

SEG

SSN Ecosystem GUI

Quick Start Guide

Version 0.3.3

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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 |
| ToI | Target of Interest |
| TTT | Tables, Thumbnails and Timeline |
| VDS | Vessel Detection Service |
| VMS | Vessel Monitoring System |
| VoI | Vessel of Interest |

1. Introduction

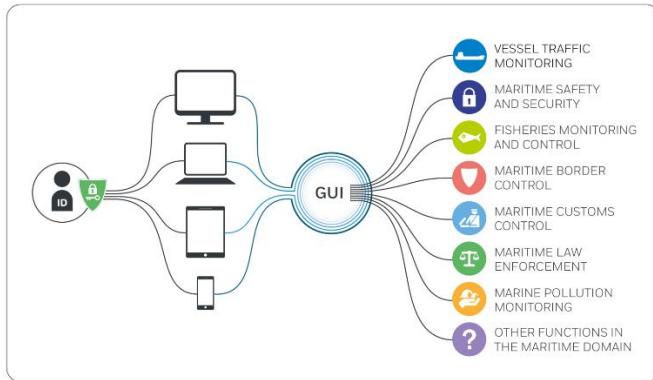
The SafeSeaNet Ecosystem GUI¹ (SEG) is a common Graphical User Interface providing access to EMSA's applications/services and their data sets:

- 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.

¹ 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.

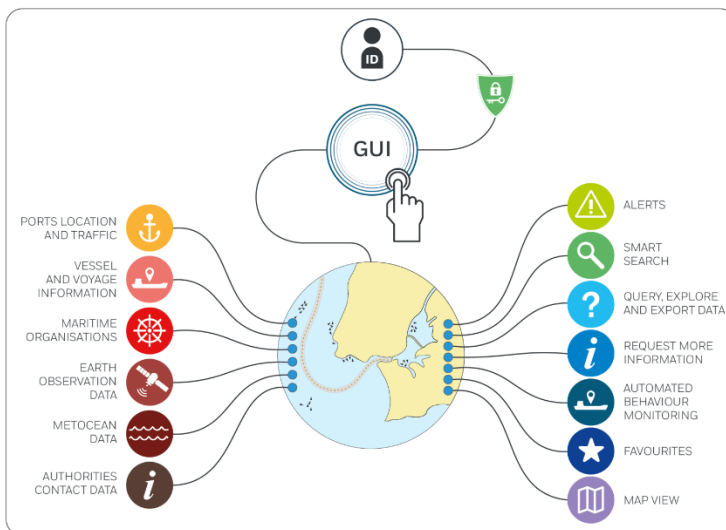
Figure 1 The SEG GUI serves multiple maritime user domains.



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 Edge, 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 Client Preferences/Map/Starting viewpoint as 'User specified' or Current geographical position'.

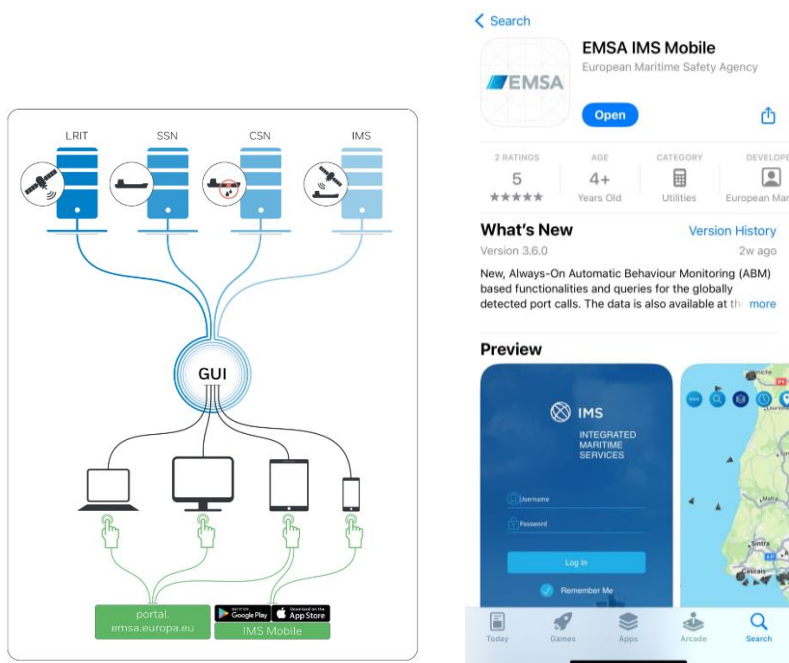
3.2 Requirements

- 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.

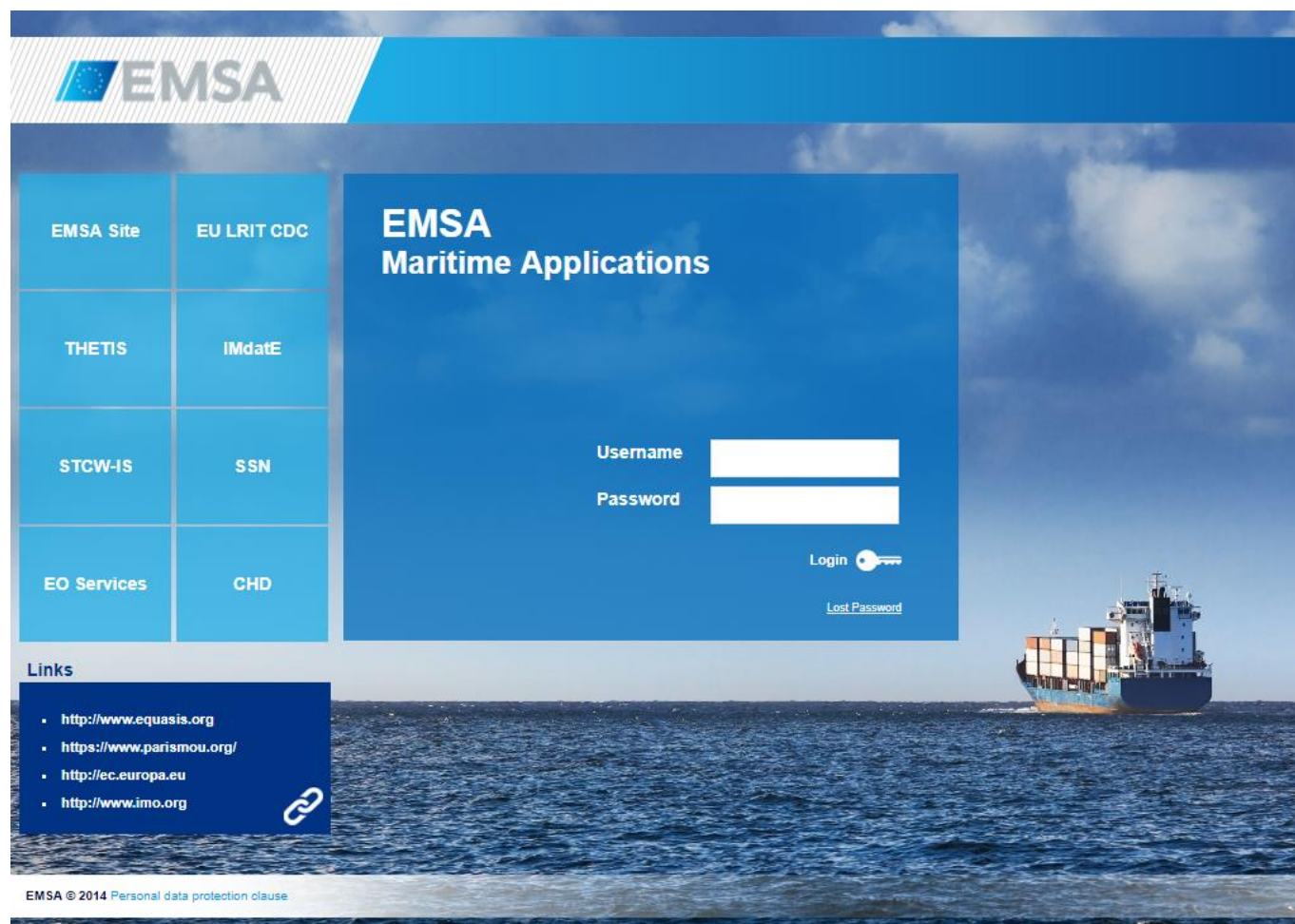
Figure 3 Fixed and Mobile Devices for SEG and IMS App visible in one of the stores



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 username 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). 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



FMSA © 2014 Personal data protection clause

5. SEG User Interface

5.1 Maritime information

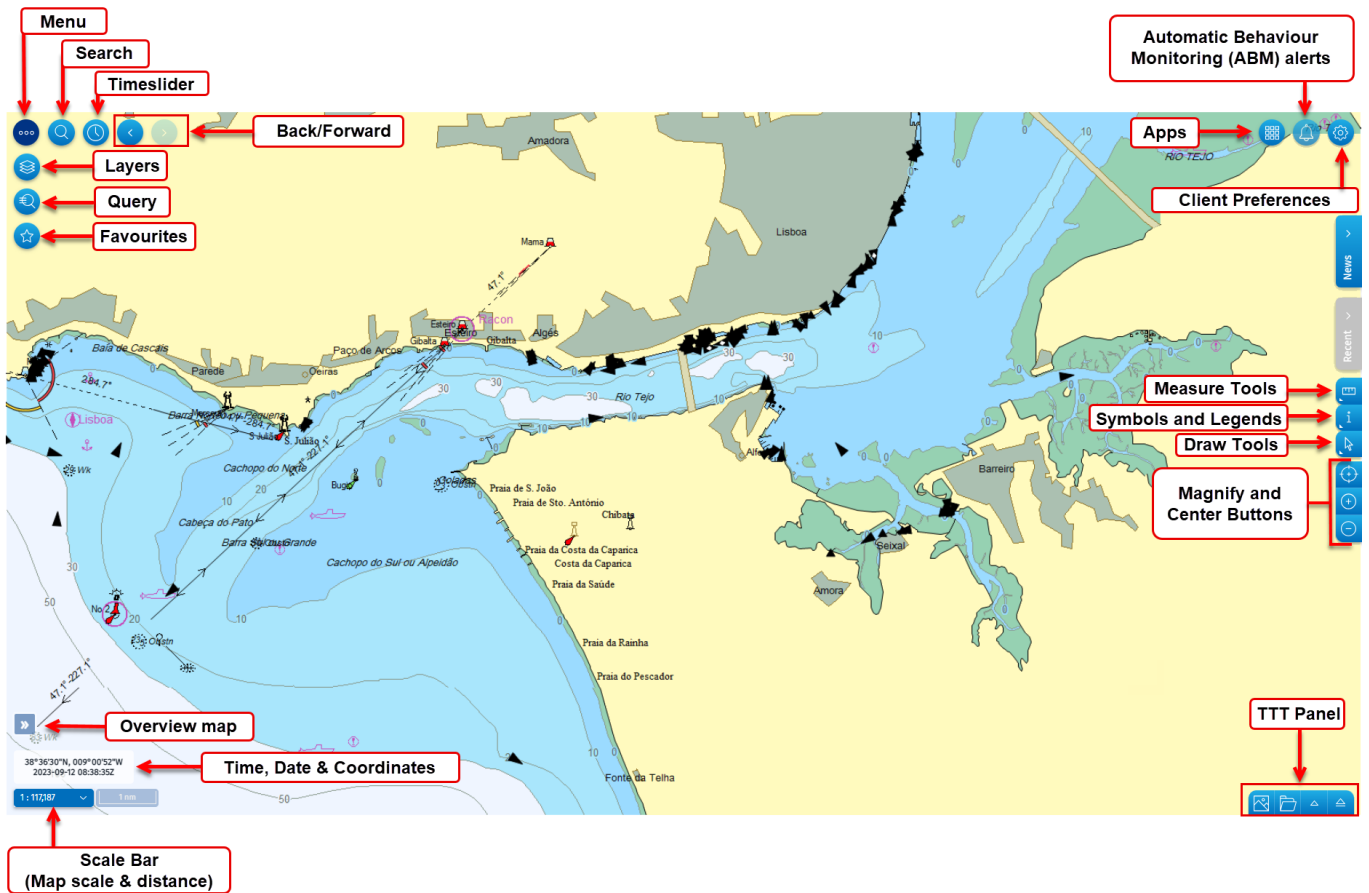
Maritime information is available in accordance with the individual users' data access rights and permission settings. The default vessel information displayed is the most recent vessel position (from an available tracking source within the last 24 hours) regardless of the tracking source LRIT, S-AIS, 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.

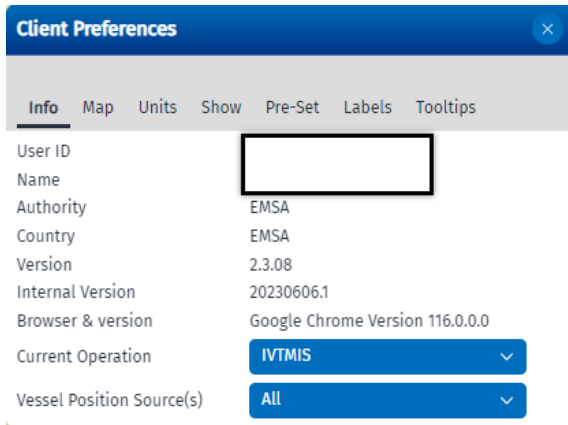
Figure 6 SEG User Interface



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. From Vessel Position Source(s), the user may set the sources for the vessel position. In Client Preferences, information on User ID, User Name, Authority, Country, 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, the Map overview and the Map zoom

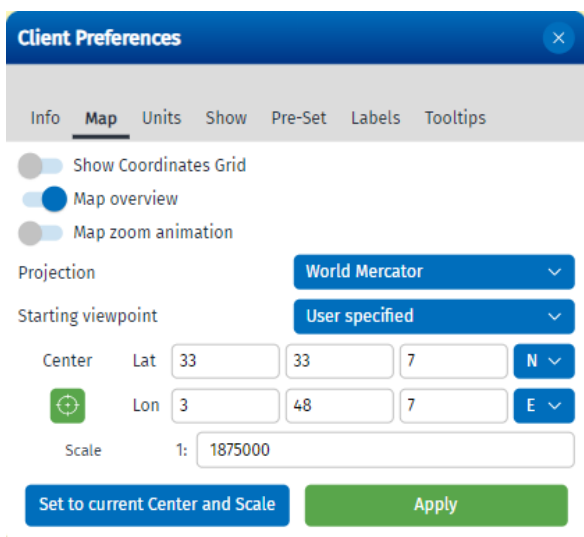
animation Furthermore, it is possible to set the desired projection as needed. The available projections are Plate Carrée, World Mercator, Spherical Mercator, North and South Polar, and North and South UPS.

The map starting viewpoint may be set as the Current geographical position or as User specified. 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”.By selecting the “User specified”, it is possible to do two different operations. The user may want to “Set to Current Centre and Scale”, then the map starting viewpoint will be updated accordingly, or the user may want to set a certain point of the map putting the coordinates in the box or selecting the central point through the cursor, after pressing the button “Center”.

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.

Selecting “Apply”, the coordinates will be saved, and the map will show that area every time the user logs into SEG.

Figure 8 Client Preferences/Map/Starting Viewpoint.



5.4 Client Preferences: Units

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

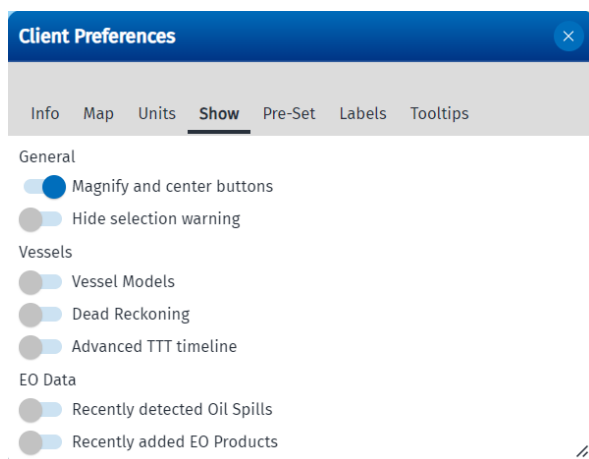
Figure 9 Client Preferences/Units



5.5 Client Preferences: Show

The user may show or hide some features of the map regarding general settings, vessels and EO Data. Under "General" the user may show or hide map magnify and center buttons and selection warning. Under "Vessels" the user may show or hide vessel models, vessel dead reckoning and Advanced TTT timeline. In "EO Data" the user may show or hide recently detected spills and recently added EO Products.

