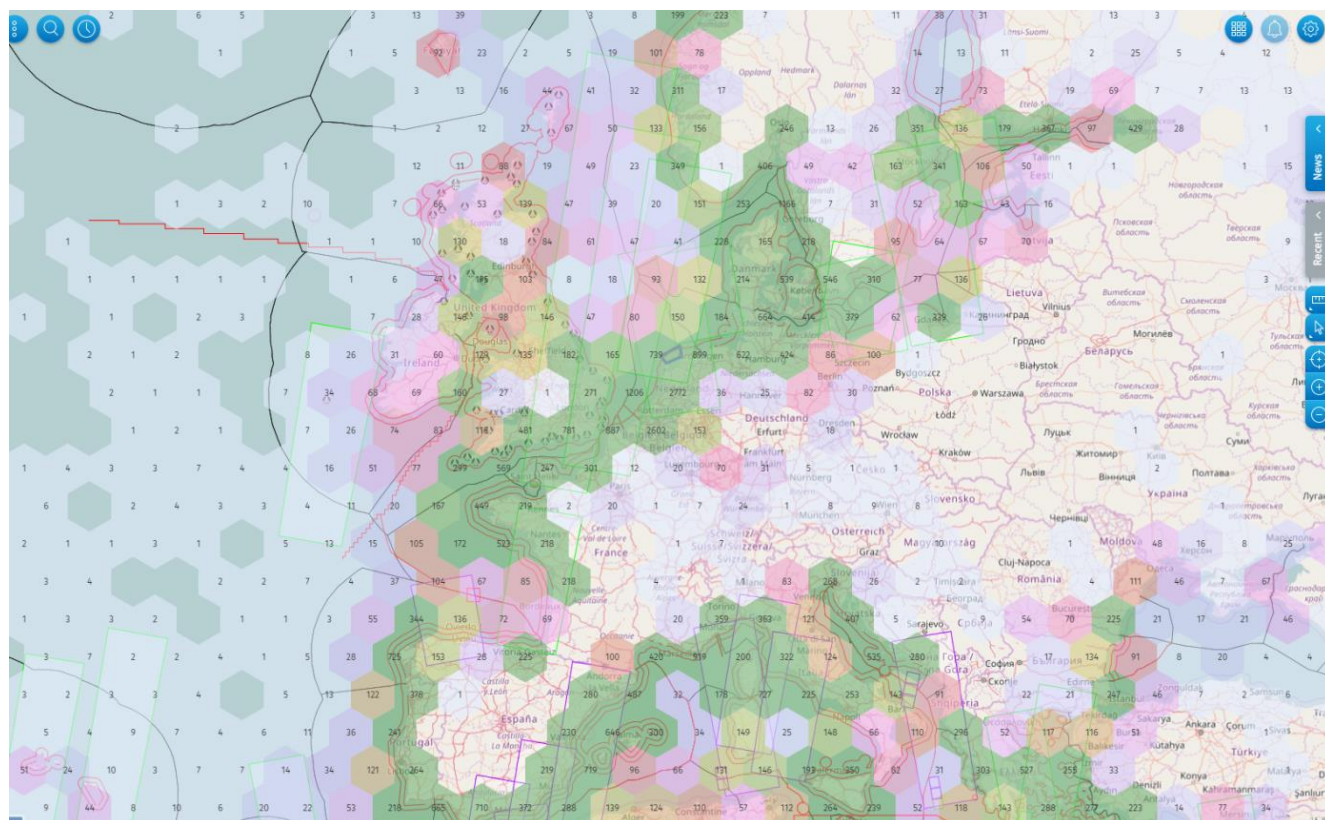
Figure 11 Client Preferences/Labels



### 5.7 Client Preferences: Clustering and other options

Vessel density is displayed in ‘clustering’ mode when zoomed-out beyond 1:8,000,000. The colours of the hexagons represent the number of vessels present in that area (based on the most recent vessel positions). By progressively zooming into the map, the clustering disappears, and individual vessels become visible.










Figure 12 SEG Clustering



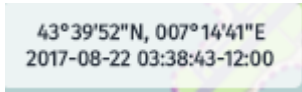










### 5.8 Map menu

Users only see menu items for data and functions that they have permission to access. If a menu item is greyed out, the menu item is de-activated because there is no associated information available.

Table 1 Map menu items

Menu Items	Description	Options
Preferences 	Manage client preferences	<ul style="list-style-type: none"> <li>- Info</li> <li>- Map</li> <li>- Units</li> <li>- Show</li> <li>- Cluster</li> <li>- Labels</li> </ul>
Notifications 	ABM alerts	The button is active if an alert is available and greyed out if no alert is available.
Apps 	Apps	<ul style="list-style-type: none"> <li>- Report (Feedback App)</li> <li>- Sentinel-2 App provides access to external Earth Observation layers (recently acquired optical satellite imagery, 10m resolution)</li> </ul>
Trash 	Removes recent queries	Remove all queries or remove selected queries only
Time slider 	Change the time range of the vessel positions on the map for a max of -24h	Sliding time window. Change hour and minutes.
Smart Search 	<p>Quickly find and filter across all object categories (e.g. vessels, ports, Alerts, AOI, EO products, placemarks..).</p> <p>A minimum of 3 characters is required for the search.</p> <p>Searches for dynamic data layers on map: recent vessel information (&lt;24 hours) and EO products (-3days/+3 days)</p>	When typing the system will display all results where the text is part of the search elements. Returns the number of hits in each category. Selecting a category expands the list.
Advanced Search 	Search for vessels, EO data, oilspills and alerts with specific parameters. Must be used when searching for vessels that may have not reported a position within last 24 hours.	
Main menu 	Expand or Close menu	<ul style="list-style-type: none"> <li>- Layers and filtering</li> <li>- Query</li> <li>- Favourites</li> </ul>
Layers and filtering 	Manage information layers on map	<ul style="list-style-type: none"> <li>- Projections</li> <li>- Base layers</li> <li>- Vessels</li> <li>- MetOcean</li> <li>- Areas</li> </ul>

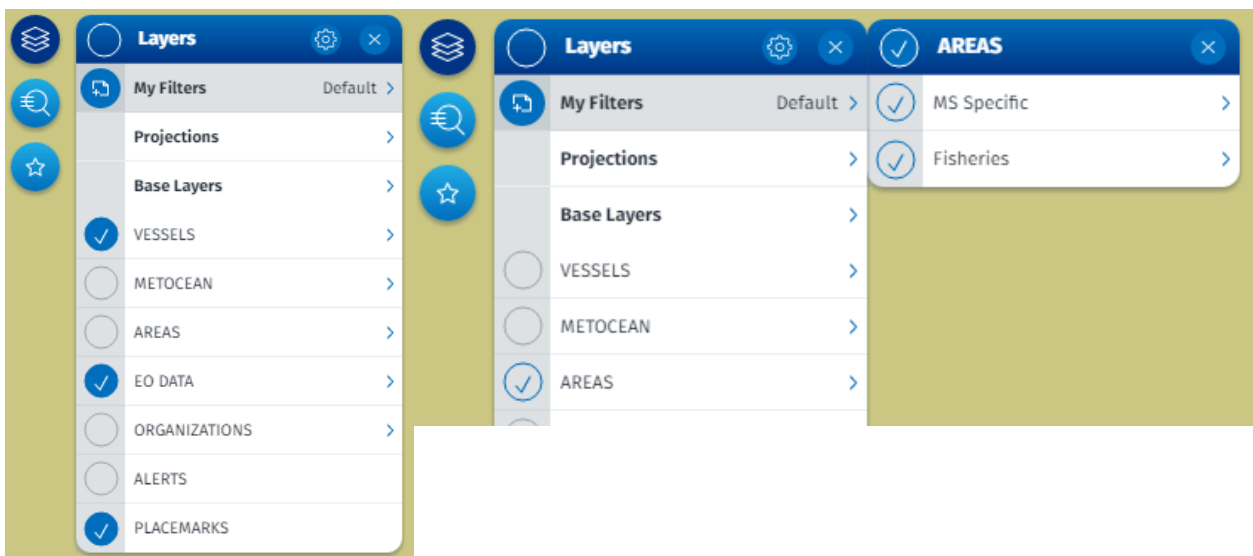
Menu Items	Description	Options
		<ul style="list-style-type: none"> <li>- EO Data</li> <li>- Organisations</li> <li>- Alerts</li> <li>- Placemarks</li> </ul>
Query 	Search within a specified area and time range	<ul style="list-style-type: none"> <li>- Area (Centric Query)</li> <li>- Get Track</li> <li>- Get Profile</li> <li>- LRIT request</li> <li>- SAR SURPIC</li> </ul>
Favourites 	Favourites are all elements on map that can be marked by users and associated to one or more Favourite Groups.	Type of Favourite Groups: <ul style="list-style-type: none"> <li>- TOI: Target Of Interest (Vessels)</li> <li>- AOI: Areas</li> <li>- POI: Placemarks, STMID, Alerts, Incidents/Accidents, Vessel detection (VDS), EO products</li> </ul>
Time and Date 		Under Client Preferences/Units the user may choose to change co-ordinates units and time/date settings.
Scale Bar 	The scale bar changes as the user zooms in and out of the map.	The user can also choose a defined map scale from the drop down menu.
Measuring Tools 	Fixed Range Rings, Bearing Measure, Bearing Compass, Distance 	Click icon to expand and close menu
Drawing Tools 	Place mark, Draw circle, Draw polygon, Draw square, Selection 	Click icon to expand and close menu
Centre map (default), Zoom in, Zoom out 	Zoom in and zoom out is available through the zoom in/out buttons over the map but using mouse left button. Standard 'left button hold' panning of the centre of the display is available as well.	Click to center and zoom in/out

Menu Items	Description	Options
TTT panel - Tables, Thumbnails and Timeline 		<ul style="list-style-type: none"> <li>- Timeline</li> <li>- Tables</li> <li>- Thumbnails</li> <li>- Select information to show in tables</li> <li>- Click to Expand/close panel</li> </ul>
News and recent downloads 	News: information feed from Twitter. Clicking in each item, opens a new window  Recent: downloads in SEG. The file opens outside the SEG application window. When the tab is blue there is a recently downloaded file available. When the tab is grey, there is no recently downloaded file available.	Click icon to expand and close menu

## 6. Layers management and filtering

The information visible in the map is managed by the Layers menu. Selecting one layer will expand a panel to the right with the related layers of that category. If an option is greyed out, this indicates a filter is applied and some information is not visible on the map.

Figure 13 Layers and filtering window

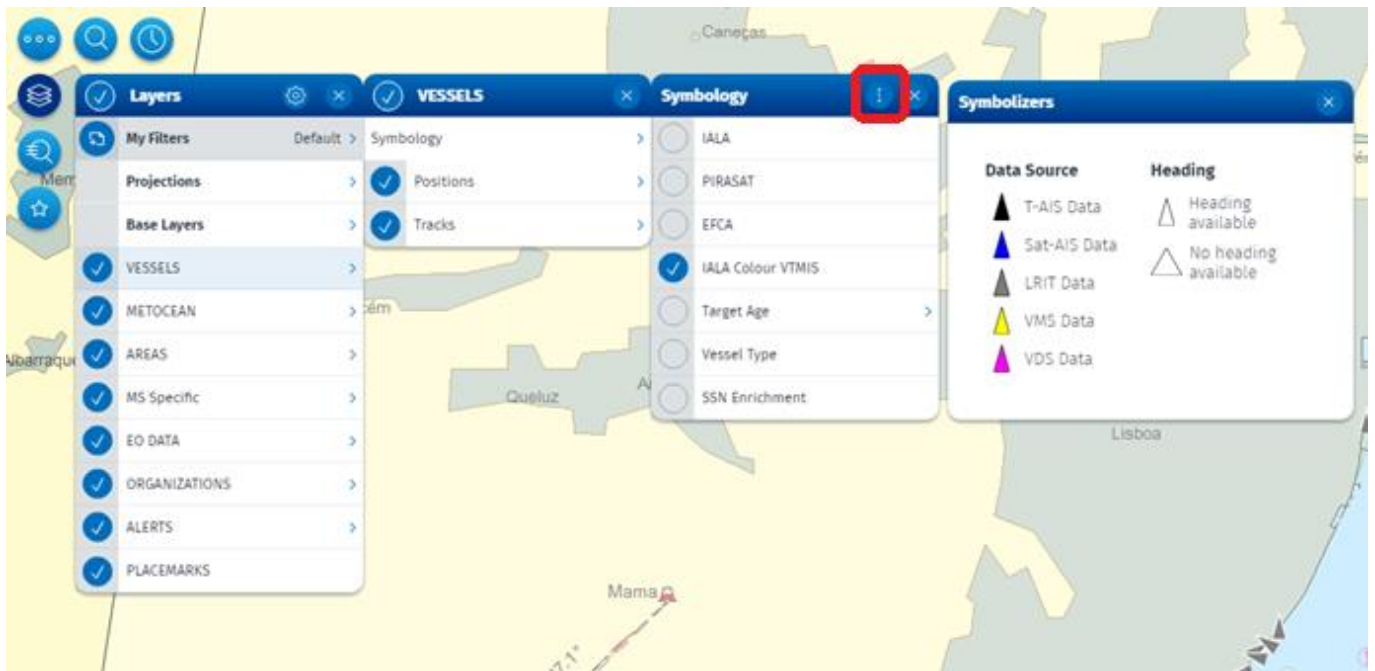


### 6.1 Information on layers and symbols

Information on layers and symbols are available on the menu through the 'i' icon.