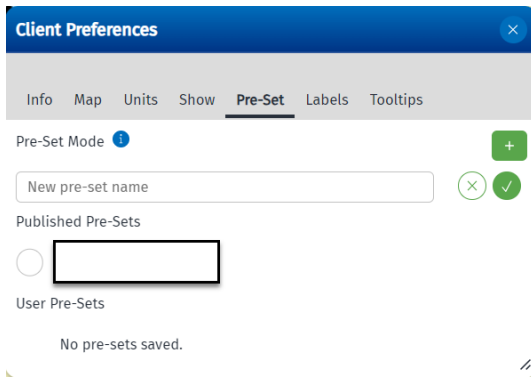
Figure 10 Client Preferences/Show



5.6 Show Vessels Models is displayed for scales below 1:4000. Client Preferences: Pre-Set

The user may add new Pre-Sets or use Published Pre-Sets. The Pre-Set Mode takes a snapshot of the user's current SEG configuration and saves it so the user can reuse it later. The user must ensure that the coordinates of the place of interest are set in Client Preferences/Map/Center.

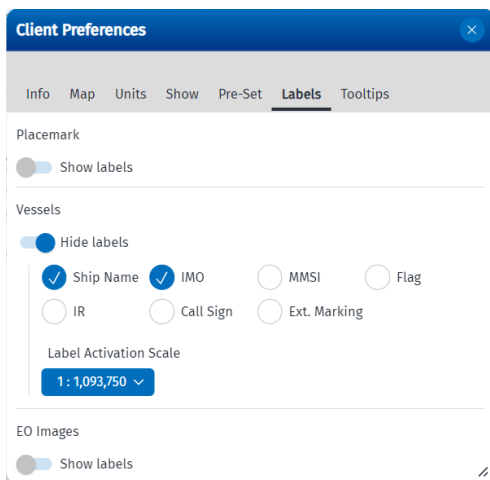
Figure 11 Client Preferences/Pre-Set



5.7 Client Preferences: Labels

The user can select what summary information is displayed on the map for placemarks, vessels and EO Images. Label activation scale may be set for each one of them

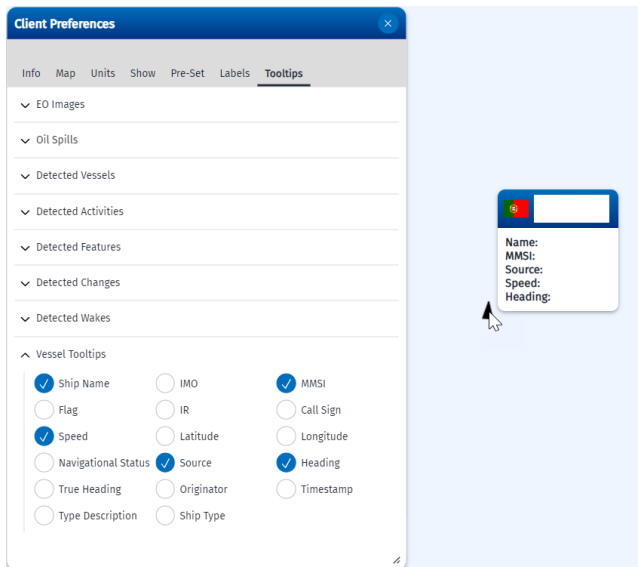
Figure 12 Client Preferences/Labels



5.8 Client Preferences: Tooltips

When hovering over the relevant objects on the map with the cursor, some summary information on the target shall be displayed. Under “Tooltips” the user can customize contents that are being displayed.




Figure 13 Client Preferences/Tooltips














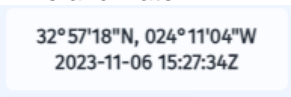






5.9 Map menu




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 |
|--|---------------------------|--|
|  <p>Client Preferences</p> | Manage client preferences | <ul style="list-style-type: none"> - Info - Map - Units - Show - Pre-Set - Labels - Tooltips |
|  <p>Alert Notifications</p> | ABM alerts | The button is active if an alert is available and greyed out if no alert is available. |
|  <p>Apps</p> | Apps | <ul style="list-style-type: none"> - Import external files from the device of the user - Sentinel-Hub Data provides access to external Earth Observation layers from Sentinel-2 (recently acquired optical satellite imagery, 10m resolution) - ABM admin consents to request alert - Add a Traffic Density Map consents to create a traffic density map using filters based on area, ship type and period |

| Menu Items | Description | Options |
|--|--|---|
| Trash bin  | Removes recent queries | Remove all queries or remove selected queries only |
| Shortcuts  | Support user's operations | <ul style="list-style-type: none"> - Get track of the selectionated vessel - Add to TTT - Favourites to add the selectionated objects to a list |
| Filter out  | Select filters out | By choosing a category, remove all the objectes except those that are selected |
| Back/Forward  | Allow the user to move among the previous views of the map | |
| 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  | Quickly find and filter across all object categories (e.g. vessels, ports, Alerts, AOI, EO products, placemarks..). A minimum of 3 characters is required for the search. Searches for dynamic data layers on map: recent vessel information (<24 hours) and EO products (-3days/+3 days) | 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. | |
| Menu  | Expand or Close menu | <ul style="list-style-type: none"> - Layers - Query - Favourites |
| Layers  | Manage information layers on map | <ul style="list-style-type: none"> - Base layers - Vessels - MetOcean - Areas - EO Info - Organisations - Alerts - Placemarks - Port and offshore installations - AOI - Traffic Density Maps |

| Menu Items | Description | Options |
|---|--|--|
| Query  | Search within a specified area and time range | <ul style="list-style-type: none"> - Area (Centric Query) - Get Track - Get Profile - LRIT request - SAR SURPIC |
| Favourites  | Favourites are all elements on map that can be marked by users and associated to one or more Favourite Groups. | <ul style="list-style-type: none"> - <p>When creating a new group, the user sets the name and the color associated with it. The user may also select vessels in a certain area of interest by browse, coordinates or draw.</p> |
| 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 |
| Symbols and Legend  | Set the symbology on the map by positions or track | Positions Symbology: <ul style="list-style-type: none"> - IALA - Data Source - Vessel Type - Target Age - Voyage information Track Symbology: <ul style="list-style-type: none"> - Position Source - In/Out SECA - Imported Positions - Same as trackline |
| Drawing Tools  | Place mark, Draw circle, Draw polygonal area, Draw rectangular area, Draw polygonal line, Drag Interaction, Selection by area, Selection by polygon  | Click icon to expand and close menu |

| Menu Items | Description | Options |
|--|---|--|
| 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 |
| TTT panel - Tables, Thumbnails and Timeline  | | <ul style="list-style-type: none"> - Open Timelines - EO Image Thumbnails - Open Tables - Registered Tables - Click to Expand/Collapse TTT - Dock/Undock TTT |
| News and recent downloads  | <p>News: information feed from Twitter. Clicking in each item, opens a new window</p> <p>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.</p> | 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 14 Layers and filtering window

6.1 Information on layers and symbols

Information on symbols is available for the following layers: "Vessels", "EO info" and "Alerts".

For the vessel it is possible to choose the symbology based on Positions or Track. This is done by activating "Vessels" layer and clicking "Symbols and Legend" button located on the right of the screen. Information on symbology is available on the menu through the 'i' icon.

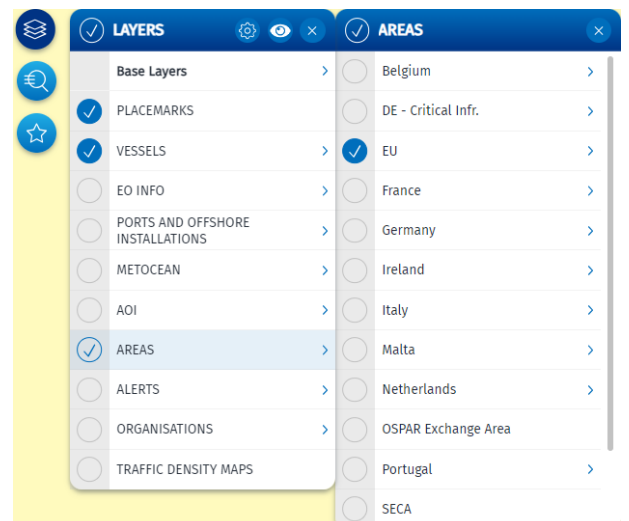
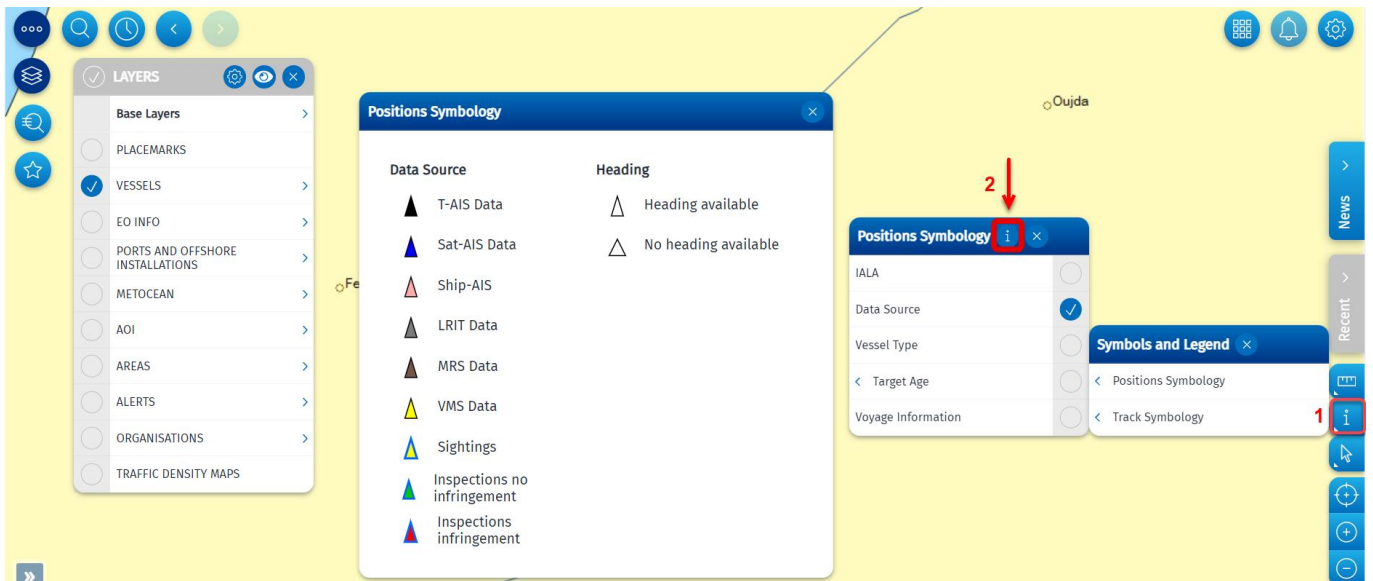
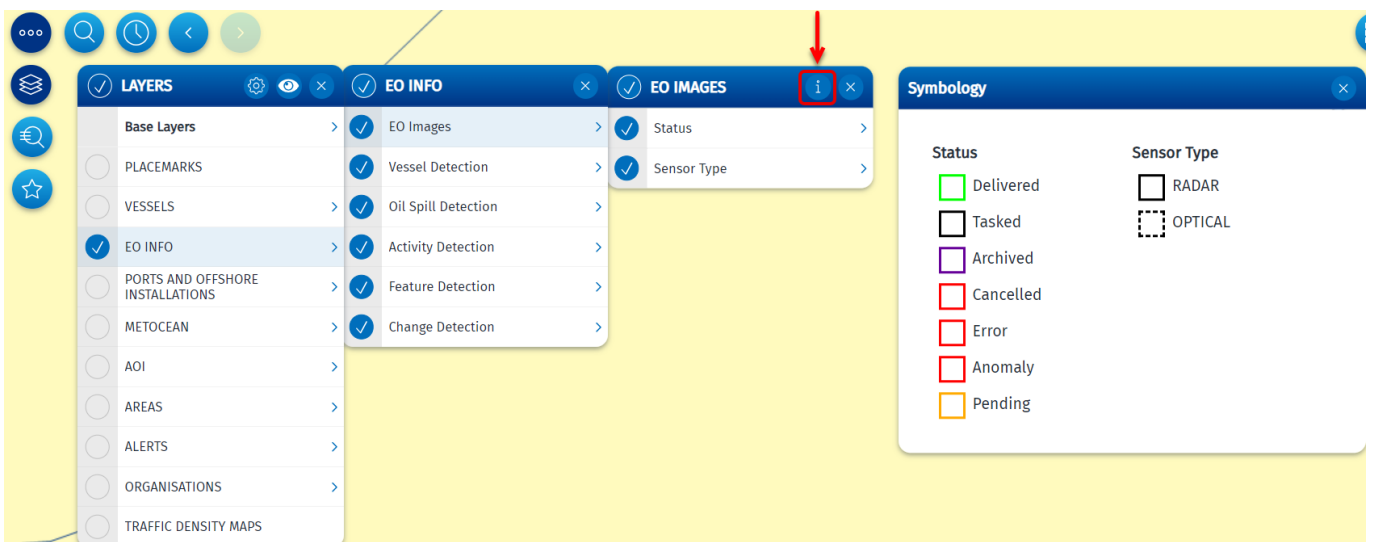


Figure 15 Information on the layers and symbols for vessel



For the layers "EO info" and "Alerts", information and symbology are available on the top of the corresponding panel through the 'i' icon. In this case, the symbology is set and cannot be customized.

Figure 16 Information on the layers for EO Info and alerts



6.2 Layer settings


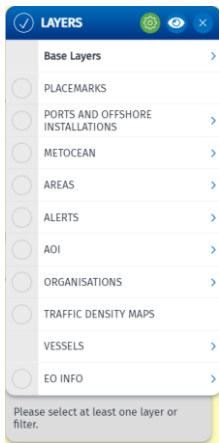
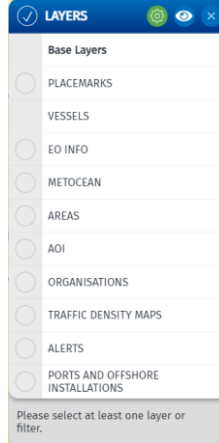
Settings may be managed by clicking on the cog  at the top of the Layers panel. Once selected, the cog turns grey and all the layers, except the Base Layers, become selectable and can be managed:

Figure 17 Layer settings

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



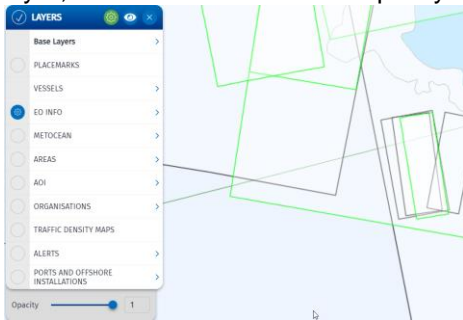
Initial hierarchy:



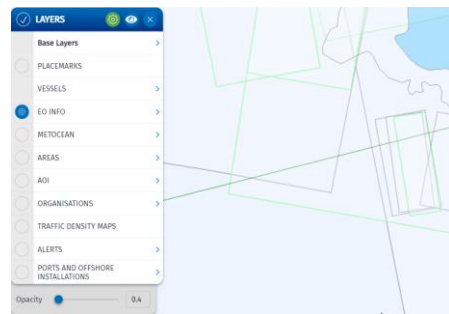
Final hierarchy:

- Opacity: selecting the intended layers;

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



Opacity 1:



Opacity 0.4:

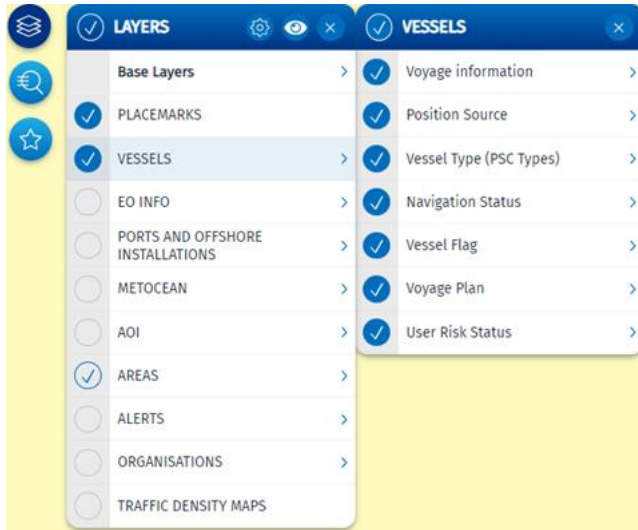
6.3 Map Projections and Base Layers

The SEG coordinate system is WGS 84. The default map projection is World Mercator (ESPG:3395). The user can select other projections by selecting Client Preferences/Map/Projection. The preferred map base layer can be selected: nautical charts from CMAP (Base and Standard), Bing satellite images, Bing, OpenStreetMap and Bathymetry (EU and Global).

7. Vessel information

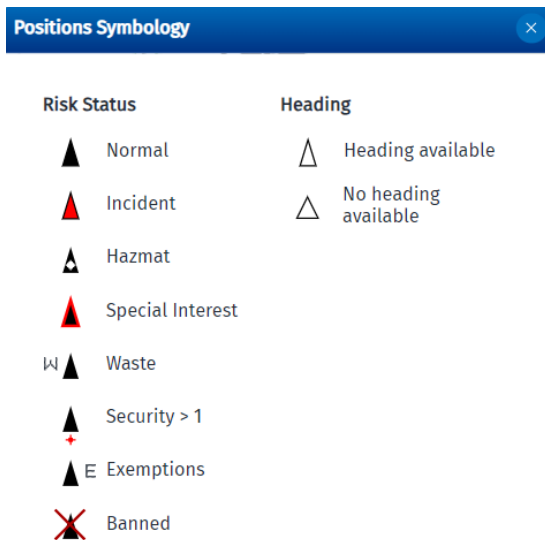
The most recently reported vessel position within the **last 24 hours** from any reporting source is displayed on the map (T-AIS, Sat-AIS, LRIT, VMS) according to the user's access rights. The Layers menu allows the user to turn on and off the display of the vessel Positions on the map. The display of vessels' positions on the map can be filtered by: Voyage Information, Position Source, Vessel Type (PSC Types), Navigation Status (AIS), Vessel Flag, Voyage Plan and User Risk Status,

Figure 18 Vessels Layer



As reported in paragraph 6.1, the user may select which symbology to apply to the vessels and their track on the map. The available options for Position Symbology are the following: IALA, Data source, Vessel Type, Target Age and Voyage information. The available options for Track Symbology are Position Source, In/Out SECA, Imported Position and Same as Trackline.

Figure 19 Vessel - Voyage information (SSN enrichment)



7.1 Tooltips

The tooltip shows summarised information for the object selected. The user may configurable tooltips for EO images, oil spills, vessel and detected vessel, activities, features, changes and wakes. Tooltips of an object are available moving the pointer along the screen and stopping it on the desired object.

For instance, Vessel tooltips are configurable from Client Preferences/Tooltips/Vessel Tooltips tab. The options available are Name, MMSI, IMO, (Position) Source, Call Sign, IR², Heading, True Heading, Speed, Latitude, Longitude, Flag, Navigational Status, Type Description, Originator, Timestamp and Ship Type

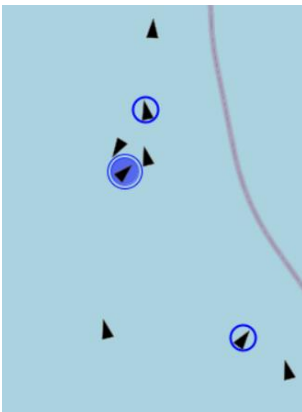
Figure 20 Vessel Tooltip



7.2 Select vessels

Clicking on a vessel selects it. A blue circle surrounds the ship indicating it is selected.


Figure 21 Selected vessels indicated by blue circle



There are multiple ways to select multiple vessels.

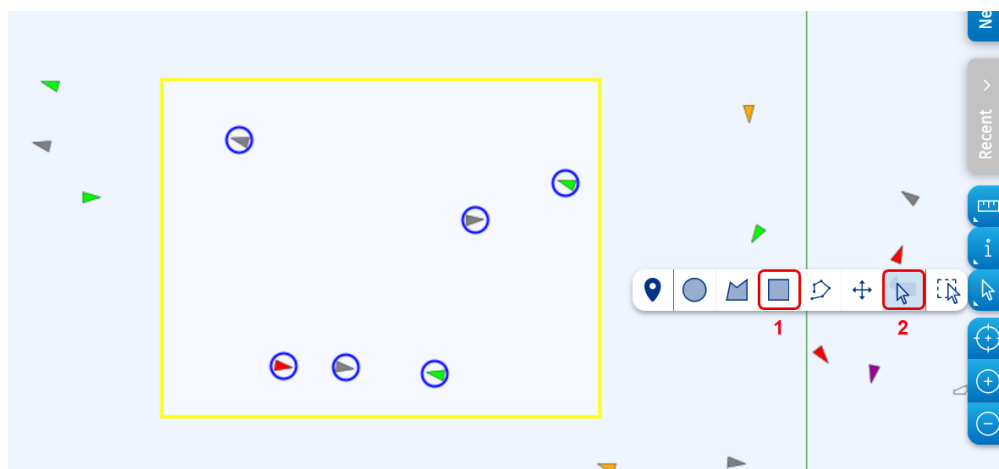
One of the ways is by holding the Shift key and selecting vessels. Alternatively, the Draw Tool/Selection can be used to select one or more vessels.

The user may select multiple vessels by using the tool  available through Draw tools/Selection by Polygon. Once the polygon has been drawn, the vessels inside will be automatically selected.

The user may want to select more vessels in a specific area of interest. First of all, it is necessary to draw the area of interest by clicking on the Draw Tool and choosing the shape which is suitable for the purpose among circle, polygonal area and rectangular area. After that, by clicking Draw tool/Selection by Area , the vessels will be automatically selected.

² 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.

Figure 22 Select vessels in an area of interest



Once multiple vessels have been selected, the user can obtain a list of them with the main information shown in the TTT table by clicking on Shortcuts/Add to TTT.

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.

The information available in the panel are “Vessel Info”, “Reported Information (AIS)” and “Position Report”.

In the grey row there is the possibility to obtain more information by selecting one of the following entries:

- Ship details: IMO, MMSI, IR, Call Sign, Flag, Type Description, Ship Type, Ship Length, Ship Breadth, Year of Construction, Gross Tonnage, Freeboard.
- Reported Information (AIS): AIS Static Message, MMSI, IMO, Call Sign, Ship Name, Ship Type, Length [m], Width [m], Draught, Destination, ETA to Destination, Cargo Type, Positioning System.
- SSN/Voyage Information. By clicking on it, the user may access another kind of information (marked with green): Voyage Info, HAZMAT, Waste, Security, Bunkers and MRS. The same information is also available through the green buttons at the bottom of the Command and Info.

Figure 23 Command and Info window with vessel and voyage information

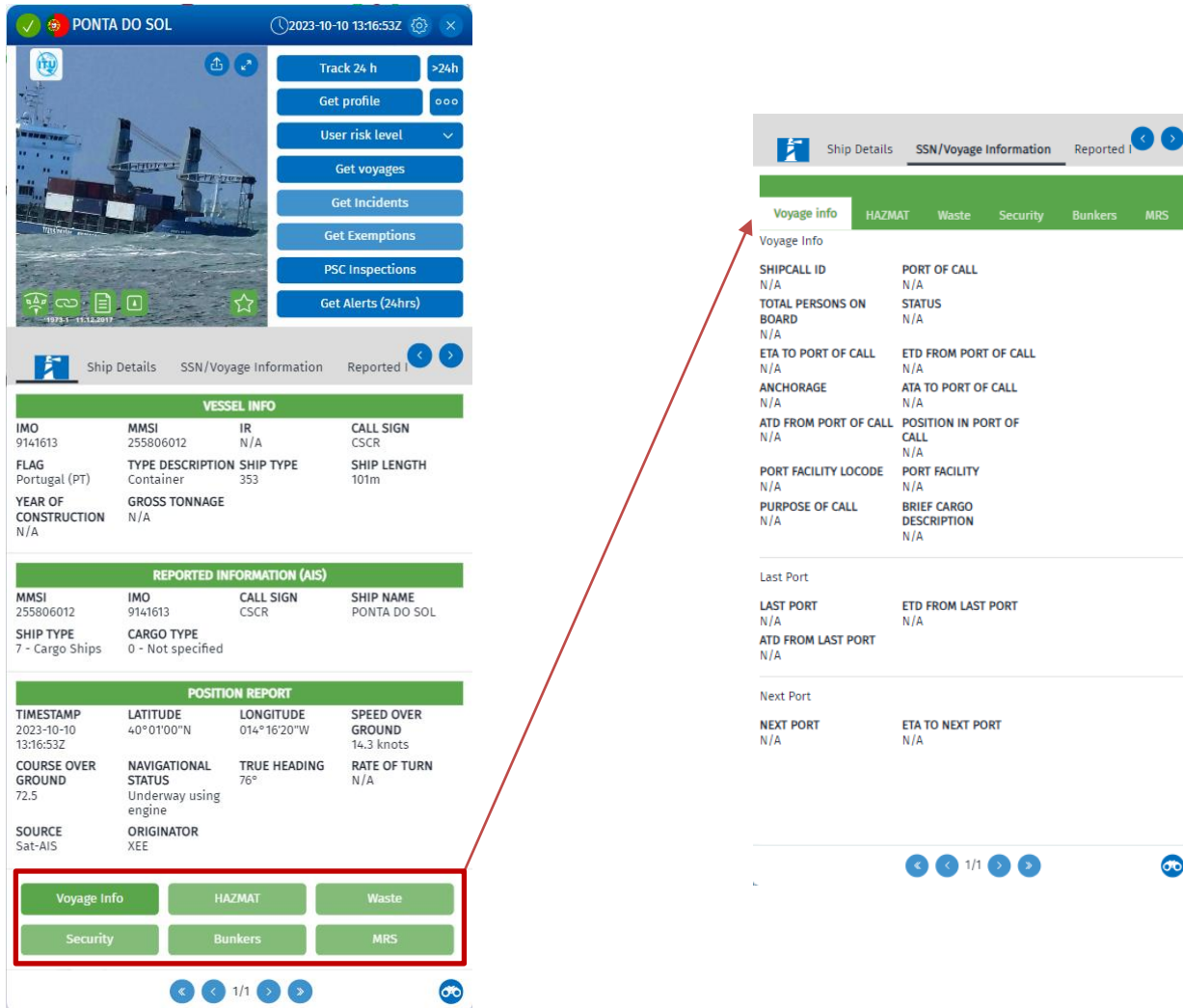




















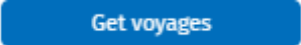

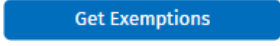

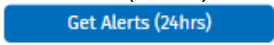


Table 2 Vessels Command and Info Window Functions


| 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) | - Valid - Invalid - Unable to validate (previous position not available) |
| ITU – Mars Database  | External link to ITU website | |
| 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 | |

| | | |
|--|---|--|
| <p>Marine Traffic</p>  | External link to Marine Traffic website | |
| <p>Integrated Ship Profile (ISP) datasheet</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>Fisheries</p>  | External link to the Community Fishing Fleet Register (CFR), from the European Commission. (For fishing vessels only) | |
| <p>Add to Favourites</p>  | Add the vessel to the user's favourites list | <ul style="list-style-type: none"> - Add - Saved |
| <p>Follow vessel</p>  | Situate the location of the selected ship in the centre of the map. The map will move when the position reports are refreshed. | |
|  | Contains the general information about the vessel and its position reported | <ul style="list-style-type: none"> - Vessel info - Reported Information (AIS) - Position Report |
| <p>Track 24h</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"> - Position Sources - Fuse and smooth - SSN Enrichment - Extrapolate |
| <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"> - Vessel Tracks per position source - SSN Voyage |
| | | |
| <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"> - High - Moderate - Low - None |

| | | |
|--|--|---|
| Get Voyages  | 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 |
| Get Incidents  | 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 | |
| Get Exemptions  | 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. | |
| PSC Inspections  | Public information retrieved from THETIS for PSC inspections associated with the vessel | |
| Get Alerts (24hrs)  | The TTT will present a Table with alerts associated with the vessel in the last 24 hours. | |

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, IR³ 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 three external sources for validating ship identifiers: Marine traffic, Equasis and ITU – Mars Database.

³ 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 24 Ship Command and Info window – validation of ship identifiers

| MMSI | LATITUDE | NAVIGATIONAL STATUS |
|-----------|--------------------|------------------------|
| 352815000 | 25°14.32'N | Under way using engine |
| SOURCE | LONGITUDE | TYPE DESCRIPTION |
| LRIT | 636017420 34°28'E | Oil tanker |
| IR | SPEED | TRUE HEADING |
| N/A | 0.7 KNOTS | 0° |
| HEADING | FLAG | |
| 87° | Liberia (LR) (cso) | |

1/2

Voyage Info HAZMAT Waste Security MRS

7.4 Voyage information

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

- Voyage Info: Ship call ID, Port of Call, Total Persons on Board, Status, ETA to Port of Call, ETD from Port of Call, Anchorage, ATA to Port of Call, ATD from Port of Call, Position in Port of Call, Port Facility LOCODE, Port Facility, Purpose of Call, Brief Cargo Description.
- Last port: Last Port, ETD from Last Port, ATD from Last Port.
- Next port: Next Port, ETA to Next Port.

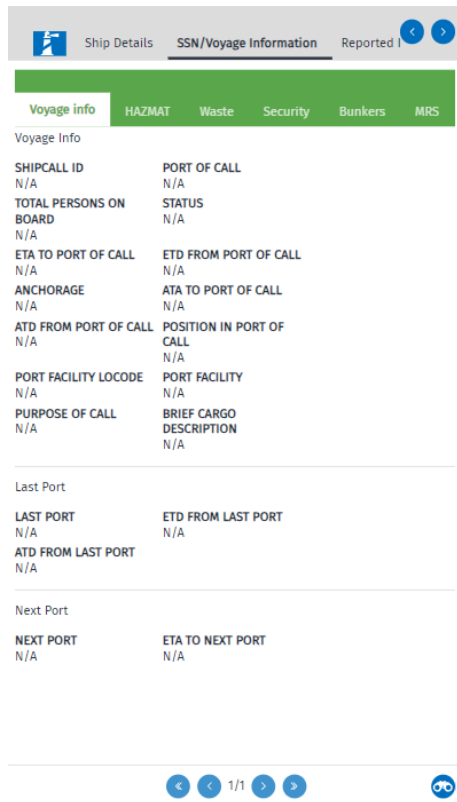
Information on dangerous and polluting goods (HAZMAT), Waste, Security, Bunkers and MRS, is also available from the row of green buttons on the bottom of the Command & Info panel.

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, Bunkers or MRS), the user is directed to the SSN/Voyage Information. 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 25 Voyage detailed information from SafeSeaNet



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.