Figure 14 Information on the layers and symbols



## 6.2 Layer settings


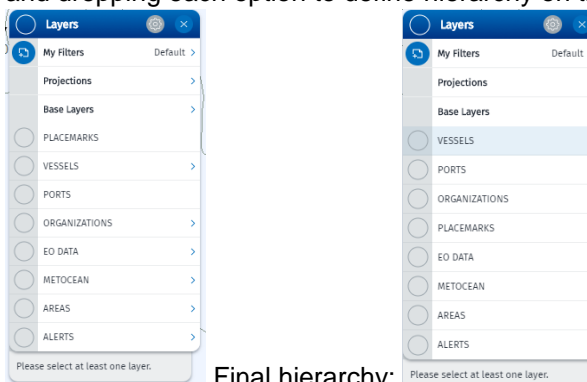
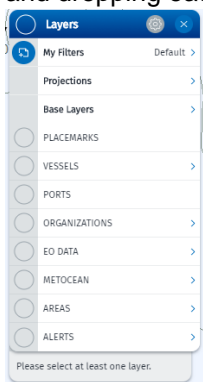
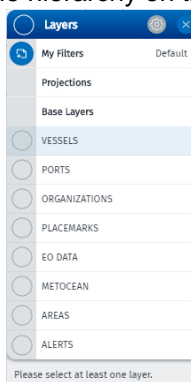
Settings may be managed by clicking on the cog  at the top of the Layers panel. Once selected the cog turns grey and all the layers, except the Base Layers and the Projects, become selectable and can be managed:

Figure 15 Layer settings

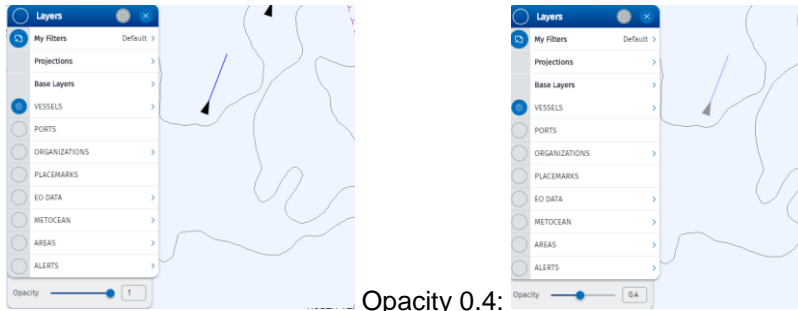
- Order: dragging and dropping each option to define hierarchy on the map (see example below);



Initial hierarchy:  Final hierarchy: 

- Opacity: selecting the intended layers;

Select the layer, and choose the level of Opacity for that layer



Opacity 1:

Opacity 0.4:



### 6.3 Map Projections and Base Layers

The SEG co-ordinate system is WGS 84. The default map projection is World Mercator (ESPG:3395). The user can select other projections by expanding the Projections layer.

The preferred map base layer can be selected: nautical charts from CMAP (Base and Standard), Bing satellite images, Bing and OpenStreetMap.

### 6.4 My Filters

Users can create groups of selected layers to be loaded later through a list of saved filters called ('My Filters'). The steps to create a new selection group are:

1. Select the Add filter button 
2. Edit the name of the group using the Edit button 
3. Select all the layers to be associated with that group
4. To not apply any selection to any particular group, leave Default filter selected


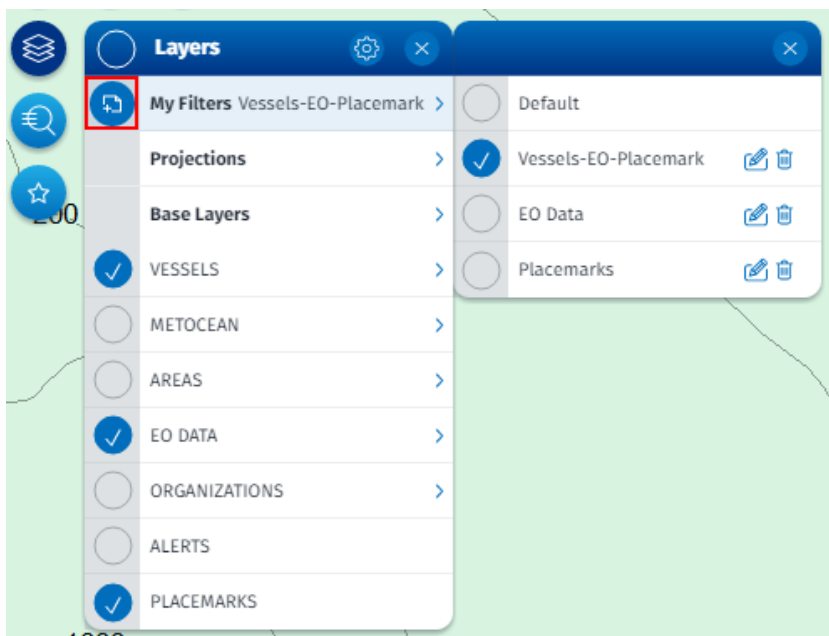
Delete  and edit  options are available for each saved layer selection.

Figure 16 Filters



## 7. Vessel information

The most recently reported vessel position within the **last 24 hours** from any reporting source is displayed on the map (T-AIS, Sat-AIS, LRIT, VMS) according to the user's access rights.

The Vessels Layer Symbology may be selected from the following options: IALA, Data Source, Vessel Type, Target Age and Voyage Information.

The Layers menu allows the user to turn on and off the display of the vessel Positions and the vessel Tracks. The display of vessel positions on the map can be filtered by: Position Source, Vessel Flag, Vessel Type (PSC Types), Navigation Status (AIS), User Risk Status, Voyage Information (SSN enrichment information).

Figure 17 Vessel information

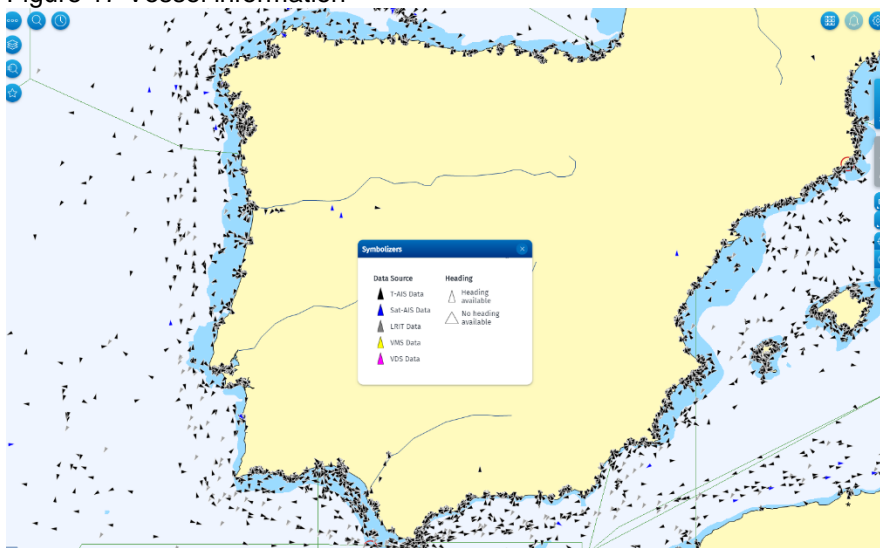
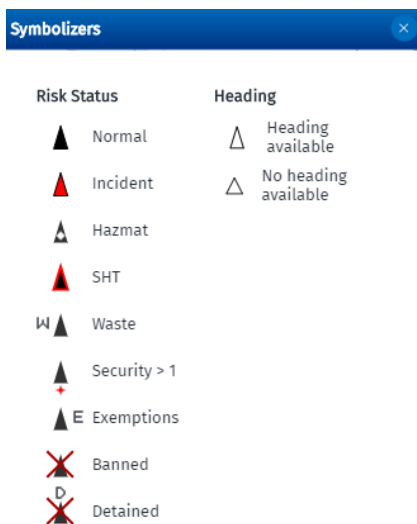


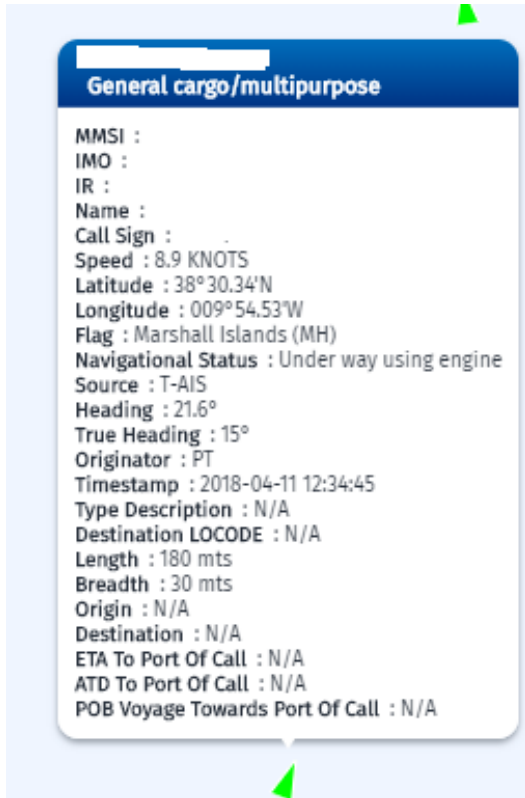
Figure 18 Vessel - Voyage information (SSN enrichment)



### 7.1 Tooltips

The tooltip shows summarised information for the vessel selected. Tooltips are configurable from Client Preferences/Labels tab. The options available are Name, MMSI, IMO, (Position) Source, Call Sign, IR<sup>2</sup>, Heading, True Heading, Speed, Latitude, Longitude, Flag, Navigational Status, Type Description, Length, Breadth, Destination, Destination LOCODE, Originator, Origin, ETA to Port of Call, ATD to Port of Call, POB Voyage Towards Port of Call, and Timestamp.

Figure 19 Vessel Tooltip



## 7.2 Select vessels

Clicking on a vessel selects it. A blue circle surrounds the ship indicating it is selected. Multiple vessels can be selected holding the Shift key and then selecting multiple vessel(s). Alternatively, the Draw Tool/Selection can be used to select one or more vessels.

Figure 20 Selected vessel's indicated by blue circle



<sup>2</sup> The internal reference number is a unique vessel reference number for EU flag fishing vessels. It is established by the Regulation (EU) No 404/2011 and is composed by the MS code and a unique fishing vessel code.

### 7.3 Command and Info

Clicking on a vessel opens the Command and Info window with information on the vessel and the possibility to request more details about the vessel and its associated voyages.

Figure 21 Command and Info window with vessel and voyage information

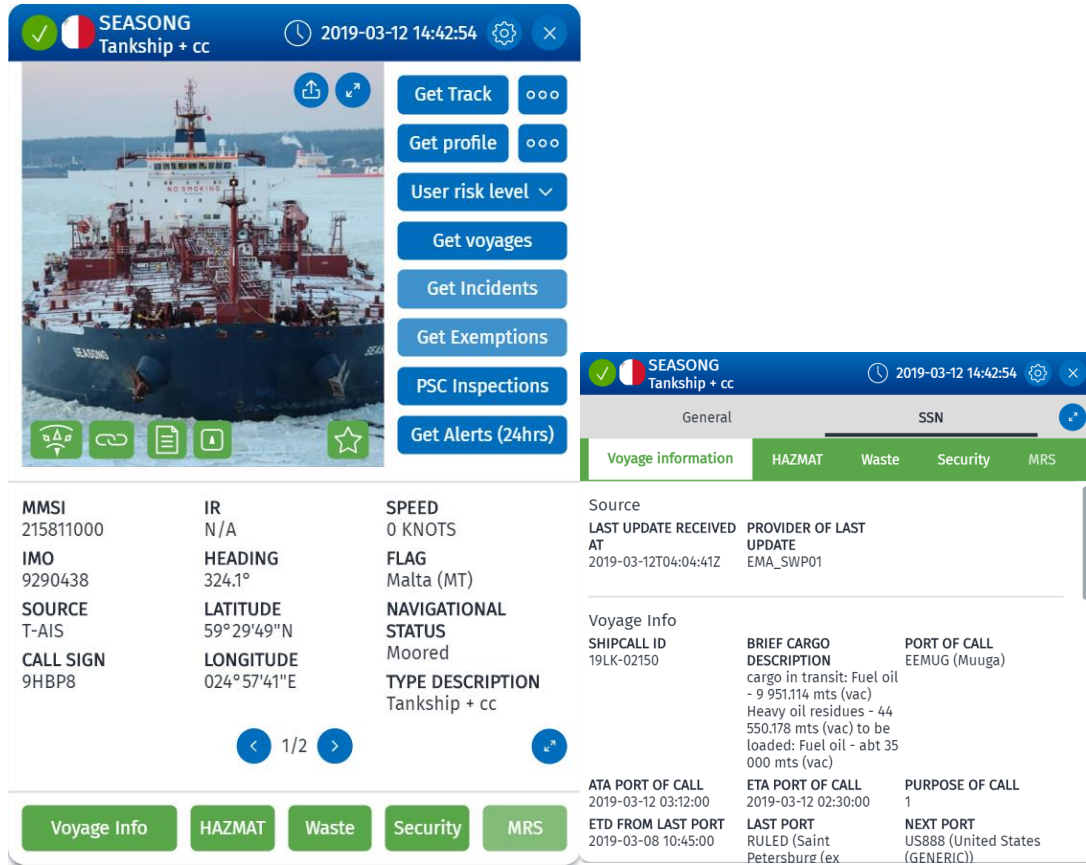

















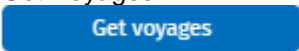





Table 2 Vessels Command and Info Window Functions


Menu Items	Description	Options
Position validation flag  /  / 	Validates if the ship position is consistent with the previous position received (calculated based on the distance between positions and timestamp, and if the resulting speed is under 50 knots)	<ul style="list-style-type: none"> <li>- Valid</li> <li>- Invalid</li> <li>- Unable to validate (previous position not available)</li> </ul>
Upload image/GA plan 	Upload an image/General Arrangement Plan associated with a vessel	
Expand image 	Expand/close image to full panel mode	
Equasis 	External link to Equasis website	
Marine Traffic 	External link to Marine Traffic website	

		
<p>Integrated Ship Profile (ISP) datasheet</p> 	<p>Integrated Ship Profile report generates an ISP Data Sheet (PDF file) with aggregated information on the vessel including last position received and recent SSN reporting information.</p>	
<p>Fisheries</p> 	<p>External link to the Community Fishing Fleet Register (CFR), from the European Commission. (For fishing vessels only)</p>	
<p>Add to Favourites</p> 	<p>Add the vessel to the user's favourites list</p>	<ul style="list-style-type: none"> <li>- Add</li> <li>- Saved</li> </ul>
<p>Follow vessel</p> 	<p>Situate the location of the selected ship in the centre of the map. The map will move when the position reports are refreshed.</p>	
<p>Get Track</p> 	<p>The vessel track for the last 24 hours, derived from all the position reports the user is authorised to view.</p> <p>'Advanced' historical track , allows selection of the tracking data system(s) used and the time period up to the last 12 months. A maximum limit of 10,000 positions may be reported in a single vessel track query.</p>	<ul style="list-style-type: none"> <li>- Position Sources</li> <li>- Fuse and smooth</li> <li>- SSN Enrichment</li> <li>- Extrapolate</li> </ul>
<p>Get profile</p> 	<p>The profile provides aggregated information on the vessel reported in SSN, and the vessel historical track for the last 24h derived from all the position reports the user is authorised to view.</p> <p>'Advanced' profile , allows a selection of information reported in SSN related to the ship for the time period specified by the user up to the last 12 months.</p>	<ul style="list-style-type: none"> <li>- Vessel Tracks per position source</li> <li>- SSN Voyage</li> </ul>
<p>LRIT request</p>	<p>LRIT authorised users can request LRIT position</p>	<ul style="list-style-type: none"> <li>- Access type</li> <li>- Request type</li> <li>- Time range</li> </ul>
<p>User Risk level</p> 	<p>The user may assign a risk level to a vessel. This categorisation is only seen by the user that assigns the risk level. It can be saved and re-used in another session.</p> <p>To remove the risk associated to the vessel just click on risk level and set it back to None</p>	<ul style="list-style-type: none"> <li>- High</li> <li>- Moderate</li> <li>- Low</li> <li>- None</li> </ul>

<b>Get Voyages</b> 	The TTT will present a Table with expected voyages (up to 10), the active voyage and most recent voyages (last 10 ship calls) reported in SSN.	The Table shows voyage information: Port of Call, ATA/ATD Port of Call, Anchorage (Y/N), ETA to Port of Call, ETD from Port of Call, Last Port, ETD from Last Port, Next Port, ETA to Next Port, POB, Position in Port of Call, Hazmat, Waste, Security
<b>Incidents</b> 	The TTT will present a Table with Incident Reports associated with the vessel reported in SafeSeaNet. By selecting a row in the Table a pop-up window with details of the incident will be displayed. Access to this information is restricted to SSN authorised users	
<b>Get Exemptions</b> 	The TTT will present a Table with Exemptions associated with the vessel reported in SafeSeaNet. By selecting a row in the Table a pop-up window with details of the Exemption will be displayed.	
<b>PSC Inspections</b> 	Public information retrieved from THETIS for PSC inspections associated with the vessel	

The Vessels Command & Info window displays information stemming from 3 different sources: an operational database of the SEG called OVR, the Central Ship Database (CSD) and from the position messages (T-AIS or S-AIS, LRIT or VMS).

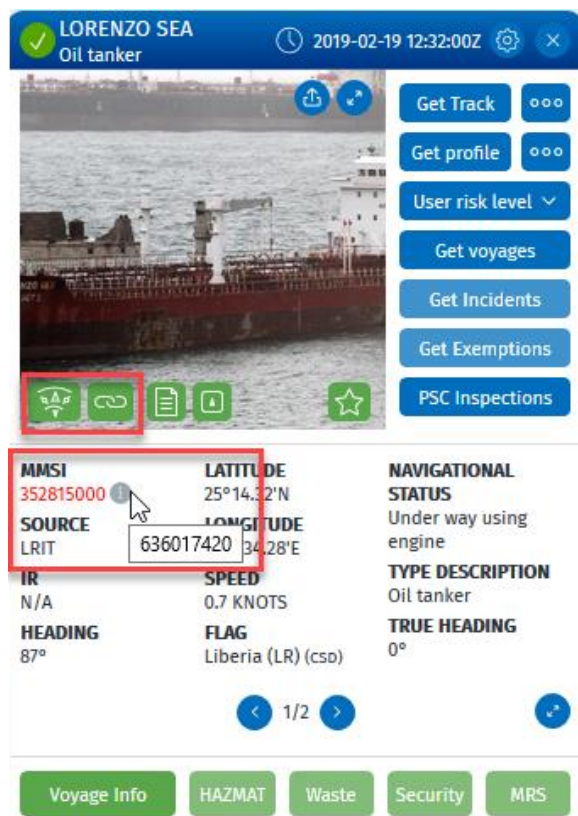
The speed, position (latitude and longitude), navigational status, heading, true heading, come from the position messages (depending on the information source, T-AIS or, S-AIS, LRIT, or VMS). The source which has provided the last position is also shown.

The ship particulars (IMO, MMSI, Call Sign, flag, IR<sup>3</sup> and Ship name, length, breadth) come from the OVR and if some information is missing from the OVR, supplemented with information from the CSD. If there is a discrepancy between the OVR and the CSD, the information from the OVR is displayed in red. Hovering over the symbol  the user can see the information available in CSD for that identifier.

The C&I panel also offers hyperlinks to two external sources for validating ship identifiers: Marine traffic and Equasis.

<sup>3</sup> Displayed only for European fishing vessels. The internal reference (IR) number is a unique vessel reference number for EU flag fishing vessels. It is established by the Regulation (EU) No 404/2011 and is composed of the MS code and a unique fishing vessel code.

Figure 22 Ship Command and Info window – validation of ship identifiers



## 7.4 Voyage information

The Voyage Info button provides updated information on the current voyage of the vessel including:

Source: Last update received at, Provider of the last update

Voyage Info: Ship call ID, Brief Cargo Description, Port of Call, ATA Port of Call, ETA Port of Call, Purpose of Call, ETD from Last Port, Last Port, Next Port, ETA to Next Port, Total Persons on Board, Position in Port of Call

Vessel details: Ship Type, Gross Tonnage, INMARSAT call number, IMO Company Number, Company Name

Certificate of registry: Issue Date, Certificate Number, Location Name, LOCODE

Departure Notification details: POB Towards next port

Arrival Notification details: Anchorage

Pre-arrival 72h notification: Possible Anchorage, Ship Configuration, Planned Operations, Planned works, cargo volume nature, condition ballast water tanks

Information on dangerous and polluting goods (HAZMAT), Waste, Security and MRS, is also available from the row of green buttons on the bottom of the Command & Info panel.

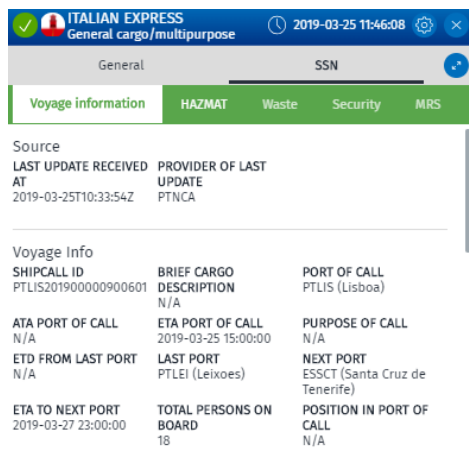
The buttons are dark green (active) if the corresponding information is available and greyed out (inactive) if the corresponding information is not available.

By selecting one of the active buttons (HAZMAT, Waste, Security, or MRS), the user is directed to the SSN information Panel. Once in the SSN information Panel a summary of the available information is displayed.

The “More information” button requests SSN for more detailed information. Access to this information is restricted to SSN authorised users.



Figure 23 Voyage detailed information from SafeSeaNet



ITALIAN EXPRESS		2019-03-25 11:46:08
General cargo/multipurpose		
General	SSN	
Voyage information	HAZMAT	Waste
	Security	MRS
Source		
LAST UPDATE RECEIVED AT	PROVIDER OF LAST UPDATE	
2019-03-25T10:33:54Z	PTNCA	
Voyage Info		
SHIPCALL ID	BRIEF CARGO DESCRIPTION	PORT OF CALL
PTLIS20190000900601	N/A	PTLIS (Lisboa)
ATA PORT OF CALL	ETA PORT OF CALL	PURPOSE OF CALL
N/A	2019-03-25 15:00:00	N/A
ETD FROM LAST PORT	LAST PORT	NEXT PORT
N/A	PTLEI (Leixoes)	ESSCT (Santa Cruz de Tenerife)
ETA TO NEXT PORT	TOTAL PERSONS ON BOARD	POSITION IN PORT OF CALL
2019-03-27 23:00:00	18	N/A

## 7.5 Get voyages

The TTT will show a new Tab with a Table of the voyages associated with the vessel. The button is dark blue (active) if the Voyage information is available and greyed out (deactivated) if corresponding information is not available.