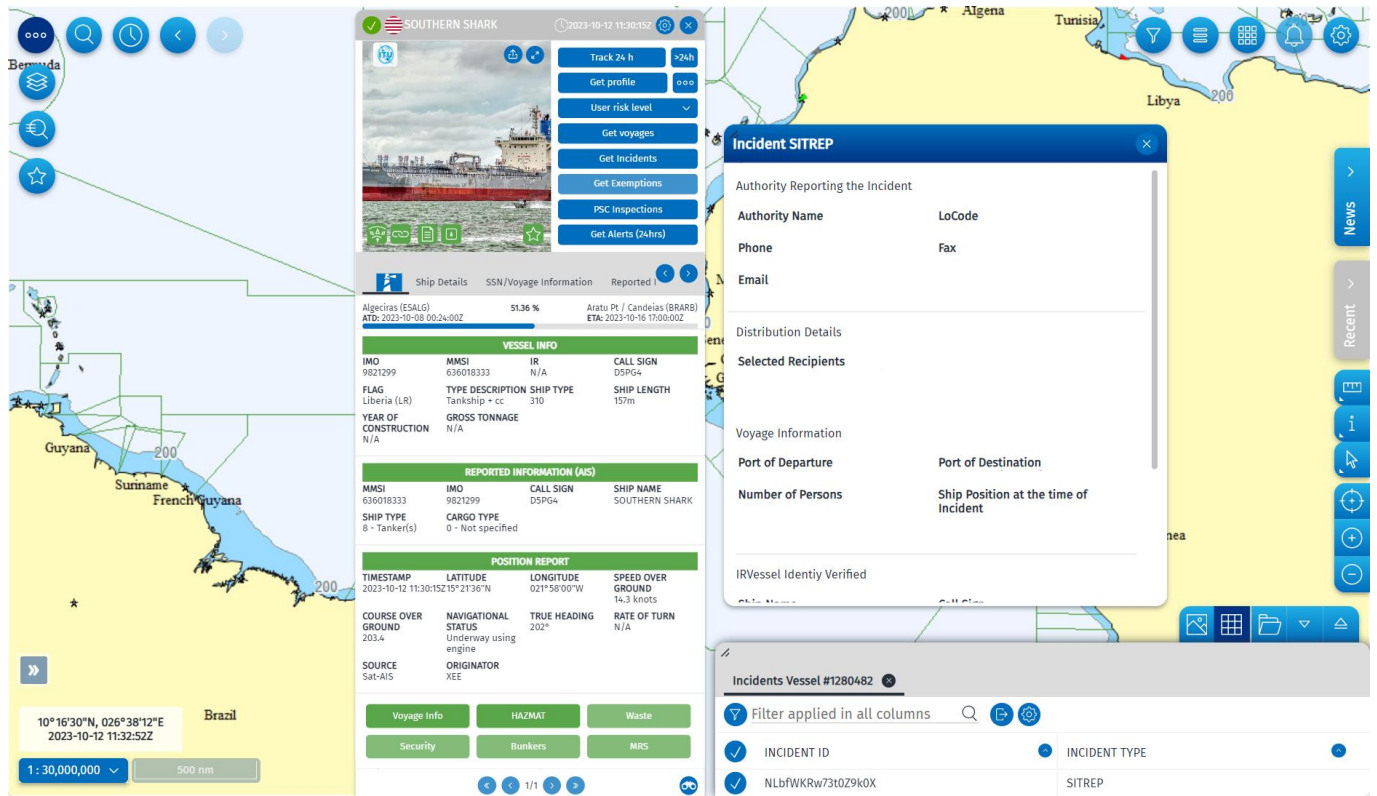
The table includes the active (current) voyage, the next planned voyages (up to 10 planned voyages) and the last 10 last voyages. The Table contains the following information: Port of Call (LOCODE/Location name), ATA to Port of Call, ATD from Port of Call, Anchorage, ETA to Port of Call, ETD from Port of Call, Last Port, ETD from Last Port, Next Port, ETA to Next Port, POB Voyage towards Port of Call, POB Voyage towards Next Port, Position in Port of Call, HAZMAT (Y/N), Waste (Some/ None/All), Security (SL1/SL2/SL3).

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.

Figure 26 Get Incident of a vessel



The incidents will only be available for a limited time depending on the incident type. The following 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. The information available regards Inspection Details, Ship Particulars, IMS Company and Detained.

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

All the exemption types are reported in the following table:

Table 4 Exemption type

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

8. EO Info: images and products

By turning on the Earth Observation (EO) Info 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 Info Layer, ensure that all sub-layers of EO Images are selected: Status and Sensor Type (RADAR and OPTICAL).

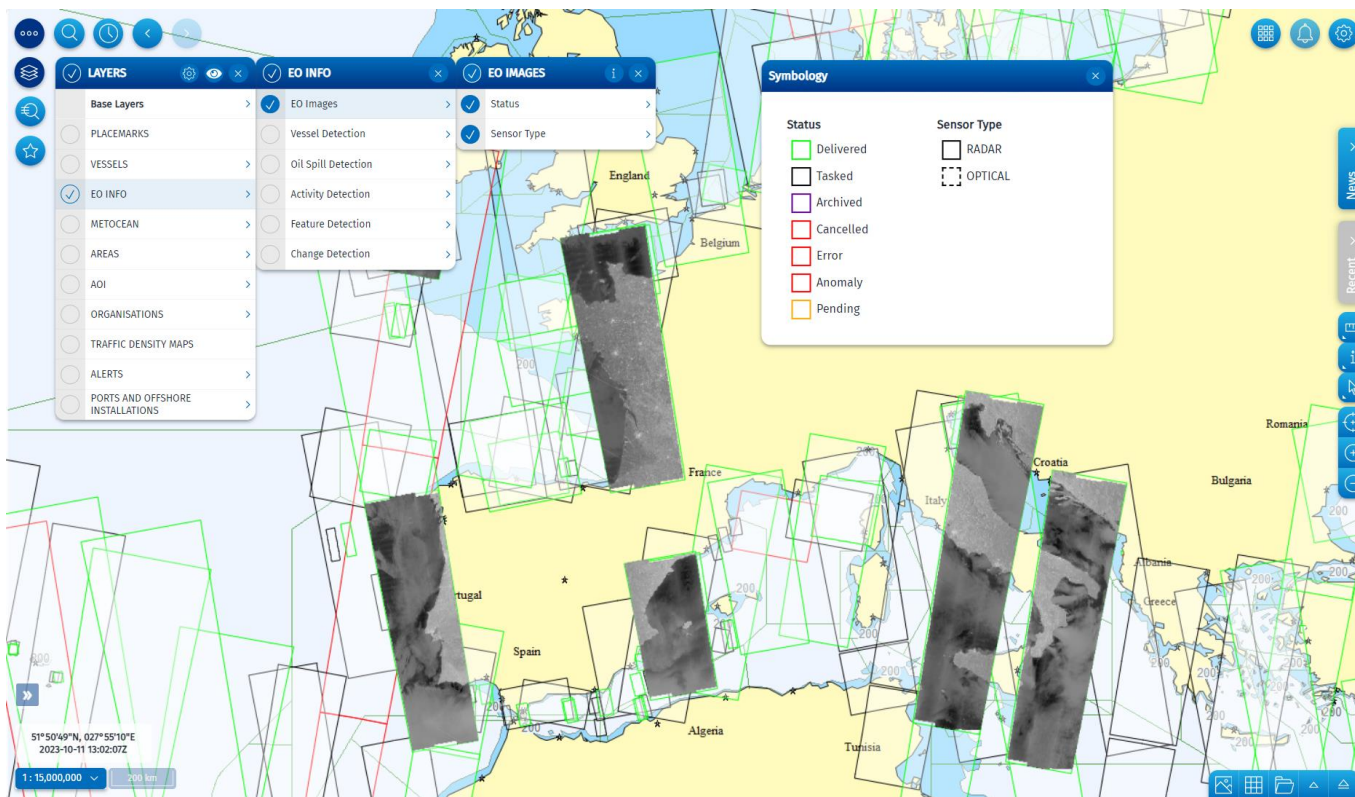
Products refer to the objects which have been detected, or derived, from analysis of the satellite imagery, for example, detected vessels, oil spills, activities, features and changes.

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” on the top of the EO Images panel.

Services (images and oil spills) 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.

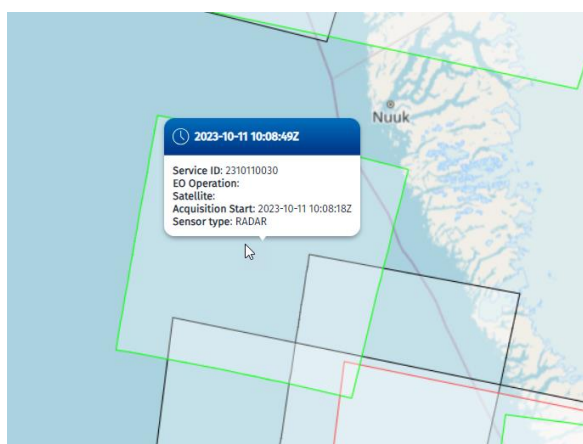
Figure 27 EO images (planned frames and delivered images displayed on map) and Symbology





8.1 Tooltips

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

Figure 28 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 Potential Oil Spills, Detected Activities, Detected Features, Detected Changes, Detected Wakes, Detected Vessels,, and SAR Wind and Swell information.

In the bottom of the C&I window there are 3 green buttons.

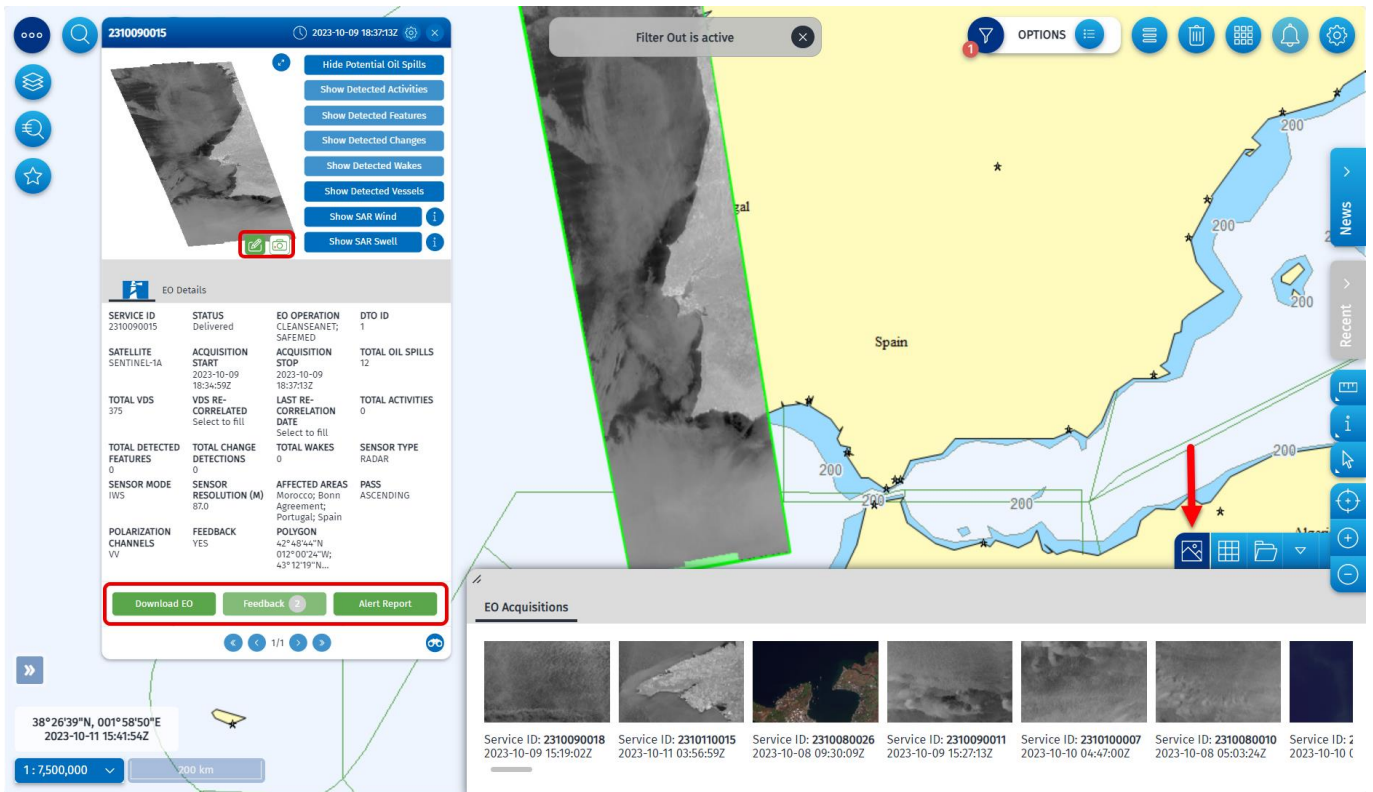
The 'Download EO' button allows the user to save the image locally. As a pre-condition for access, users are requested to confirm compliance with the EO End User License Agreement.

The 'Feedback' button allows the user to see if the competent authorities of the MS have confirmed or denied the presence of the detected object. The button dark green (active) if the Feedback information is available and greyed out (deactivated) if corresponding information is not available.

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.




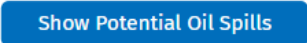
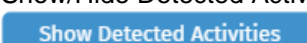
User can get more information on selected EO image by clicking "EO Details" in the Command and Info panel. Reported information is the following: Service ID, Status, EO Operation, DTO ID, Satellite, Acquisition Start, Acquisition Stop, Total Oil Spills, Total VDS, VDS Re-correlated, Last Re-correlation Date, Total Activities, Total Detected Features, Total Change Detection, Total Wakes, Sensor Type, Sensor Mode, Sensor Resolution [m], Affected Areas, Pass, Polarization Channels, Coverage, Usable Area [%], Feedback, Polygon, Band Combination, Swath Identifier, Polarization Mode, Product Type, Acquisition Station, Cloud Cover [%] and Quality-Cancelation Anomaly Report.




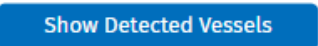







Figure 29 EO Scene Command and Info Window



As indicated in the previous figure by the red arrow, the user may access EO Acquisitions as well by clicking on the button “EO Images Thumbnails” on the bottom of the screen.

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  | Manage and reset EO image Brightness, Contrast, Alpha | |
| Show/Hide potential Oil Spills  | Show or hyde all possible spills detected in this service on top of the image and in tabular view. | on and off map |
| Show/Hide Detected Activities  | Show or hyde activities detected in this service on top of the image and in tabular view. | on and off map |

| | | |
|---|--|---|
| <p>Show/Hide Detected Features</p> <p></p> | <p>Show or hyde features detected in this service on top of the image and in tabular view.</p> | <p>on and off map</p> |
| <p>Show/Hide Detected Changes</p> <p></p> | <p>Show or hyde changes detected in this service on top of the image and in tabular view.</p> | <p>on and off map</p> |
| <p>Show/Hide Detected Wakes</p> <p></p> | <p>Show or hyde wakes detected in this service on top of the image and in tabular view.</p> | <p>on and off map</p> |
| <p>Show/Hide Detected Vessels</p> <p></p> | <p>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.</p> | <p>on and off map</p> |
| <p>Show/Hide SAR Wind</p> <p> </p> | <p>Show or hyde wind speed and direction detected in this service on top of the image</p> | <ul style="list-style-type: none"> - On and off map - By clicking on the ‘i’ button, it is shown the legend |
| <p>Show/Hide SAR Swell</p> <p> </p> | <p>Show or hyde SAR wave swell and direction detected in this service displayed on top of the image</p> | <ul style="list-style-type: none"> - on and off map - By clicking on the ‘i’ button, it is shown the legend |
| <p>Download EO</p> <p></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>Feedback</p> <p></p> | <p>Show the feedback given by the competent authorities of the MS of reference</p> | <p>Inside the grey circle, there is the number that indicate the amount of the feedback available for that EO image</p> |
| <p>Alert Report</p> <p></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. Instead, information on all the potential spills on the map is available from the TTT panel by selecting the entry “Oil Spills” in the “Registered Tables” button on the bottom of the screen.

Clicking on the oil droplet or polygon will open the Command and Info window. The user may select more potential oil spills following 2 ways: holding the Shift key and then selecting multiple droplets, or, using the proper tool available through Draw tools/Selection by Polygon. After selecting the oil spills, the user can see them in a tabular view by clicking Shortcuts/Add to TTT.

Detected oil spills are shown in different colours which indicate their class. The symbology is available by clicking the 'i' button on the Layers/EO Info/Oil Spill Detection panel. The colour of the droplet is based on the confidence level of the detection: the spills marked in red have a higher detection confidence level and the spills marked in green have a lower detection confidence level. The spills marked in orange are not classifiable.

Figure 30 Potential oil spill shown as droplets on map and TTT panel.

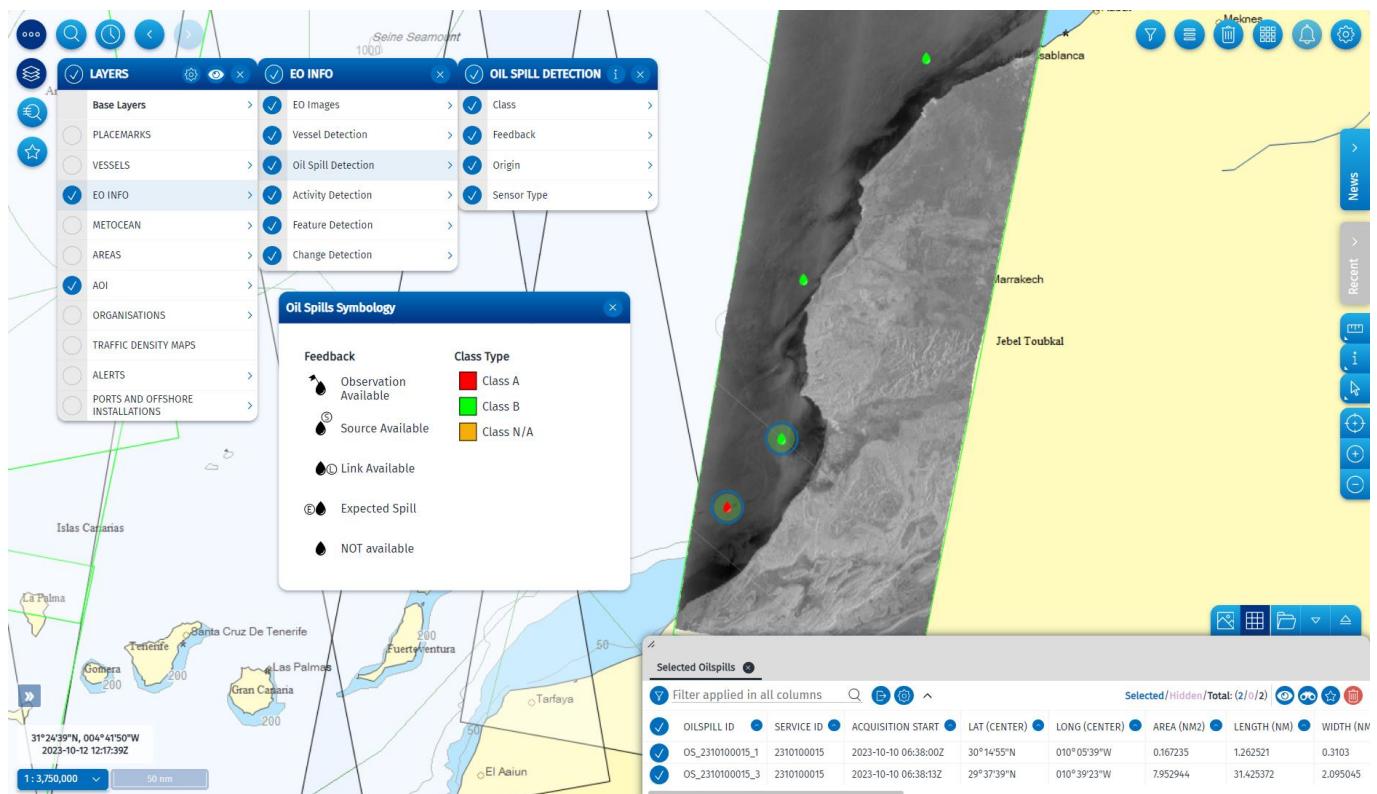


Figure 31 Potential oil spill shown as a polygon on the map

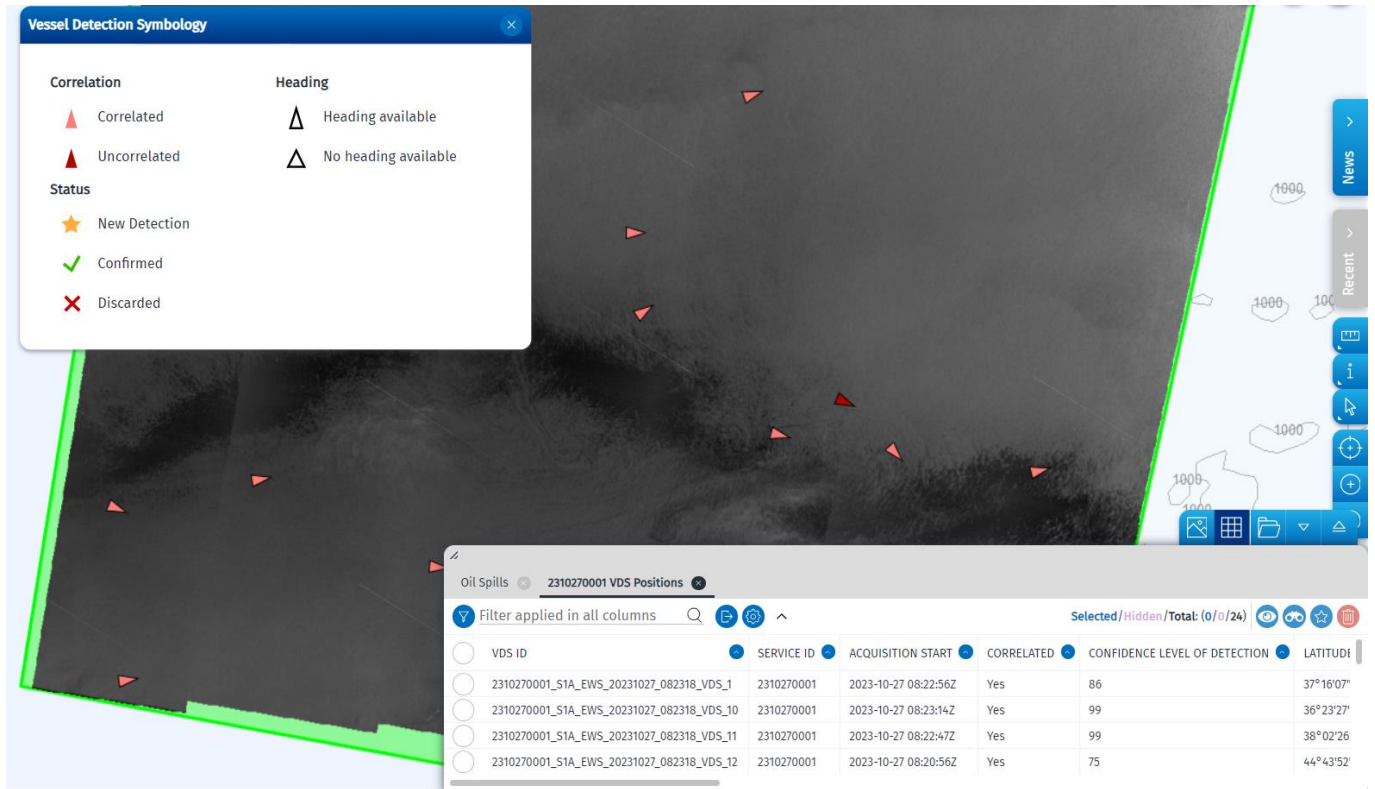


8.4 Detected Vessels

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

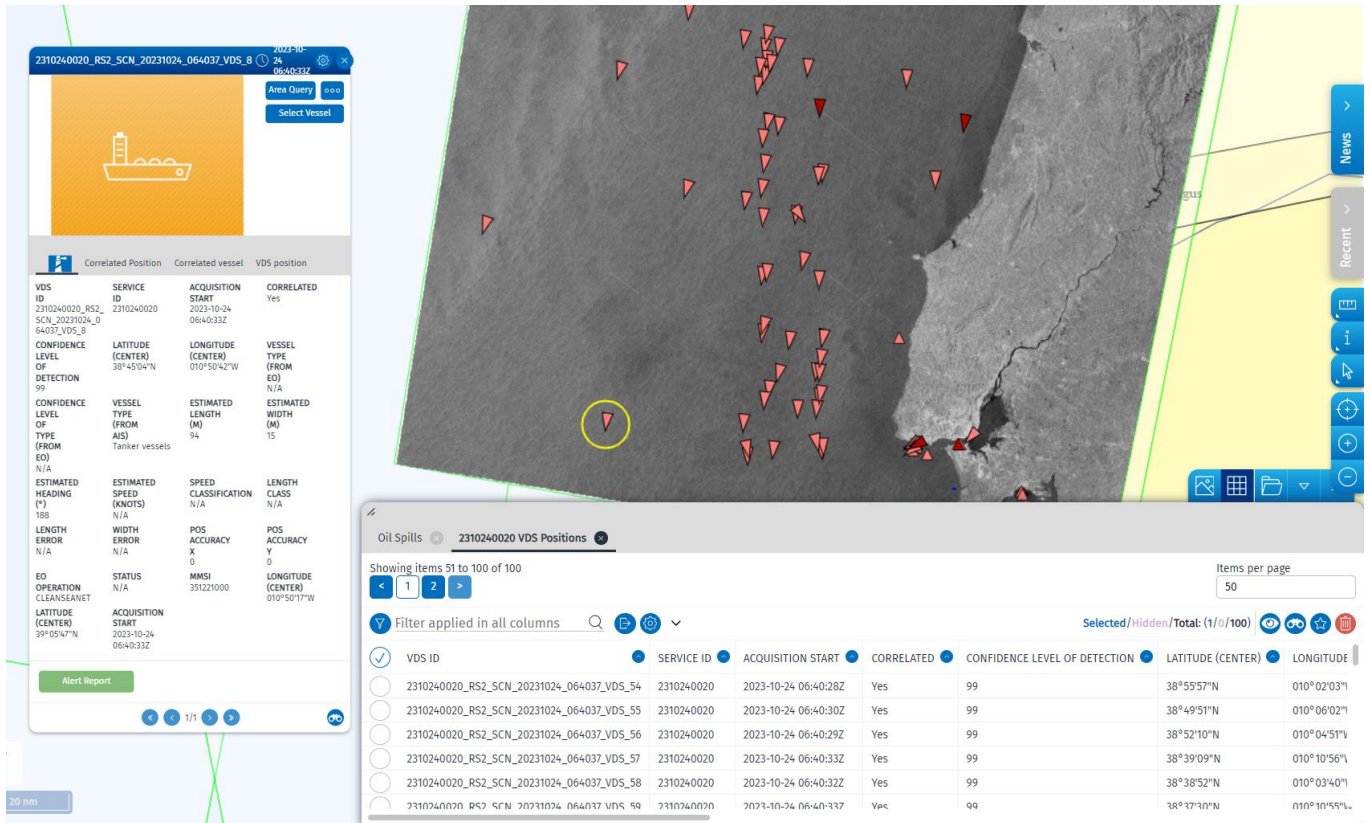
reporting position from a vessel (T-AIS, VMS, LRIT, SAT-AIS) for which the user has permission. A non-correlated vessel shows that the service was unable to associate a reporting position.

Figure 32 Detected vessels – correlated and non-correlated.



The VDS details are available in the Table as a new Tab. By clicking on a table row, a C&I window opens for the VDS object.

Figure 33 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. By clicking on the 'i' button, a new window showing the legend will appear on the screen.

Figure 34 SAR wind

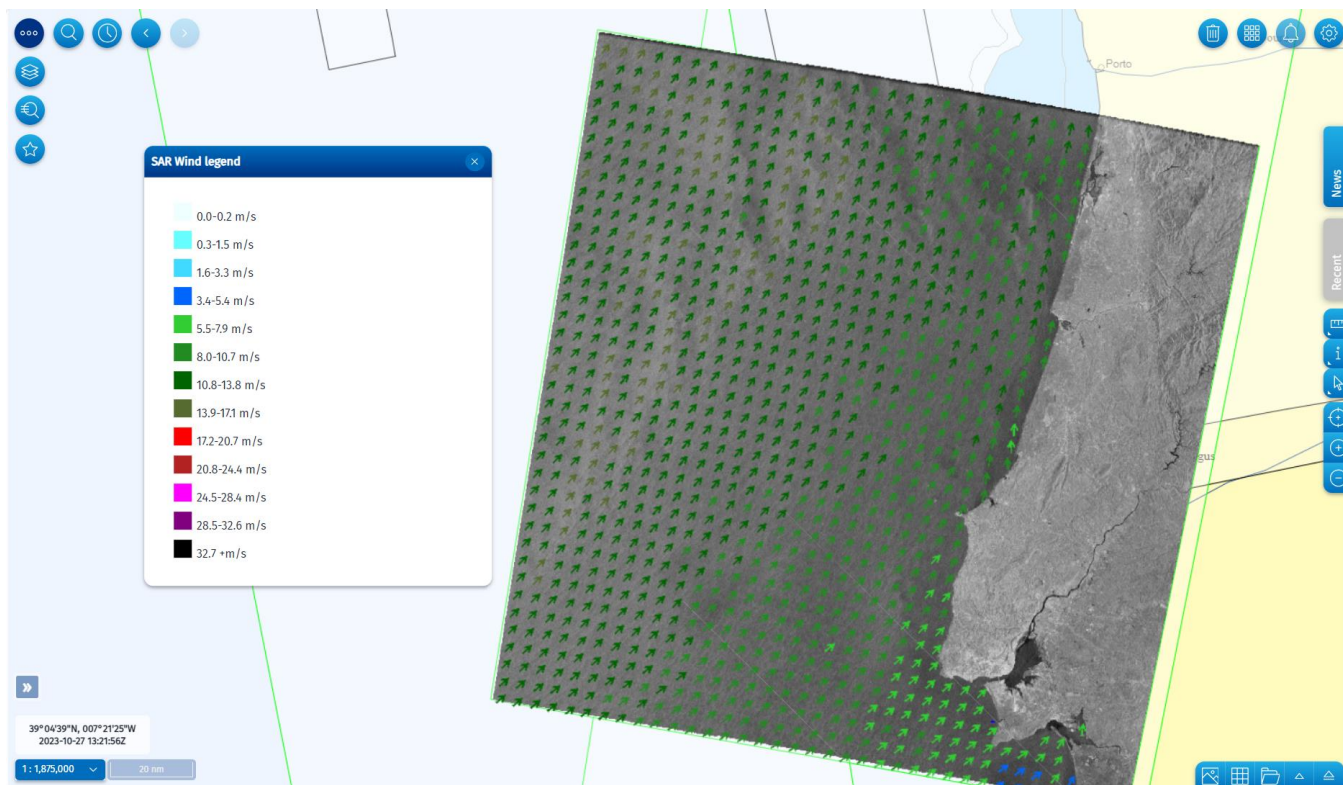
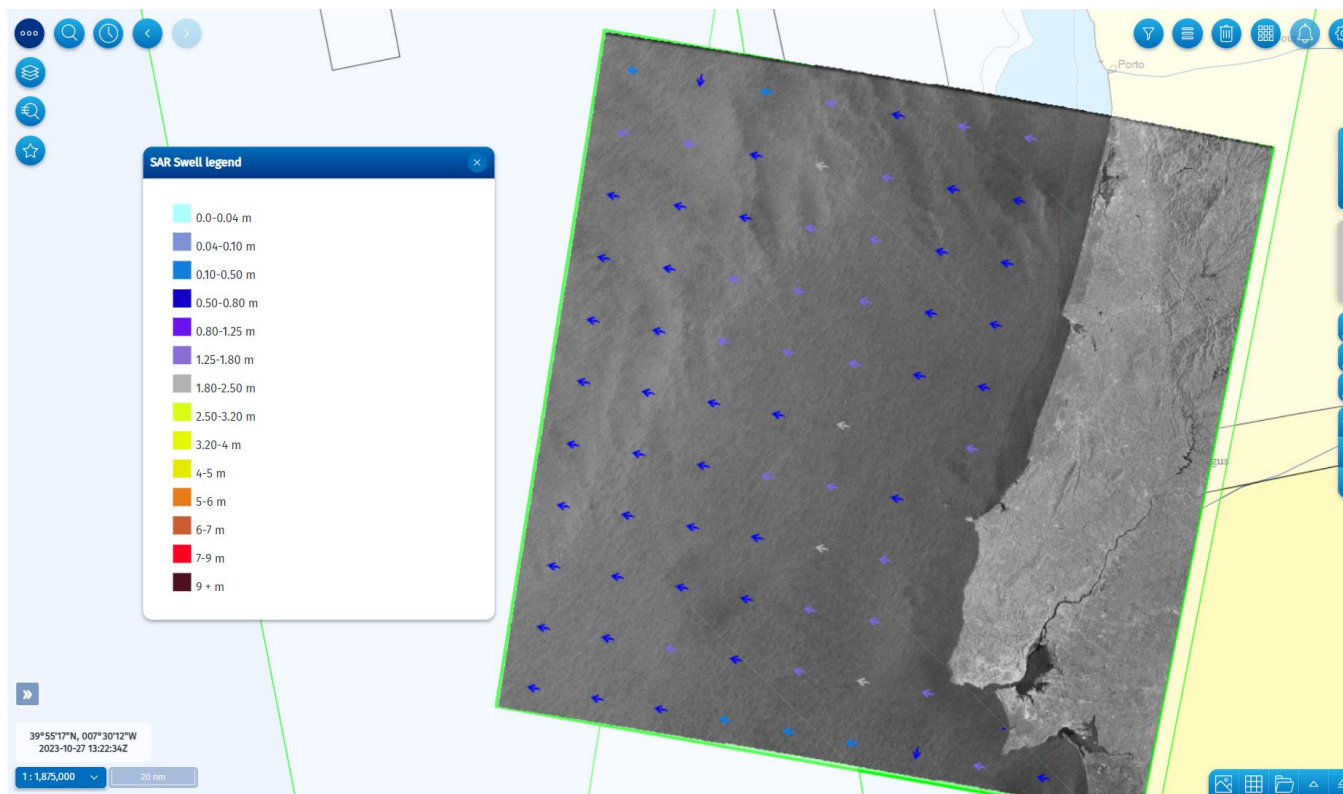