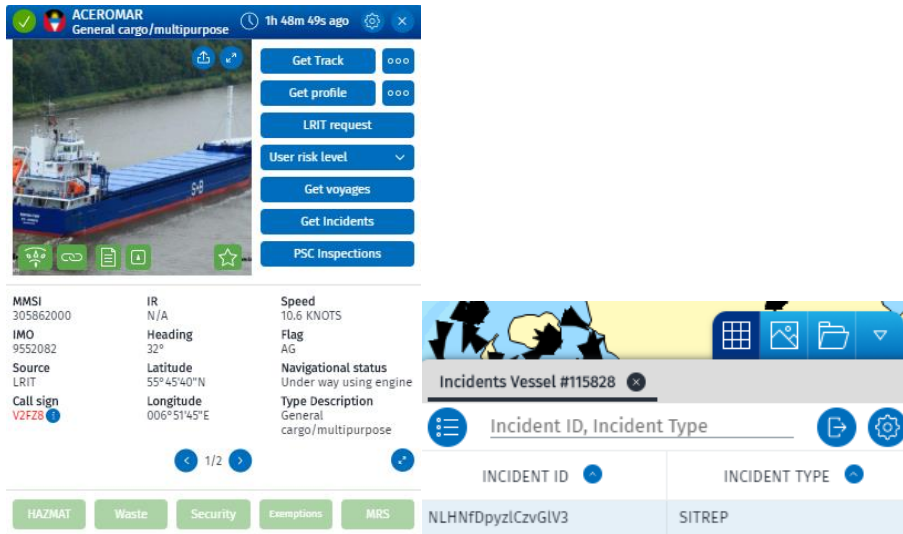
This information has been reported in SafeSeaNet. Access to this information is restricted to SSN authorised users.

The table includes the active (current) voyage, the next planned voyages (up to 10 planned voyages) and the last 10 last voyages. The Table contains the following information: Port of Call (LOCODE/Location name), ATA Port of Call, ATD Port of Call, ETA Port of Call, ETD Port of Call, Last Port, ETD from Last Port, Next Port, ETA to Next Port, POB Voyage towards Port of Call, Position in Port of Call, HAZMAT (Y/N), Waste (Some, None.)

## 7.6 Get Incidents

The TTT will show a new Tab with a Table of active Incidents associated with the vessel. The button is dark blue (active) if the Incident information is available and greyed out (deactivated) if corresponding information is not available. This information has been reported in SafeSeaNet. Access to this information is restricted to SSN authorised users.

By selecting the Get Incidents button the TTT panel tabular view will open and show the Incident Id and the Incident type. To request more details from SSN the user needs to click on the row in the Table. A new window with further details of the selected Incident report will be displayed



The incidents will only be available for a limited time. The table shows the number of days an incident is available per type of incident reported.

Table 3 Incident type

Incident type	Days available
POLREP	30 days
Waste – waste undelivered	15 days
Failed Notification	7 days
VTS Rules Infringement	7 days
Banned Ship alert	7 days
Insurance Failure	7 days
Pilot or Port Report	7 days
Other	7 days
SITREP	5 days
Lost and Found Objects (LFC)	3 days

### 7.7 PSC Inspections

The TTT will show a new Tab with a Table of PSC Inspections associated with the vessel. The button is dark blue (active) if PSC information is available and greyed out (deactivated) if corresponding information is not available.

The information shown is public information retrieved from THETIS.

The following information is provided: Place of inspection, Inspection ID, Date of Final Visit, Date of First Visit, Inspection Type, Number of deficiencies, Reporting Authority, Detained, Duration of Detention.

By selecting a row in the Table, a new window with further details of the selected Inspection will be displayed.

### 7.8 Get Alerts (24 hrs)

The TTT will show a new Tab with a Table of Alerts that have been triggered for this vessel within the previous 24 hours. The button is dark blue (active) if Alerts is available and greyed out (deactivated) if Alerts are not available.

The information is only for users which have permission to receive personalised alerts from Automatic Behaviour Monitoring (ABM) tools.

## 7.9 Get Exemptions

The TTT will show a new Tab with a Table of valid (active) Exemptions associated with the vessel. The button is dark blue (active) if Exemption information is available and greyed out (deactivated) if corresponding information is not available. This information has been reported in SafeSeaNet and is only available to authorised SSN Users. By selecting a row in the Table, a new window with further details of the selected Exemption will be displayed.

Table 4 Exemption type

Exemption type
Pre-Arrival
HAZMAT
Security
Waste
Waste Notification
Waste Delivery
Waste fees

## 8. EO Data: images and products

By turning on the Earth Observation (EO) Data layer, the SEG will display the frames of the satellite images planned (or 'Tasked') to be acquired ('EO Acquisitions') in the next 72 hours (+3 days) as well as the frames of the EO images which have been delivered within the last 72 hours (- 3 days).

The user will see only the EO data for the operation(s) they have permission to view. Under the EO Data Layer, ensure that all sub-layers are selected; Synthetic Aperture Radar (SAR) Imagery, Optical Imagery, EO Optical Products and EO SAR Products.

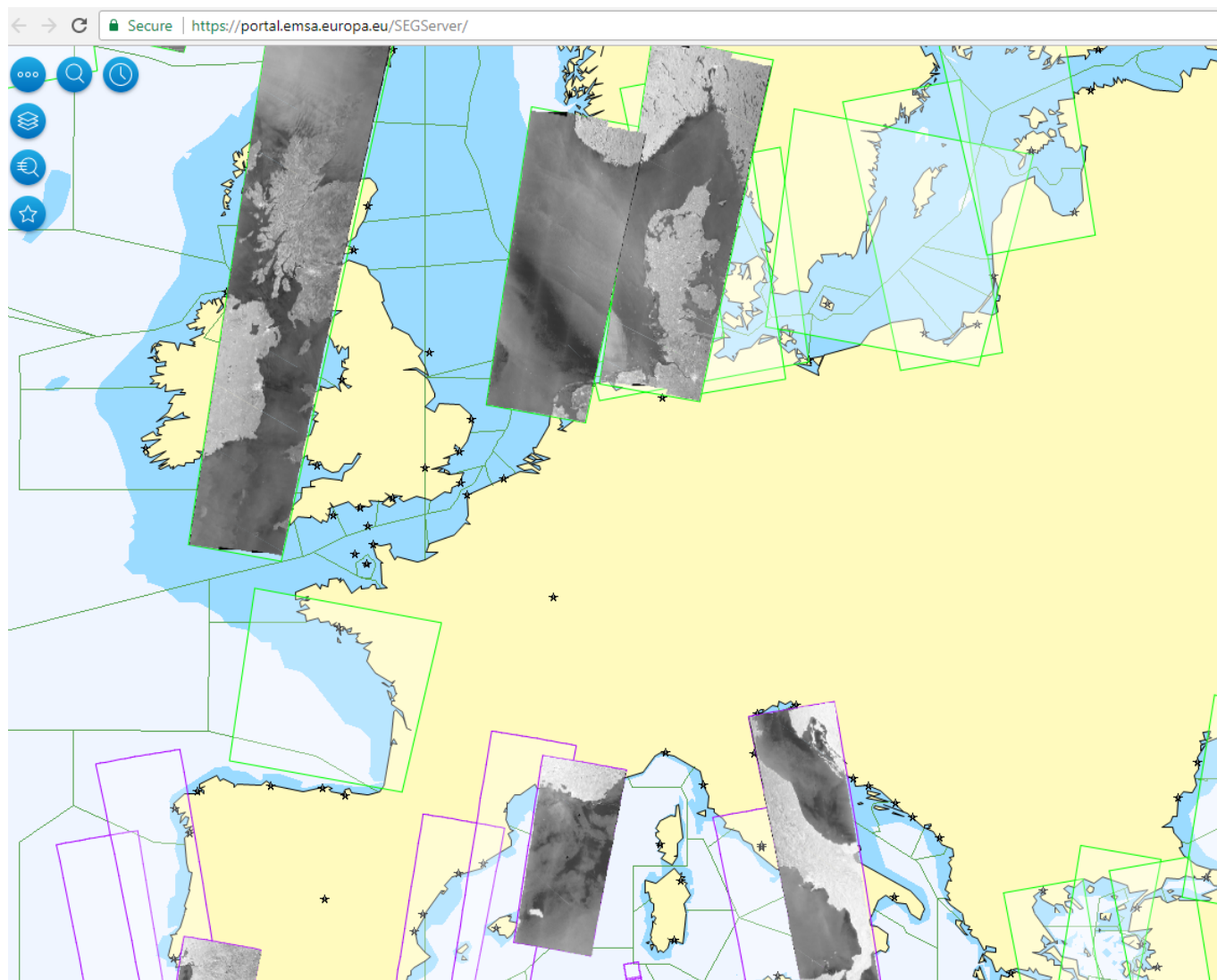
Products refer to the objects which have been detected, or derived, from analysis of the satellite imagery, for example, detected vessels, oil spills, human activities, SAR wind and wave swell.

The Frames are colour coded to indicate their status (e.g. delivered, tasked, archived, cancelled/error/anomaly and pending). The Symbology for the SAR Imagery layer and the Optical imagery layer may be displayed using the “i”

Services (images and products) acquired in the past can be searched using the **Advanced Search** function. A time window, and/or an area query must be defined. The Advanced Search may also be used for a search for a specific service ID. Products or Objects detected on the image such as oil spills and detected vessels can be searched for an unlimited time.

It is possible to view EO images up to 18 months (rolling window) in the past. Images older than 18 months will have a status 'Archived'. The image acquisition frame will be visible. Upon a user request to EMSA "Archived" images may be retrieved and made visible on the map.

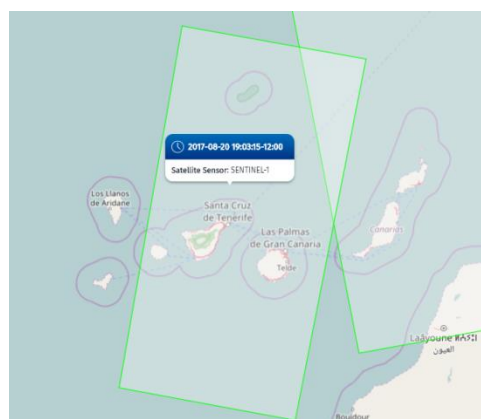
Figure 24 EO images (planned frames and delivered images displayed on map)





### 8.1 Tooltips

Tooltips showing summarised information for the selected EO scene. Tooltips are configurable from the Client Preferences/Labels.

Figure 25 Tooltip EO Scene



## 8.2 Command and Info

Clicking on an EO scene highlights the scene selected and opens the “EO Command and Info” window. Clicking on the Camera icon  displays the EO image on the map. Clicking on the Edit Image icon  allows the user to edit the EO image Brightness, Contrast and Alpha settings. Clicking on the Camera icon again removes the display of the EO image from the map.






The Command and Information window provides details on the EO image. Depending on the Operation you are in, the EO Command and Info Window allows the user to show or hide information on the map, including Activities, Detected Vessels, Potential Oil Spills, and SAR Wind and Swell information.

The ‘Download EO’ button allows the user to save the image locally. As a pre-condition for access, users are requested to confirm compliance with the EO End User License Agreement. The ‘Alert Report’ button, allows the user to save the Alert reports which are generated by the service and usually sent by email. For the CleanSeaNet oil spill and vessel detection service these can be CleanSeaNet Reports, Alert Reports and Oil spill warnings. The reports are customised for each country, so the exact layout and information depends on the user.

Figure 26 EO Scene Command and Info Window



Table 5 EO Command and Info

Menu items	Description	Options
Expand/Collapse 	Expand/Collapse the image in full panel mode	
Show or hide EO image on map 	Show or Hide EO image on map	on and off map
EO Image settings 	Reset EO image Brightness, Contrast, Alpha	
Show/Hide Activity 	Show activities detected in this service on top of the image and in tabular view.	on and off map
Show/Hide Detected Vessels 	Show or hide vessels detected in this service on top of the image (and in tabular view?). Vessels are displayed as correlated or uncorrelated, with estimated heading, if known.	on and off map

<p>Show/Hide potential oil spill</p> <p><a href="#">Show Potential OS</a></p>	<p>Show all possible spills detected in this service on top of the image and in tabular view.</p>	<p>on and off map</p>
<p>Show SAR Wind</p> <p><a href="#">Show SAR Wind</a></p>	<p>Show wind speed and direction detected in this service on top of the image.</p>	<p>on and off map</p>
<p>Show SAR Swell</p> <p><a href="#">Show SAR Swell</a></p>	<p>Show SAR wave swell and direction detected in this service displayed on top of the image</p>	<p>on and off map</p>
<p>Download EO</p> <p><a href="#">Download EO</a></p>	<p>Download the EO product. The button is deactivated (greyed out) if not information is available. When the download is completed, a copy of the request is stored in the Recent tab.</p>	<p>Accept the End User License Agreement before the download starts.</p>
<p>Alert Report</p> <p><a href="#">Alert Report</a></p>	<p>Download alert reports for that image. The button is deactivated (greyed out) if not information is available. When the download is completed, a copy of the request is stored in the Recent tab.</p>	

### 8.3 Potential Oil spills

Potential oil spills are displayed on the map as oil droplets, or as polygons, depending on the zoom level. By hovering over an oil droplet or a polygon a Tooltip with summary information on the possible spill is displayed. Clicking on the oil droplet or polygon will open the Command and Info window. Information on the potential spills is available from the TTT panel.