Figure 35 SAR swell

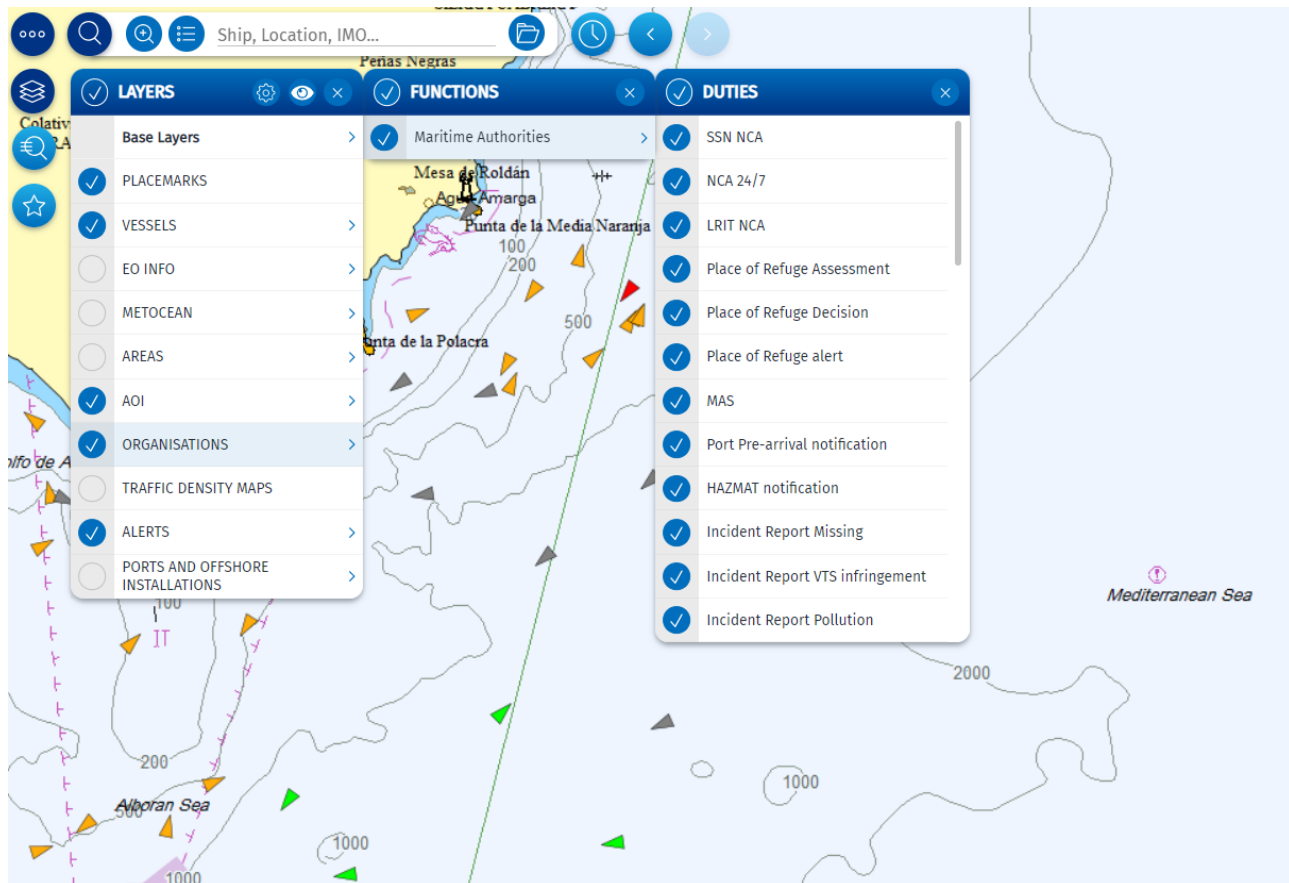


9. Organisations


The organizations information is available from the Central Organizations Database (COD) and is displayed in the SEG through the Organisations layer in the 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 36 Organizations Layer and filtering window

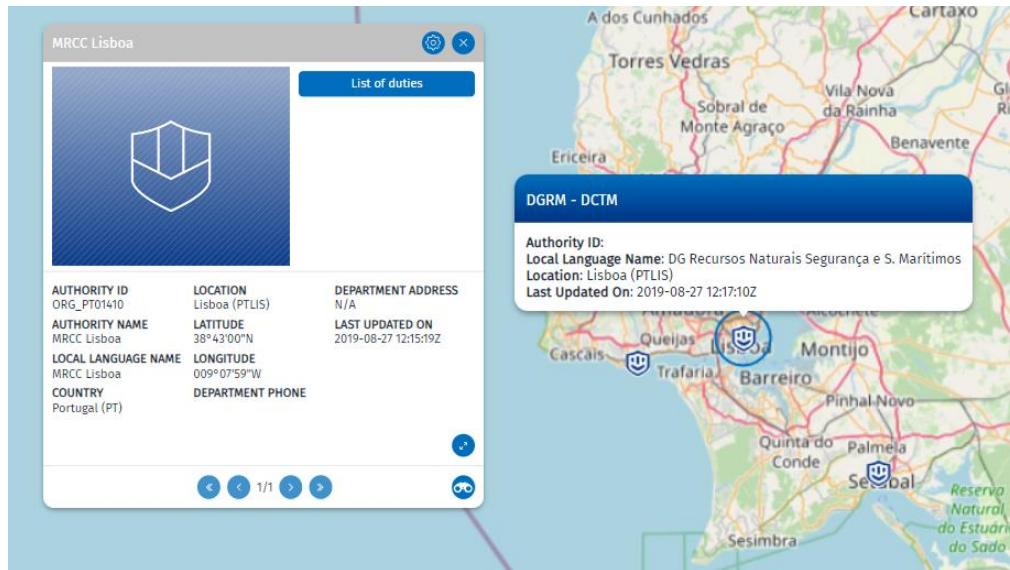


9.1 Organisations Tooltips and Command & Info

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 37 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 offshore 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 LOCOCODES 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 LOCOCODEs corresponding to ports and offshore installations.

The Ports and offshore installations layer may be displayed on the map. By selecting a Port, the window 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

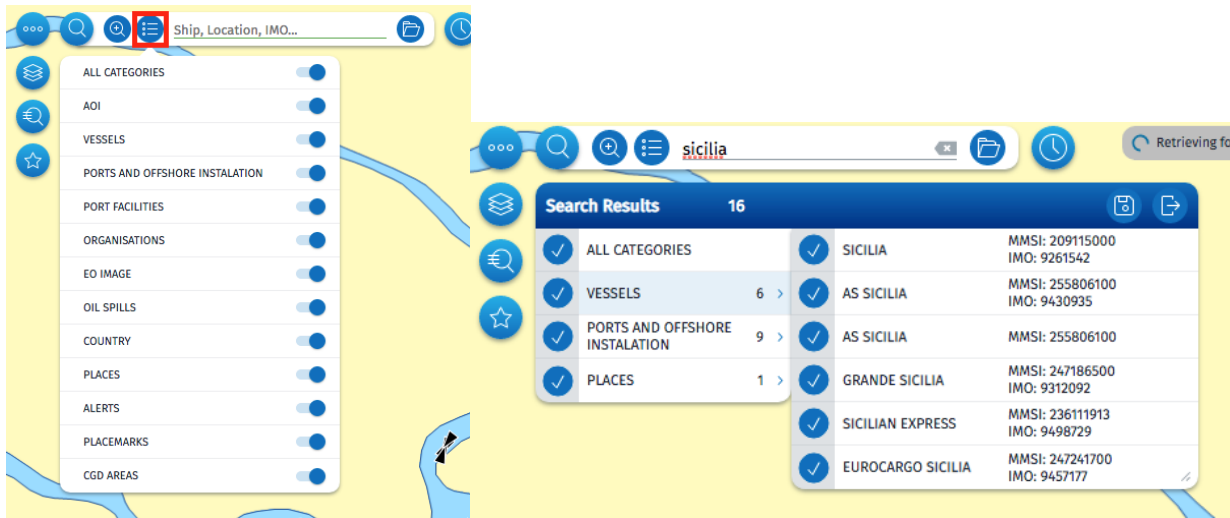
Two types of Search functions are available, the "Smart search" function and "Advanced search" function.

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.). To search object only in certain categories, it is necessary to press the following button . 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 38 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.

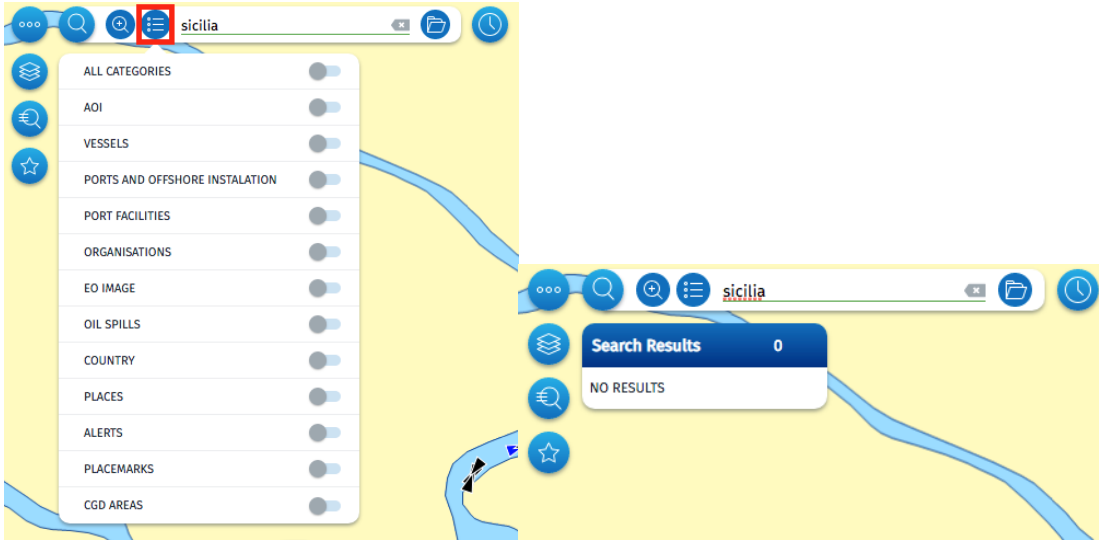
EO data may be searched **within a time window -3 / +3 days**. The Advanced Search function must be used to search for EO data and products outside this time window.

Search results objects are marked in green .

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

By clicking on  it's possible to access the 'Search history' where the Recent Smart Search and the Saved Search are shown. A maximum of 100 search results may be saved.

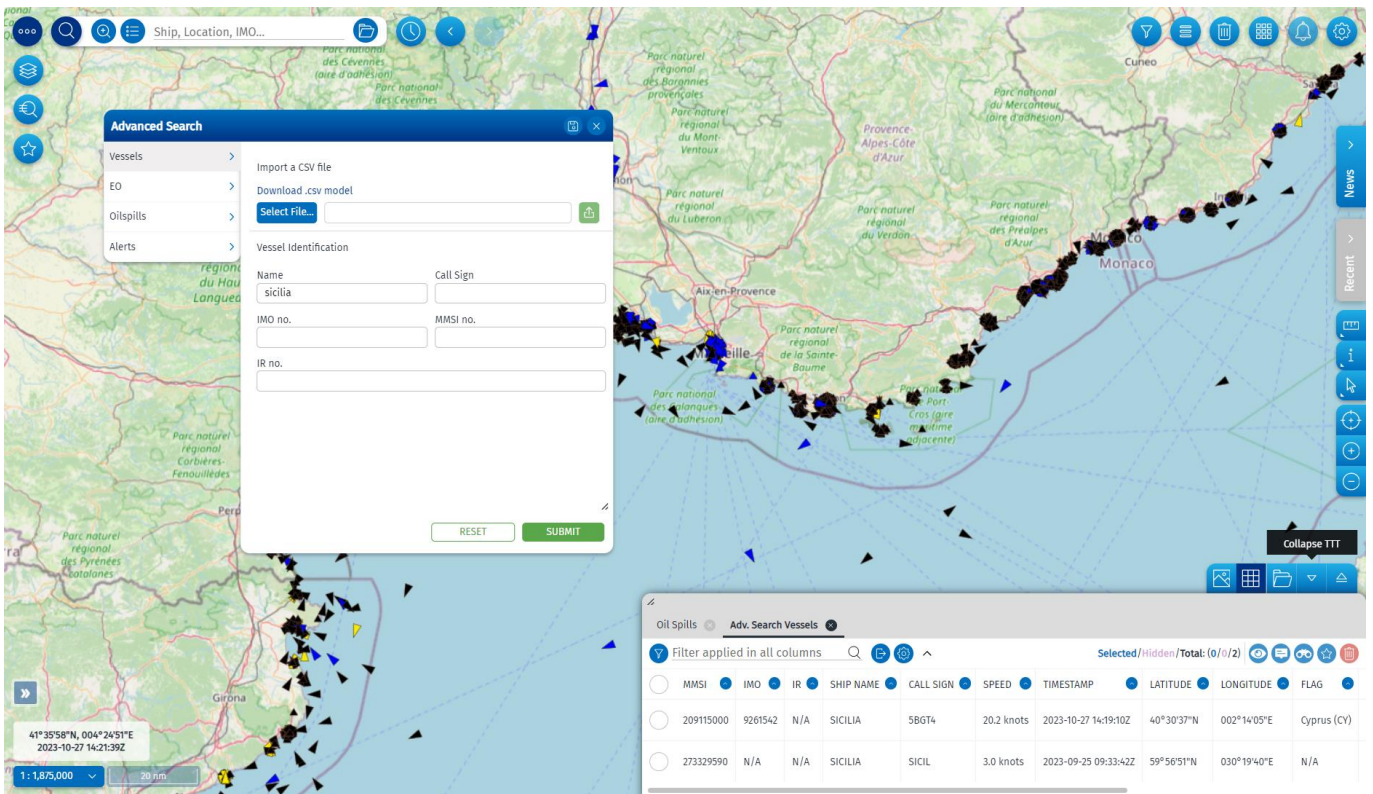
Results can be exported by clicking on . If no category is selected, then the smart search result will be "No Results".