Figure 27 Potential oil spill shown as droplets on map and TTT panel.

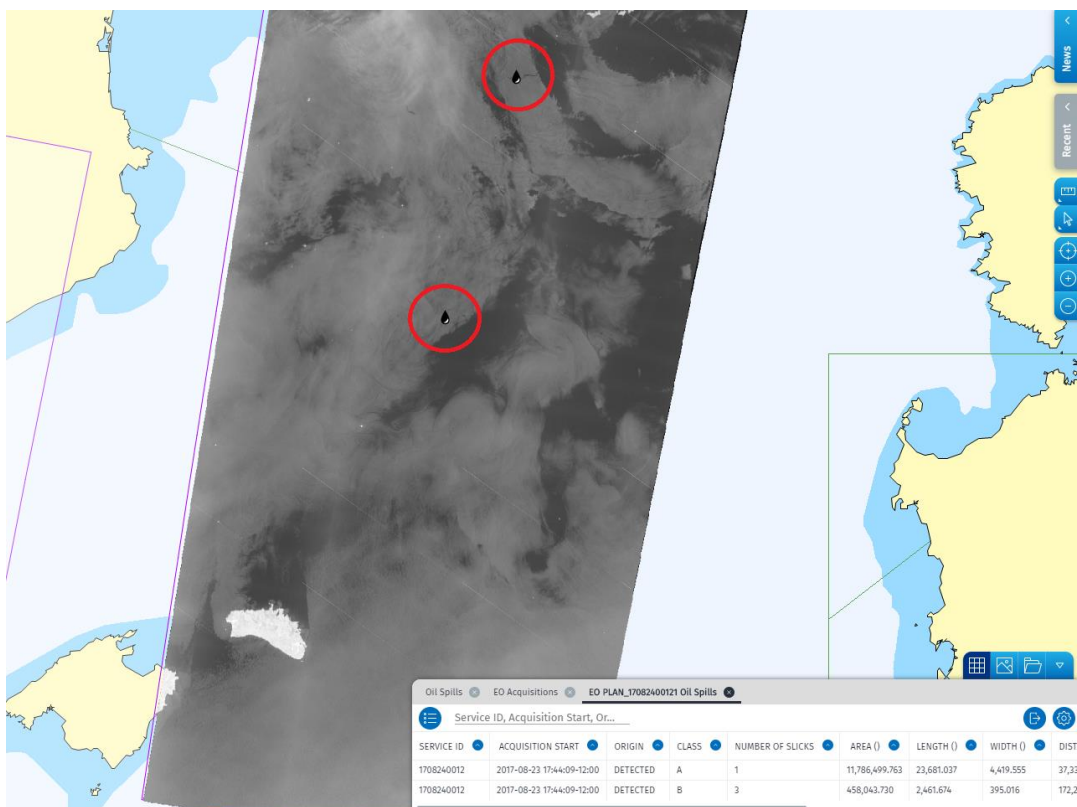
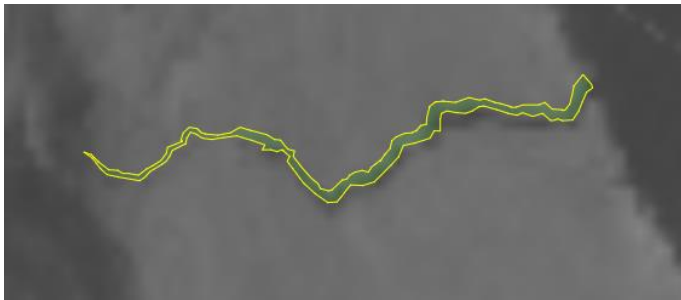


Figure 28 Potential oil spill shown as a polygon on the map



### 8.4 Detected Vessels

Vessels which are detected in the EO image are reported as correlated or non-correlated. A correlated vessel refers to a target, which has been detected on the EO image, that has been cross-referenced and associated with a reporting position from a vessel (T-AIS, VMS, LRIT, SAT-AIS) for which the user has permission. A non-correlated vessel shows that the service was unable to associate a reporting position.

Figure 29 Detected vessels – correlated and non-correlated.

**SAR VDS Symbology**

Correlation	Heading
Correlated	Heading available
Uncorrelated	No heading available

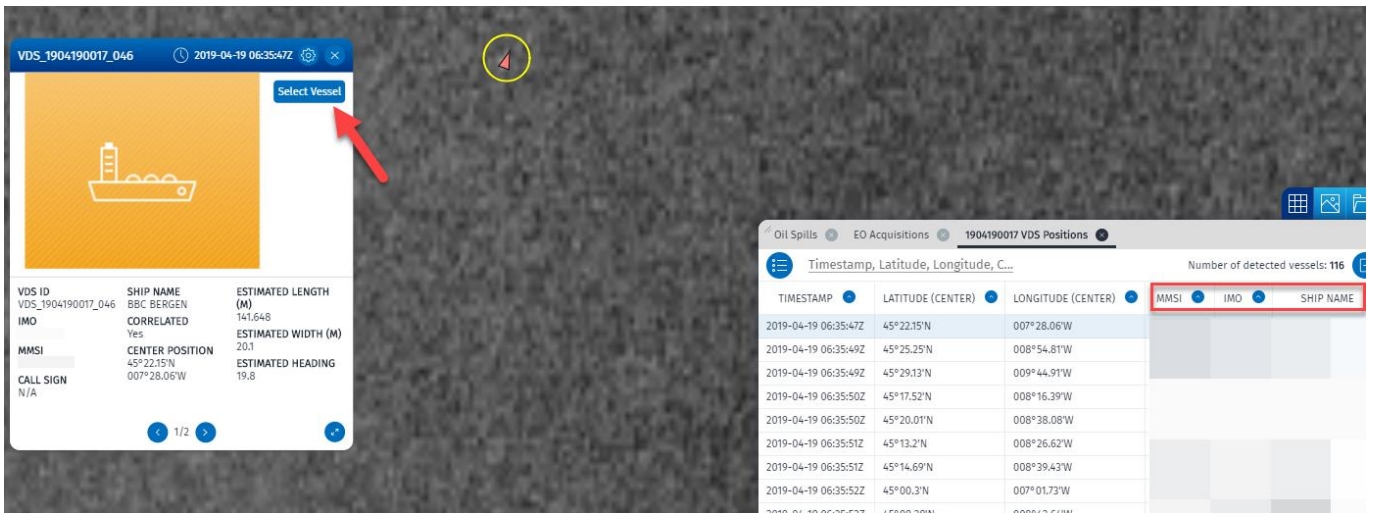
  

TIMESTAMP	LATITUDE (CENTER)	LONGITUDE (CENTER)	MMSI	IMO	SHIP NAME
2019-04-19 06:35:39Z	45°53.54'N	008°07.37'W	N/A	N/A	N/A
2019-04-19 06:35:40Z	45°52.95'N	008°13.68'W	N/A	N/A	N/A
2019-04-19 06:35:43Z	45°12.21'N	004°39.5'W	636015990	9650999	NIMERTIS
2019-04-19 06:35:47Z	45°22.15'N	007°28.06'W	305511000	9437153	BBC BERGEN
2019-04-19 06:35:49Z	45°25.25'N	008°54.81'W	256174000	9350850	ARCTIC BREEZE
2019-04-19 06:35:49Z	45°29.13'N	009°44.91'W	310453000	9262209	LNG AKWA IBOM
2019-04-19 06:35:50Z	45°17.52'N	008°16.39'W	636018337	N/A	N/A
2019-04-19 06:35:50Z	45°20.01'N	008°38.08'W	538004160	9349564	AL RAWDAH

The VDS details are available in the Table as a new Tab. By clicking on a table row the map will re-centre on the VDS object. A C&I window opens for the VDS object.



Figure 30 VDS Object C&I window



Clicking on 'Select Vessel' button on the VDS C&I window directs the map to the most recently reported position of the identified vessel.

## 8.5 SAR Wind and Swell

Wind and swell information derived from the SAR image may be displayed on the map.

Figure 31 SAR wind

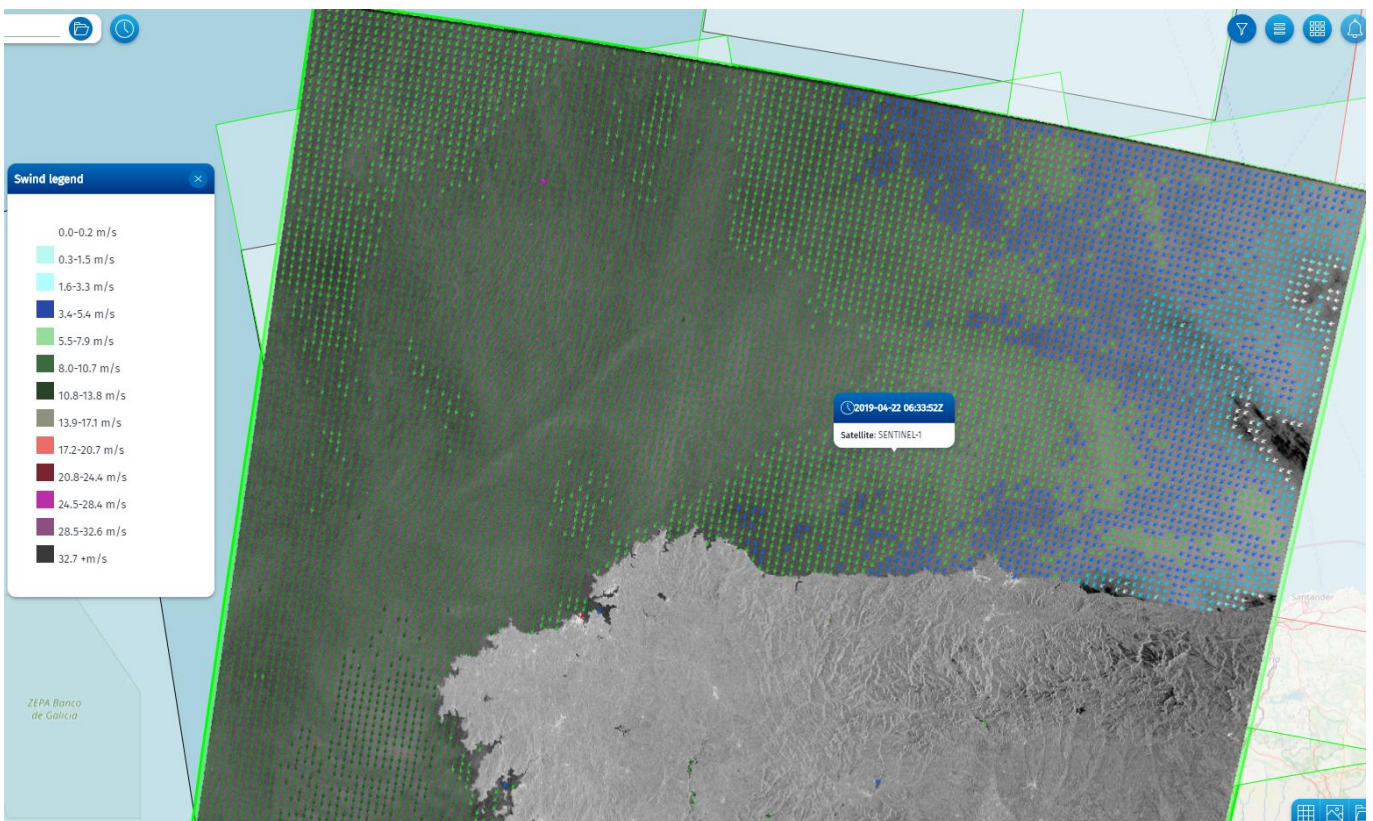
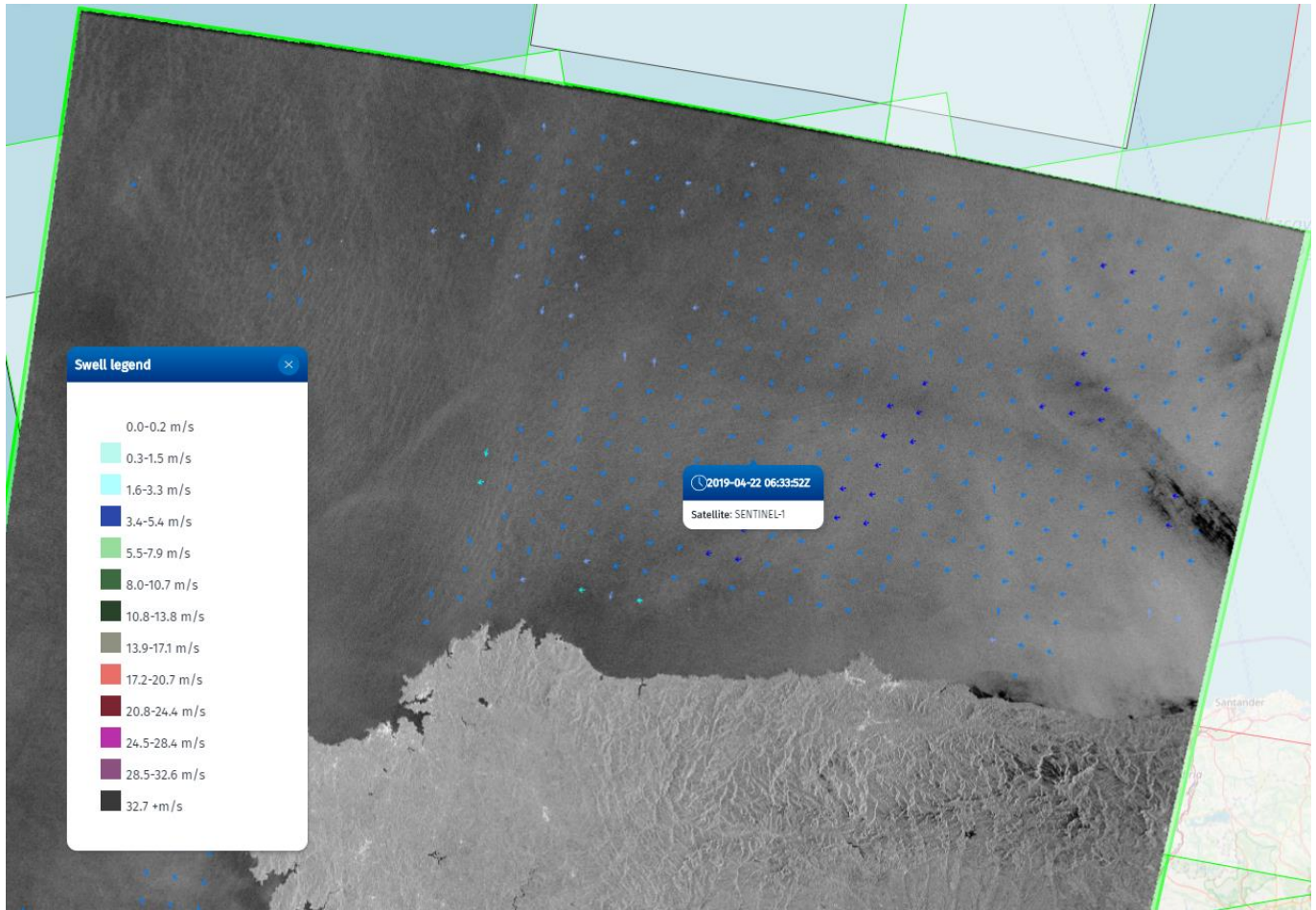


Figure 32 SAR swell

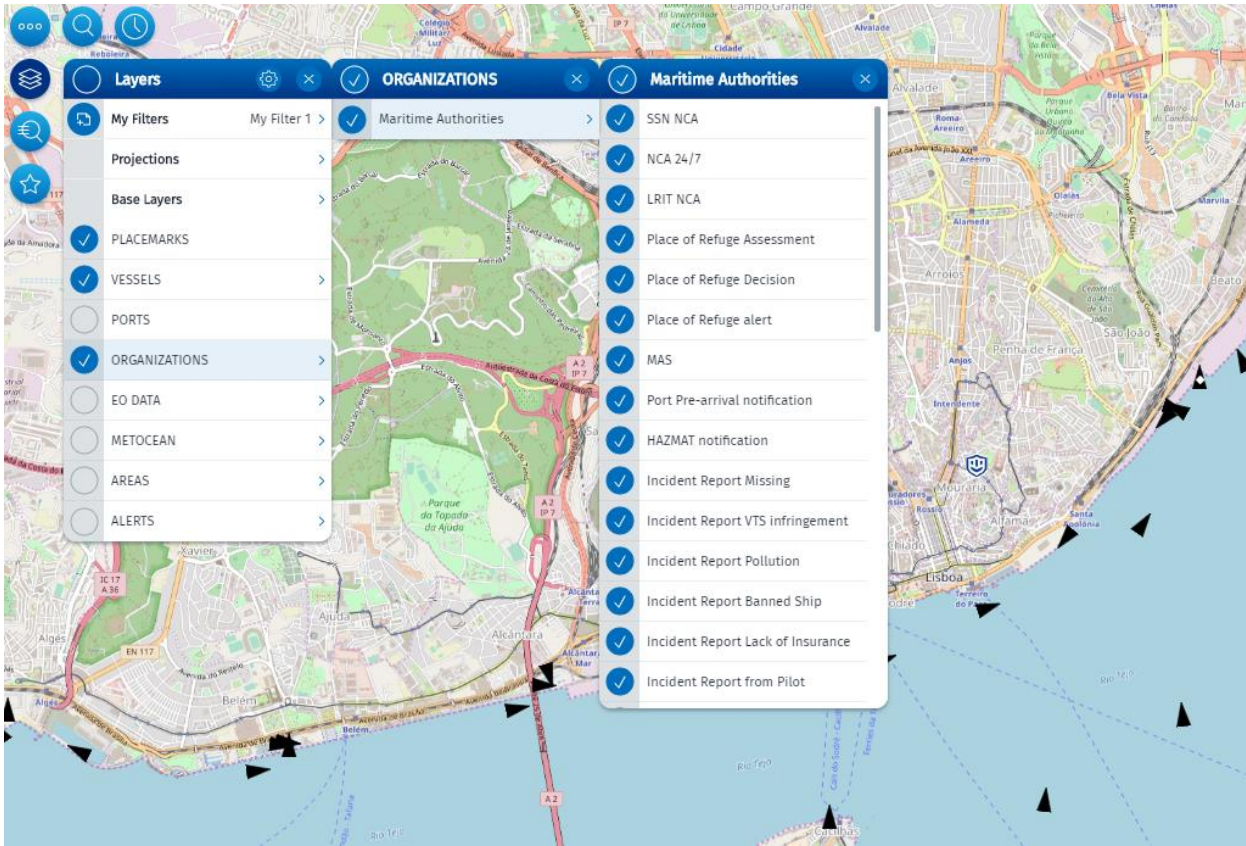


## 9. Organisations


The organizations information is available from the Central Organizations Database (COD) and is displayed in the SEG through the Organisations layer menu. Maritime Authorities information as declared by Member States to carry out the VTMIS functions in accordance with Directive 2002/59/EC (Article 22) are displayed in SEG. Selecting Maritime Authorities layer will expand a panel to the right with the related duties layers.

It is possible to display organisations on a map; Search for organisations based on name; Filter organisations based on duties (e.g. SSN NCA, MAS, VTS, etc.) Find contact details (address, phone, e-mail, etc.) of different organisations. Shows areas of responsibility associated to a duty.

Figure 33 Organizations Layer and filtering window

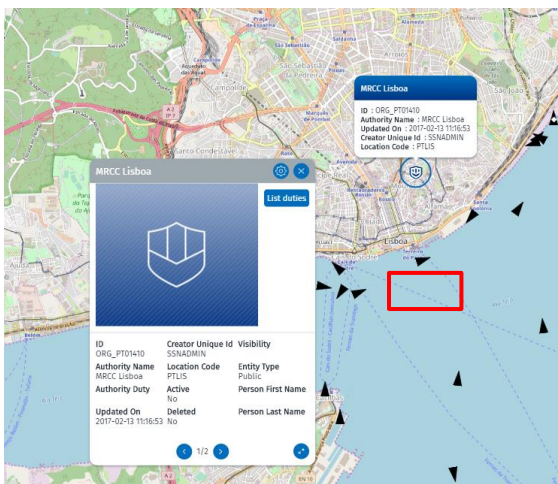


### 9.1 Organisations Tooltips and Command & Info

The organizations are displayed in the map with this symbol . By selecting an organization the tooltip shows summarised information for the organization selected.

Clicking on an organization selects it. A blue circle surrounds the organization indicating it is selected. It also opens the Command & Info window which presents more detailed information for the selected organization and allows to list the duties associated to it ( [List duties](#) ). The list of duties is available from the TTT panel.

Figure 34 Organization Tooltip and Command & Info window



## 10. Ports and Offshore installations

The SEG is Integrated with the Central Locations Database (CLD) to display ports and off-shore installations. The Central Location Database (CLD) is used as a reference for locations by all maritime applications of the SSN ecosystem as well as national systems of the Member States (SSN and NSW).

The CLD contains LOCODES listed in the UN/LOCODE list, SSN specific locations and port facilities stemming from the IMO Maritime Security module of the Global Integrated Shipping Information System (GISIS). The SEG currently only displays LOCODEs corresponding to ports and off-shore installations.

The Ports and offshore installations layer may be displayed on the map. By selecting a Port, the tooltip shows summarised information for the port selected. It is possible to List Vessels in Port, List Expected Arrivals and List Recent Departures. When available, for some Ports, it is possible to List Port Facilities.

## 11. Search

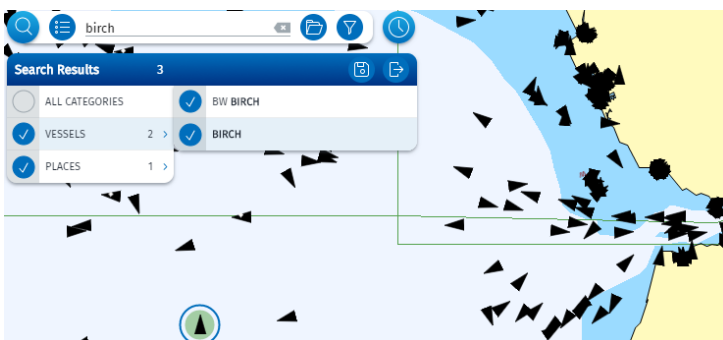
Two types of Search functions are available, the “Smart search” function and “Advanced search” function.

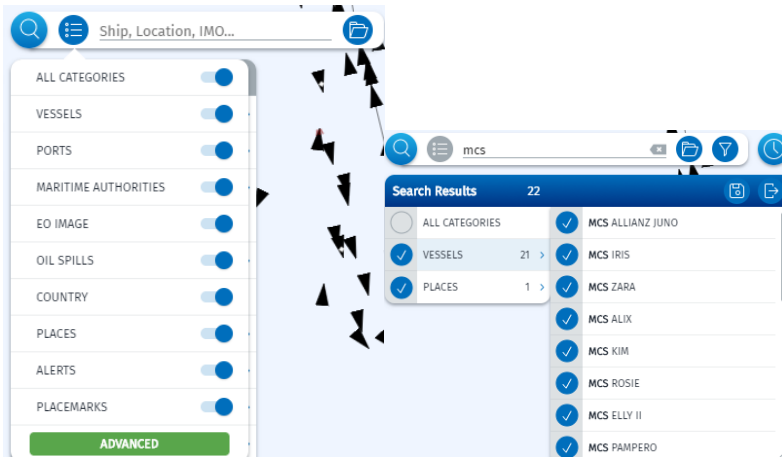
### 11.1 Smart search

Smart Search enables the user to quickly find and filter across different object categories (e.g. Vessels, Ports, Places, EO images, Oil spills, Place marks etc.). No wildcards are necessary. The search must contain at least 3 characters (letters, numbers or symbols) of the identifier being searched. The Smart Search returns the number of hits in each category based on combination of the letters and or numbers used. Selecting a category expands the list.

**TIP:** The **vessel** smart search will only search for vessels that have reported a position within the last **24 hours**. To find a vessel that has **NOT** reported a position in the last 24 hours, the Advanced Search function must be used.


Figure 35 Smart Search







The Smart Search function will search for: **Vessels** (IMS, MMSI, IR, Name or Call Sign) which have reported a position within the last 24 hours regardless of the positioning system. Vessels that have not reported a position in the last 24 hours will **NOT** be identified by the Smart Search. The Advanced Search function must be used to search for vessels that have may have not reported a position within the last 24 hours.