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 39 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.


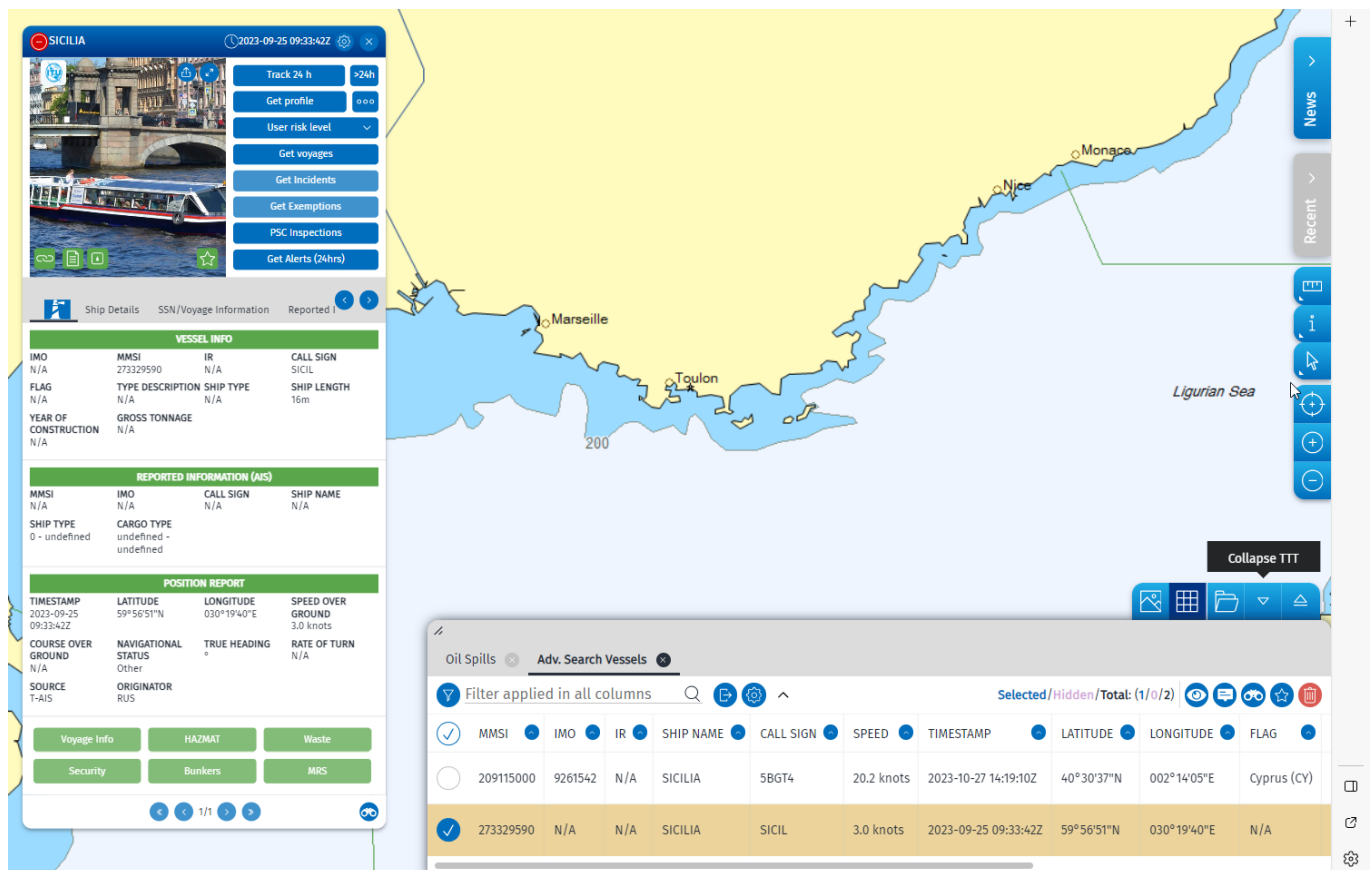


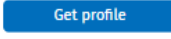

The search results will be marked in green .

Figure 40 Advanced Search identified vessel



12. Query

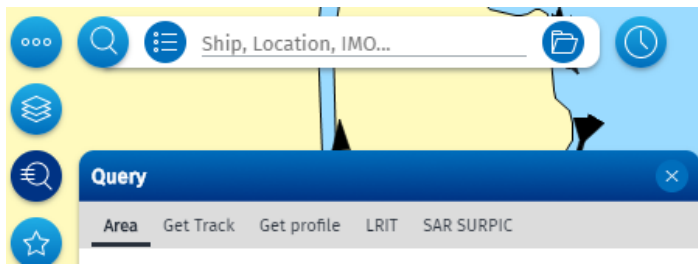
The Query menu allows a user to make a query on the map of five types:

- 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 41 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 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 by double clicking on area frame.

Figure 42 AOI Editor

The screenshot shows the 'AOI editor' window. At the top, there's a 'General Info' section with a 'Name' field containing 'LinePolygon' and icons for star, share, and 'ACQ'. Below is a 'Geometry (5)' section with 'Edit coordinates' and an 'Add a point' button. Five vertices are listed, each with 'Lat' and 'Lon' input fields and directional dropdowns (N, W). A 'Style' section at the bottom includes 'Border' settings for 'Color' (blue), 'Width' (1.25), and 'Opacity' (1), with a 'RESET' button.

| Vertex | Lat | Lon | Dir |
|------------|-----|-----|-----|
| Vertex: #1 | 53 | 15 | N |
| Vertex: #2 | 55 | 37 | N |
| Vertex: #3 | 48 | 0 | N |
| Vertex: #4 | 39 | 47 | N |
| Vertex: #5 | 48 | 8 | N |

The AOI Editor allows the user to rename the area, to edit the coordinates, 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 . The import file must be a **compressed (zip) shape file**.

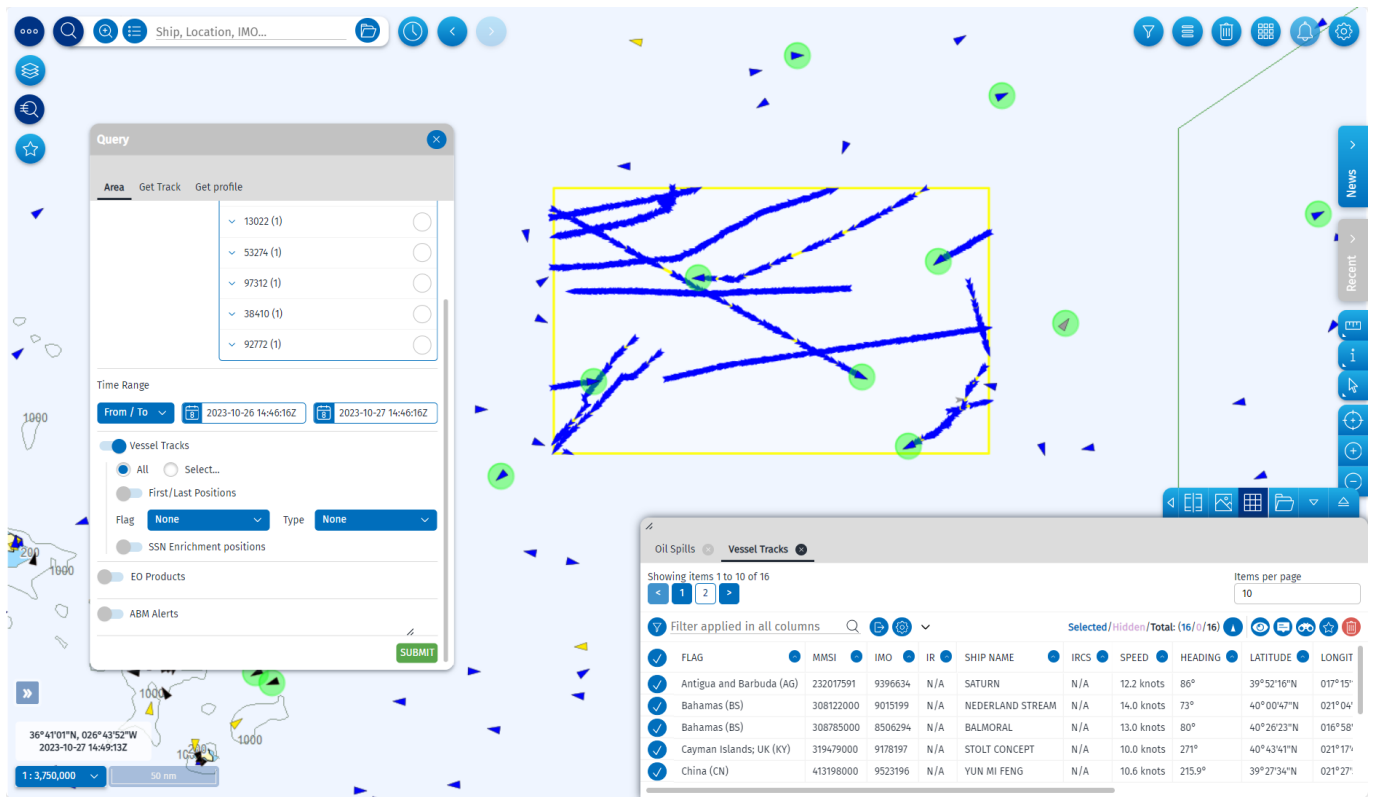
To delete an area, it is necessary to first select it by clicking on the frame (the area's frames will turn yellow) and then, press the button "Delete" from the keyboard. It is also possible to delete all the areas by clicking on the trash bin icon.

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 43 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.

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 "Track 24h" Track 24 h 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 (through the button >24h) or the Query functionality. Historical vessel track data is available for the last 2 years.

In the query window, 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.

Under the entry “Options” it is also possible to enable or disable the following options:

- SSN Enrichment
- IN/OUT area approximate distance calculation
- IN/OUT area approximate speed calculation

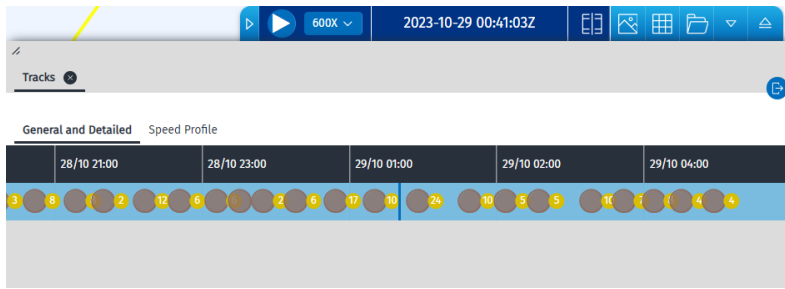
Figure 44 Advanced Get track

| P NAME | IRCS | SPEED | HEADING | LATITUDE | LONGITUDE | TIMESTAMP | SOURCE | NAVIGATIONAL STATUS |
|-----------|------|------------|---------|------------|-------------|----------------------|---------|---------------------|
| .BORDEAUX | N/A | 10.0 knots | 111° | 37°08'12"N | 011°34'12"W | 2023-10-27 13:52:09Z | Sat-AIS | Other |

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. Selecting the button “Advanced TTT timeline” in Client Preferences/Show/Vessels, the user will have additional information.

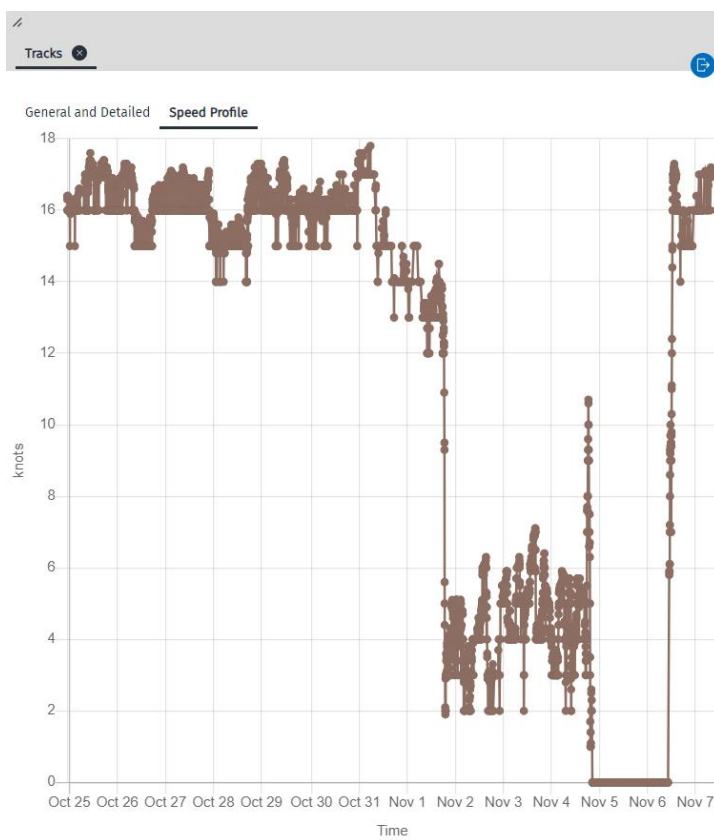
The positions in the timeline are indicated by a brown circle. Every brown circle has a yellow circle on its side and the number inside indicate the number of the positions which have been registered for that period. Zooming in the time will be expanded and the number inside the yellow circle will decrease. By selecting a specific position, the corresponding position on the map is highlighted.

Figure 45 Timeline



The speed profile of the vessel for the selected period is also available by clicking on the “Speed Profile” icon.