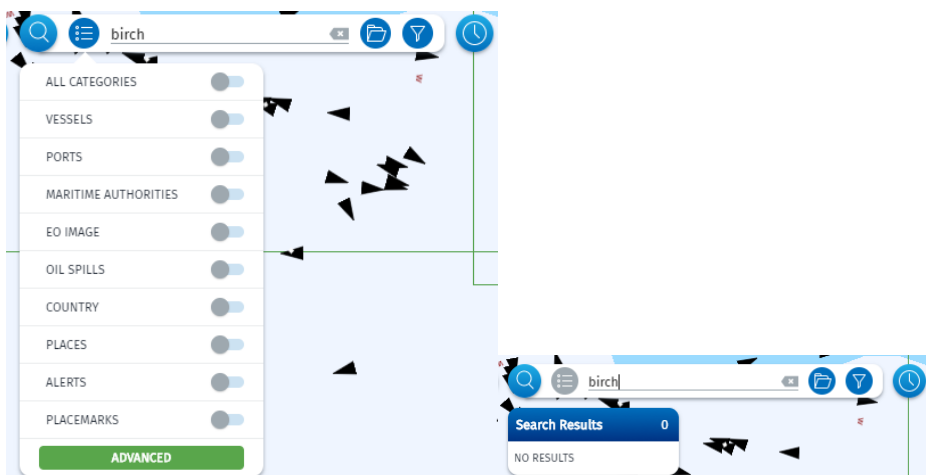
**EO data** may be searched **within a time window -3 / +3 days**. The Advanced Search function must be used to search for EO data and products outside this time window.

Search results objects are marked in green .

An option to save the search results is also available by clicking on .

A maximum of 100 search results may be saved

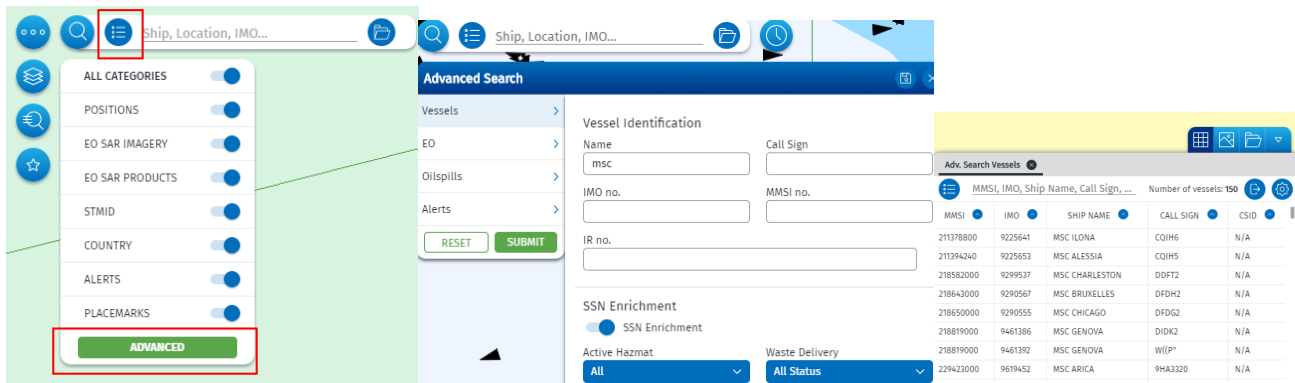
Results can be exported by clicking on . If no category is selected, then the smart search result will be “No Results”.



## 11.2 Advanced search

The advanced search allows the user to search for a specific object Vessels, EO data, Oil spills and ABM Alerts with specific parameters. The results are displayed in the TTT tabular view.

Figure 36 Advanced Search



Results can be exported by clicking on  in the TTT panel tabular view.

To locate a specific vessel on the map, select the vessel from the Advanced Search Vessels in the TTT panel tabular view.


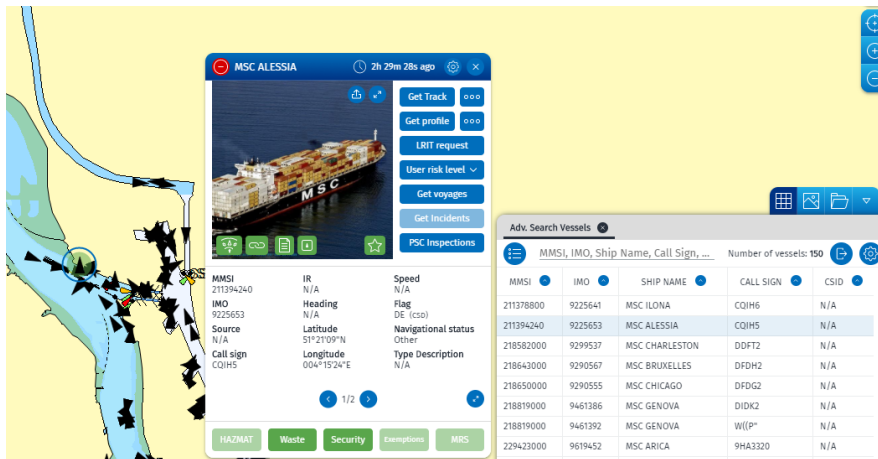


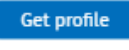

The search results will be marked in green .

Figure 37 Advanced Search identified vessel



## 12. Query

The Query menu allows a user to make a query on the map of five types:

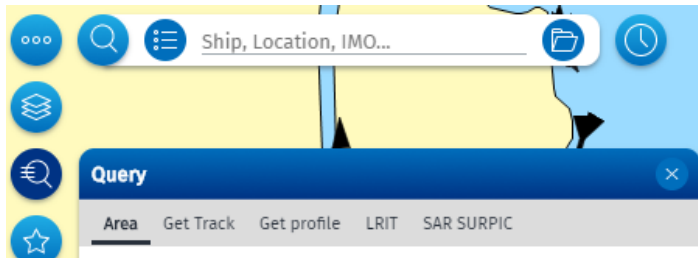
- Area
- Get Track (also available via the Command & Info panel   as Advanced Get track)
- Get profile (also available via the Command & Info panel   as ISP Report)

Depending on the users' permission settings and access rights, options for LRIT and SAR SURPIC may also be available.

- LRIT

## ■ SAR SURPIC

Figure 38 Query options



### 12.1 Area Centric Query (ACQ)

An area on the map may be searched within a defined time range. Depending on the user permissions an area can be searched for for vessel tracks, first/last positions of vessels, ABM alerts, EO Images and EO Products (possible oil spills, VDS).

### 12.2 Drawing, Importing and Editing an Area

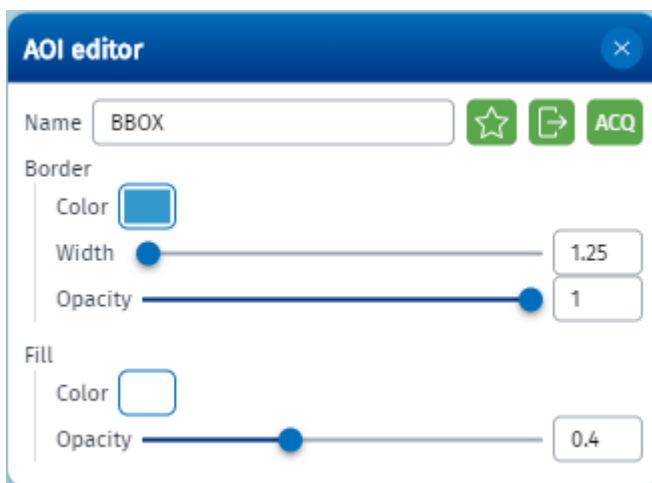
To define the area the user can draw on the map using the draw tools



and then select query . Alternatively the user can select the query button and then use the draw tools.

After drawing an area the AOI Editor becomes available.

Figure 39 AOI Editor



The AOI Editor allows the user to rename the area, to change the area border colour, width and opacity and the area fill colour and opacity. The AOI Editor also allows the export of the area as a compressed (zip) shape file. The AOI editor provides the option to open the query window to make an ACQ and to associate the area with an ABM.



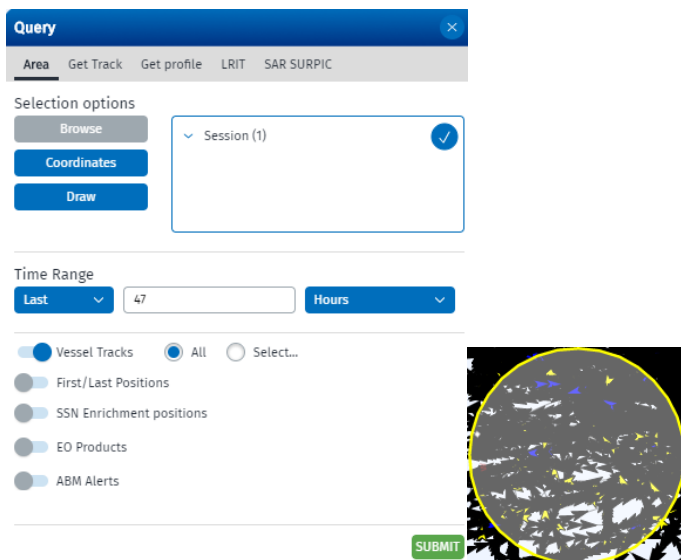
Through the Apps button it is possible to import an area into the SEG **Import**. The import file must be a compressed (zip) shape file.

### 12.3 Area Centric Query for Vessels

After defining the area, the user selects the time range for the query and then clicks on submit. To avoid a user creating a very large data query, limitations in terms of size of the area and number of vessels that can be retrieved have been pre-defined.

The user will not be able to submit the query if the area defined is too large, or, if the number of data elements is more than 10,000. Vessel tracks can be searched up to 2 years in the past. However, the maximum time range for a vessel track for an **area centric query is limited to 24 hours**.

Figure 40 Area centric query for vessels



The results of the area centric query is available to view in the Table and in the Timeline. The Figure below shows the results of the vessel area centric query in a Table. Click on each row to see the position reports for the selected vessel open in a new tab.

Figure 41 Area centric query for vessels

NAME	IMO	IR	Name	Call Sign	SPEED	LATITUDE	LONGITUDE	FLAG
25000007	926874	N/A	DENIS MURPHY	EIG	0.1 KNOTS	51°54.07'N	008°27.02'W	Ireland (IE)
25000139	N/A	FR400039852	ROSE OF SHARON II	EE27	N/A	51°54.05'N	008°27.23'W	Ireland (IE)
25000261	N/A	N/A	FAUTE	EM97	13.3 KNOTS	51°56.96'N	008°17.47'W	Ireland (IE)
25000285	N/A	FR4000398407	ATLANTIC ROSE	EN27	N/A	51°54.05'N	008°27.27'W	Ireland (IE)
250004208	N/A	N/A	N/A	N/A	N/A	51°50.07'N	008°19.87'W	Ireland (IE)
250004214	9757096	N/A	ARKLOW CAPE	ES49	N/A	51°50'N	008°19.87'W	Ireland (IE)
250006000	9112741	N/A	ALEX	EDK	0.2 KNOTS	51°56.41'N	008°15.34'W	Ireland (IE)
250105800	N/A	IRL800011647	BLOOM M	EP59	N/A	51°48.24'N	008°17.97'W	Ireland (IE)

### 12.4 Area Centric Query for EO images and products

It is possible to make an Area Centric Query for EO products including Oil spill and Vessel Detection Services, EO image frames/footprints for an unlimited time. However only Earth Observation images which have been acquired within the last 18 months will be visible on the map. EO images acquired earlier than 18 months will have an 'Archive' status and will not be shown. EMSA will restore the archived image on the SEG if requested.



## 12.5 Get Track of a vessel

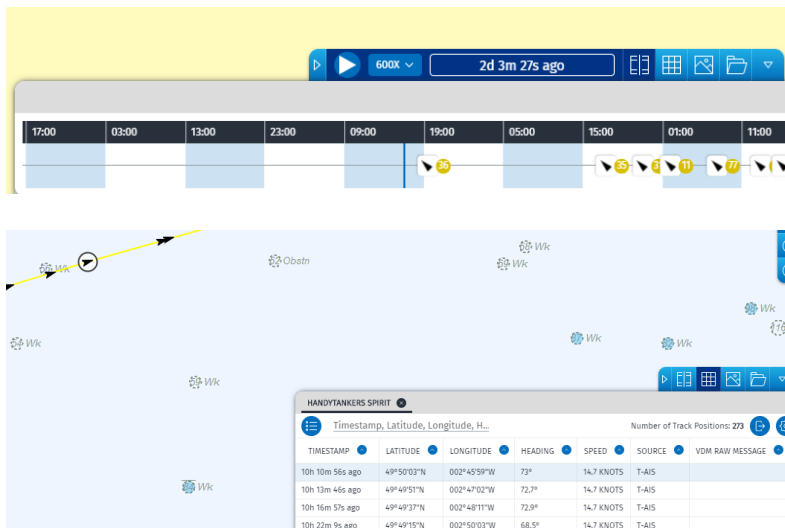
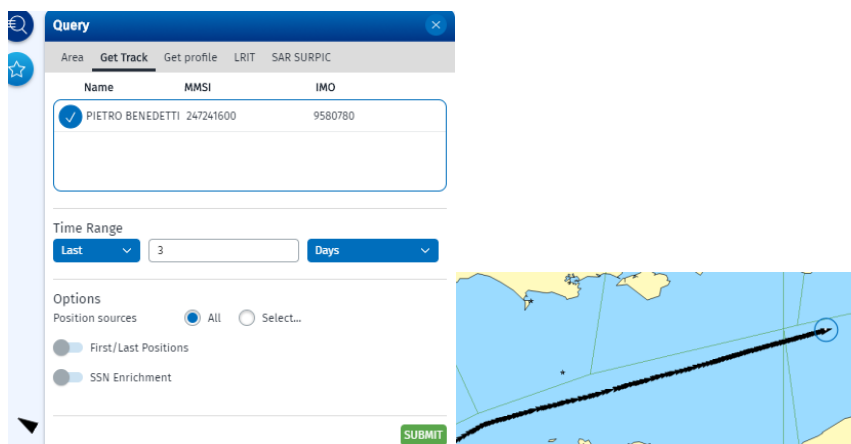
The Get Track of a vessel is based upon the integrated ship positions from all the tracking systems the user is authorised to view,



The Get Track  in the Command & Info panel shows the track of the vessel for the last 24 hours.

To search for tracks beyond 24 hours the user should use the Advanced Get Track available through the Command & Info panel or the Query functionality. Historical vessel track data is available for the last 2 years.

To display the track of a vessel the user selects a vessel and defines the time range. By default, under Options ->Position sources all sources are enabled. By enabling the First/Last Positions the track will retrieve the first position and/or the last position reported. If disabled, the track will display all positions reported within the time range defined. Click on Submit to retrieve the tracks.

Figure 42 Advanced Get track



In the TTT panel the track is also displayed in a timeline  with a playback mode associated. To animate the vessel track, click on . Also, in the TTT panel in the tabular view the list of positions of the vessel appears. By selecting a specific position, the corresponding position on the map is highlighted.

## 12.6 Get profile of a vessel

The Get profile provides aggregated information for the vessel selected including the tracks for up to the last 12 months and all events related to the vessel for the time specified by the user.


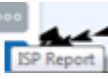

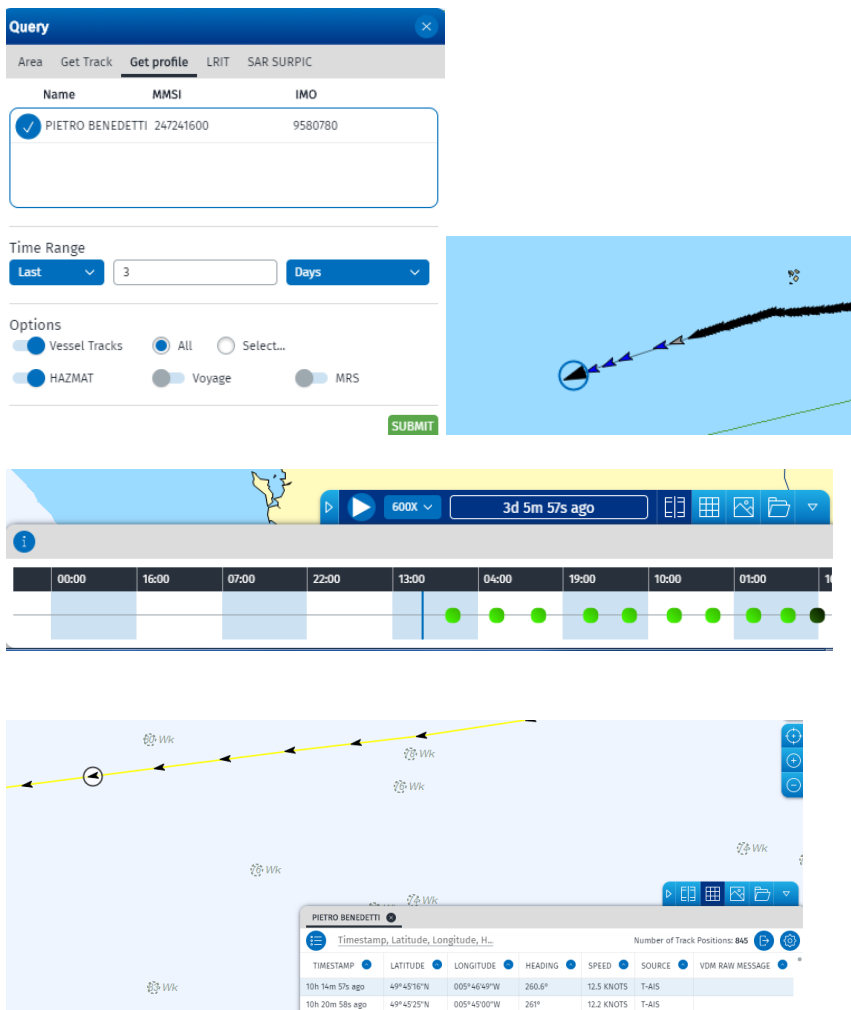


The Get profile  in the Command & Info panel retrieves the last 24 hours aggregated information. To search beyond 24 hours the user should use the Integrated Ship Profile (ISP) report  available through the Command & Info panel or the Query functionality (Get profile  ). To display the track of a vessel the user selects a vessel and defines the time range. By default, under Options - >Position sources all sources are enabled.

Figure 43 Get Profile



In the TTT panel the track reports and the enrichment, if available, is also displayed in a timeline  with a playback mode associated. To animate the vessel track, click on . Also, in the TTT panel in the tabular view the list of positions of the vessel appears. By selecting a specific position, the corresponding position on the map is highlighted.

## 12.7 LRIT

Request Form: Request LRIT and display LRIT position reports. The vessel must have an IMO number. This query option is available only if the user has adequate permissions.

## 12.8 SAR SURPIC

- For Search and Rescue purposes, searches for the most recent position/ identification of ships within a defined area (from all position sources within the last 24 hours). This query option is available only if the user has adequate permissions.

The user should do the following steps:

1. Position the map in the desired area;
2. Go to the Query Panel;
3. Select tab SAR SURPIC (search and rescue surface picture) and fill all fields

By default, a square 10x10 area is draw in the centre of the map. Note that for the LRIT position reports a maximum of 4 positions can be made available in the last 24 hours.

## 13. Favourites

Favourites can be one or more elements on the map that can be marked by users and associated to Favourites Groups. Three types of groups are possible:

- TOI Vessels
- AOI: Areas
- POI: Place marks, STMID, Alerts, Incidents/Accidents, Vessel detection (VDS), EO products.

## 14. TTT panel (Tables, Timeline and Thumbnails)

On the bottom right of the map window the Tables, Thumbnails and Timeline (TTT) panel is available.

### 14.1 Tables

A Tabular View of information is available from the TTT panel. In the Table a user can sort (ascend/descend) and configure the columns in which the search is made. By clicking on a table row, the map zooms to the location of the selected item. It is possible to Export the information from the Table to CSV, XLS, PDF, GML, SHP or GPX format.

### 14.2 Timeline

Information can be also be viewed along a timeline. A playback module is available. All the positions are displayed dynamically in the map.

It is possible to zoom in and out on the Timeline by using the mouse wheel or the swipe gesture in mobile devices. When in playing mode, when the timeline passes a time where a position was reported, that position is marked on the map with a circle. The speed of the playback mode can be adjusted. It is also possible to click on the map using the mouse and drag the timeline.

Figure 44 Timeline

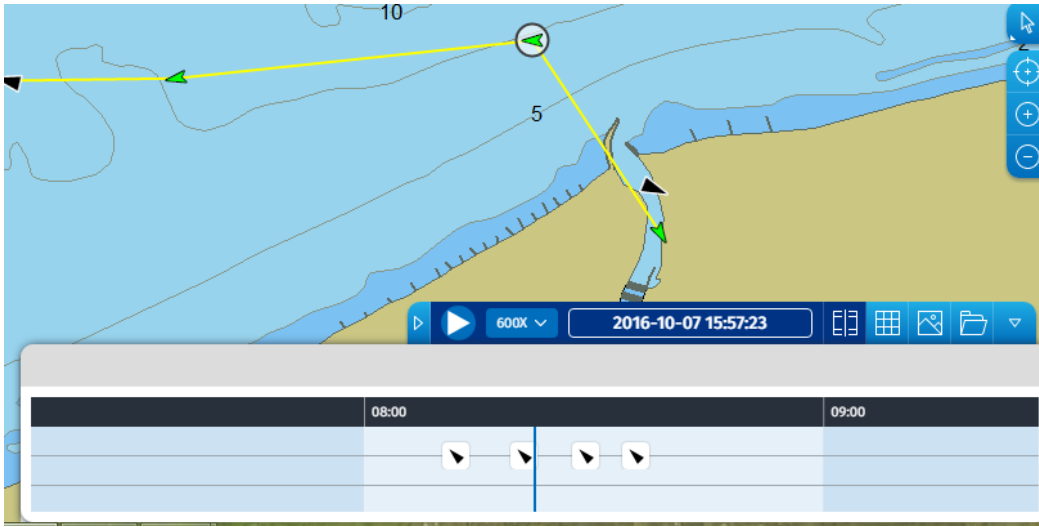
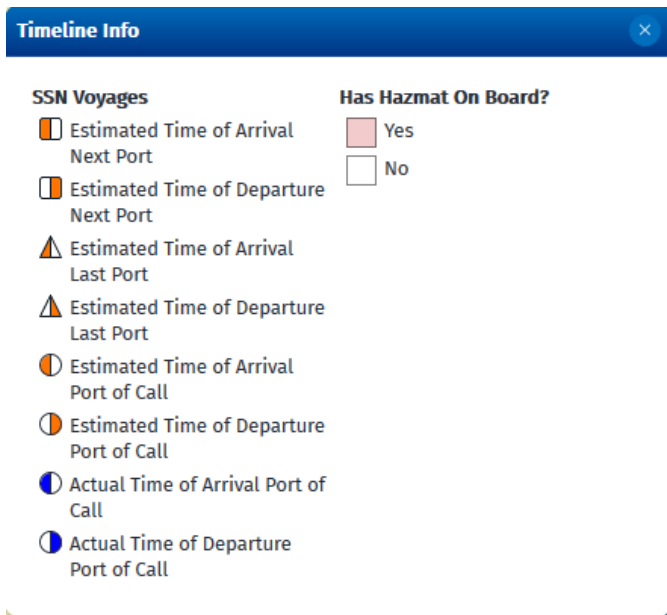


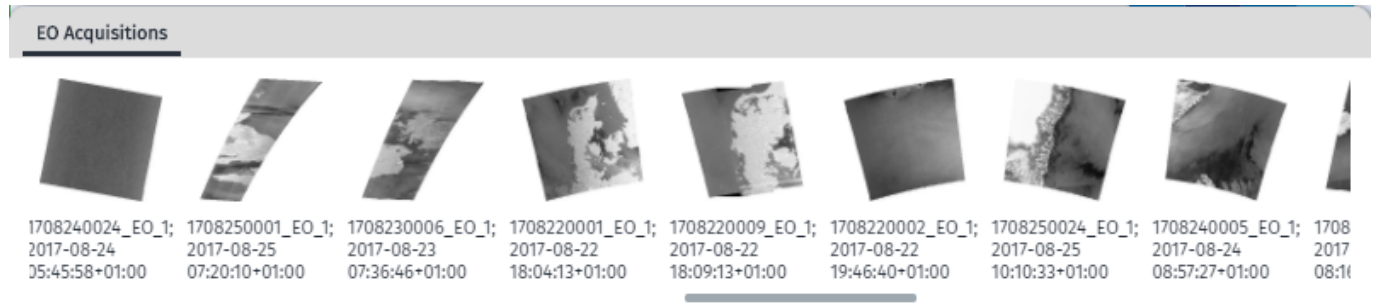
Figure 45 Timeline Symbology



### 14.3 Thumbnails

The thumbnail view presents a miniature version of each EO image (High Resolution Optical and Synthetic Aperture Radar) that the user has permission to view. Each thumbnail displays the EO image date and time of acquisition and Service ID. Clicking on the thumbnail image will zoom to its location on the map.

Figure 46 Thumbnails



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