Figure 46 Speed Profile



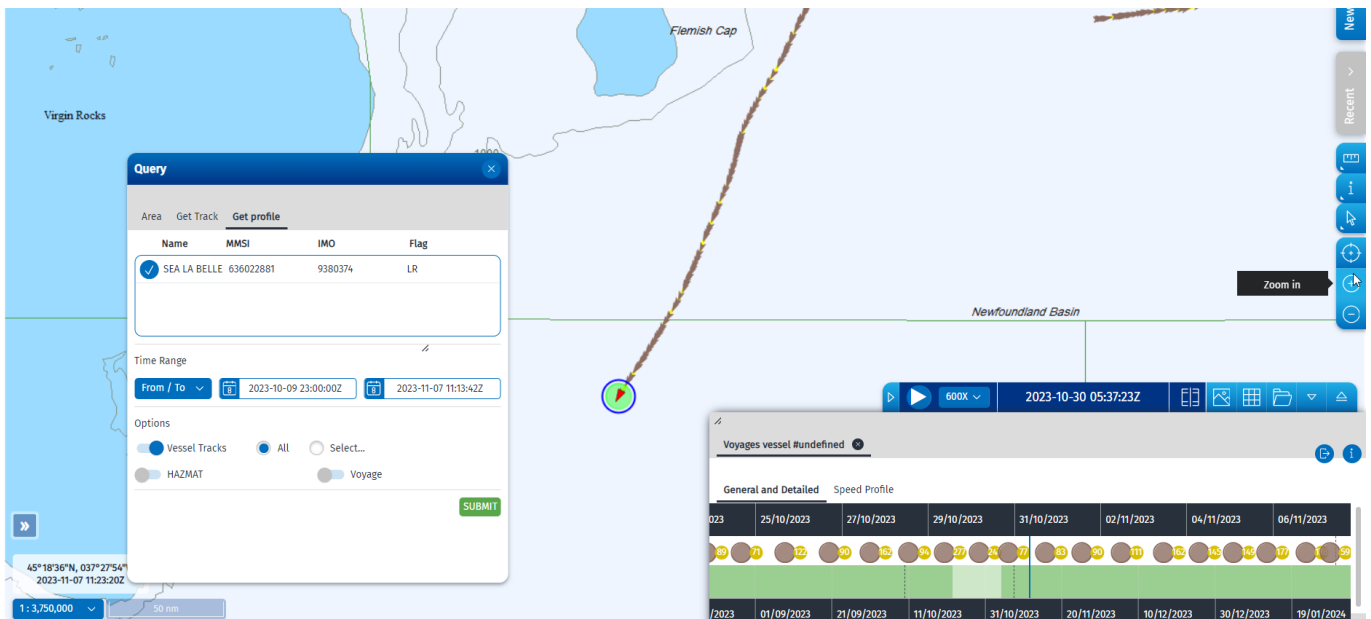
12.6 Get profile of a vessel



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 [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 [Get profile](#) [...](#) available through the Command & Info panel or the Query functionality ([Get profile](#) [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 47 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

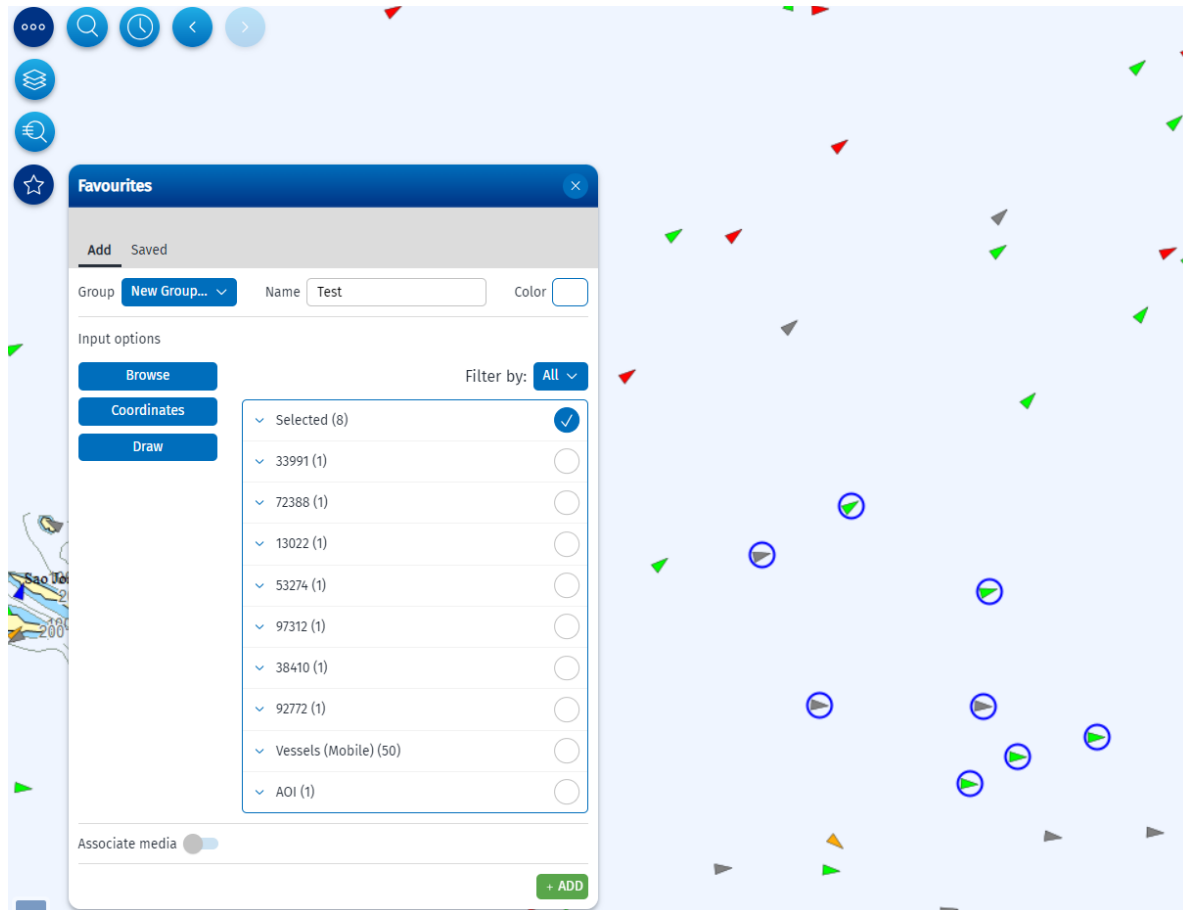
Favourites can be one or more elements on the map that can be marked by users and associated to Favourites Groups. Three types of groups are possible:

- TOI Vessels
- AOI: Areas

To add a group of vessels in the favourites, it is necessary to select all the vessels of interest and click the Favourite button on the left of the screen. In the new window, under the entry “group”, the user must select “new group” and to

put the name for that group of vessels. It is also possible to select a colour for each group. After that, the user can create the new group by clicking on the green button **+ ADD**.

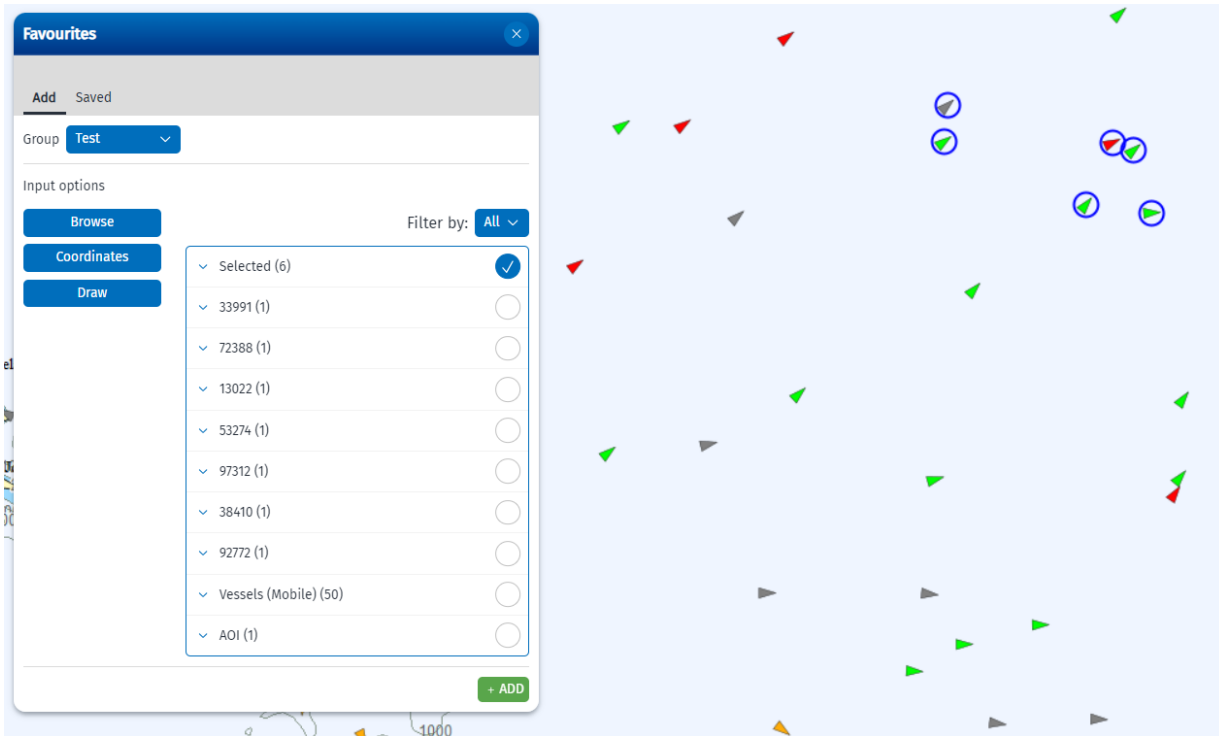
Figure 48 Add vessels to Favourite



The user may want to add other vessels in a group after the group has been already created. In this case, it is necessary to select the vessel(s) to add and to select the correspondent's name of the group in the entry. The operation will be completed by selecting the green button "Add".

The same procedures can be applied to add areas in a group.

Figure 49 Add vessels in a group



The saved favourites groups are shown in the section “Saved” of the Favourites window. By selecting one of the group the user is able to see all the selected vessels on the map.

Figure 50 Show saved groups



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

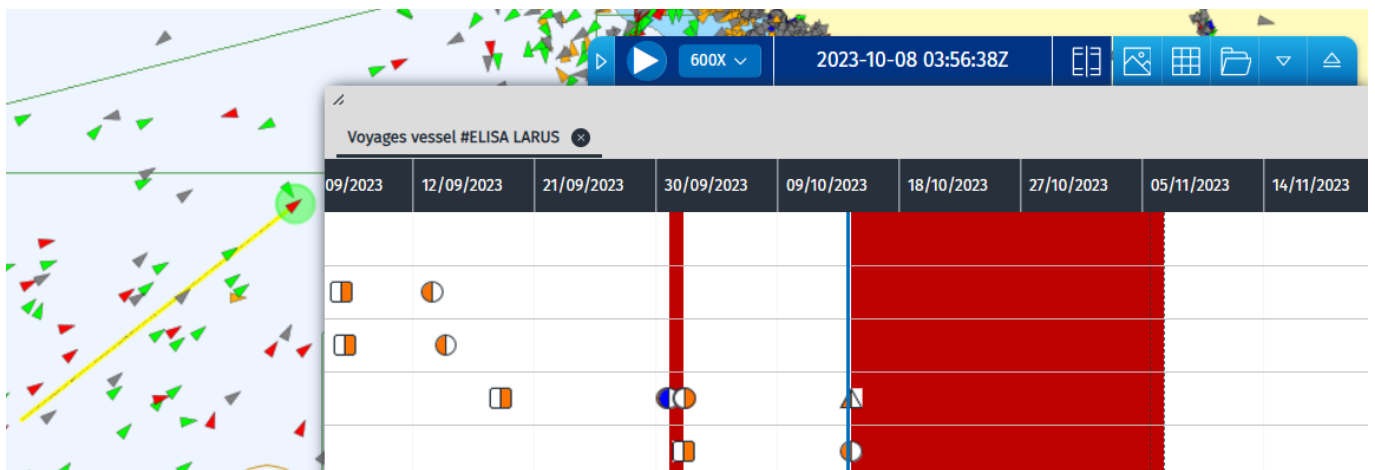
A Tabular View of information is available from the TTT panel. In the Table, a user can sort (ascend/descend) and configure the columns in which the search is made. By clicking on a table row, the map zooms to the location of the selected item. It is possible to Export the information from the Table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

14.2 Timeline

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

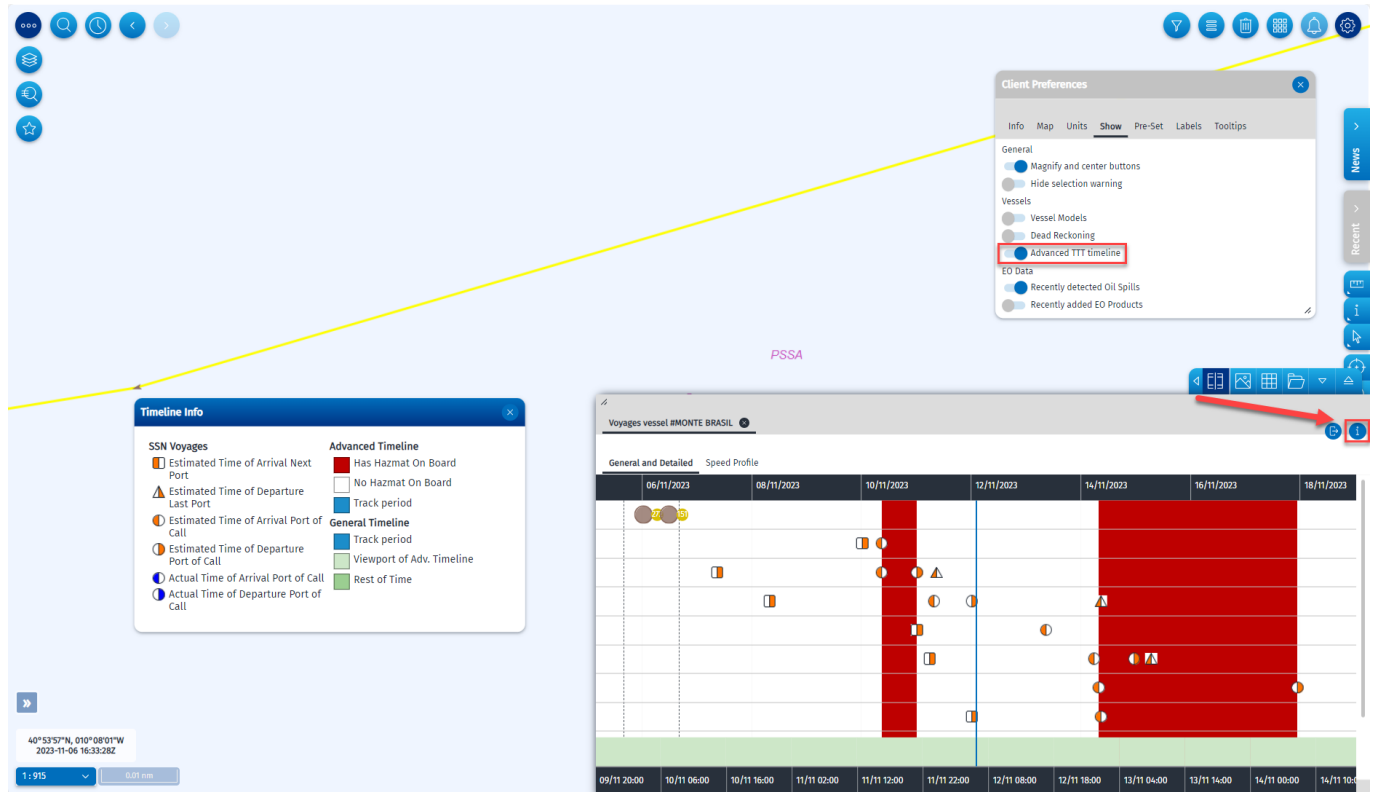
It is possible to zoom in and out on the Timeline by using the mouse wheel or the swipe gesture in mobile devices. When in playing mode, when the timeline passes a time where a position was reported, that position is marked on the map with a circle. The speed of the playback mode can be adjusted. It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

Figure 51 Timeline



The user can open the timeline symbology by clicking on the 'i' icon, as it is shown in the following image. To do it the user has to be sure that the button "Advanced TTT timeline" in Client Preferences/Show/Vessels is activated.

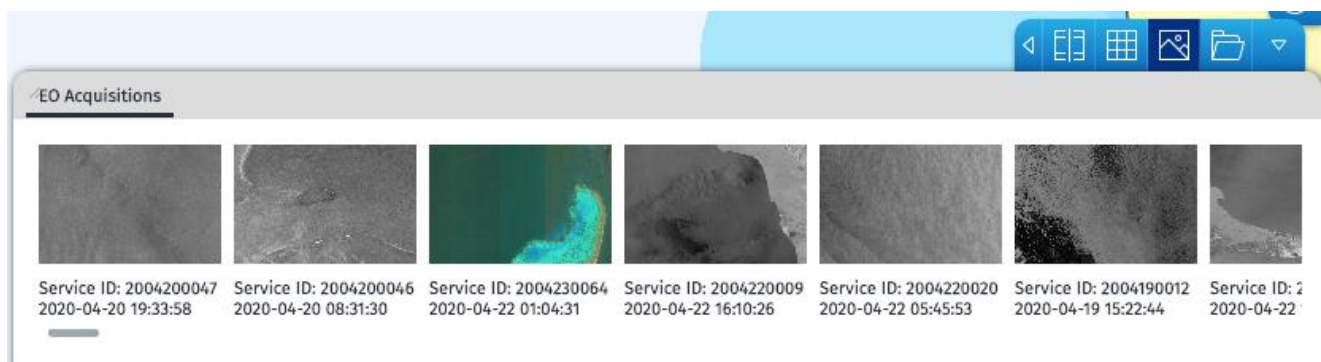
Figure 52 Timeline Symbology



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. It will appear the EO Acquisitions available delivered in the last 3 days at the latest.

Figure 53 Thumbnails



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