

Member States Training

Providing integrated maritime service(s) – IMS - through EMSA's Integrated Maritime Data Environment

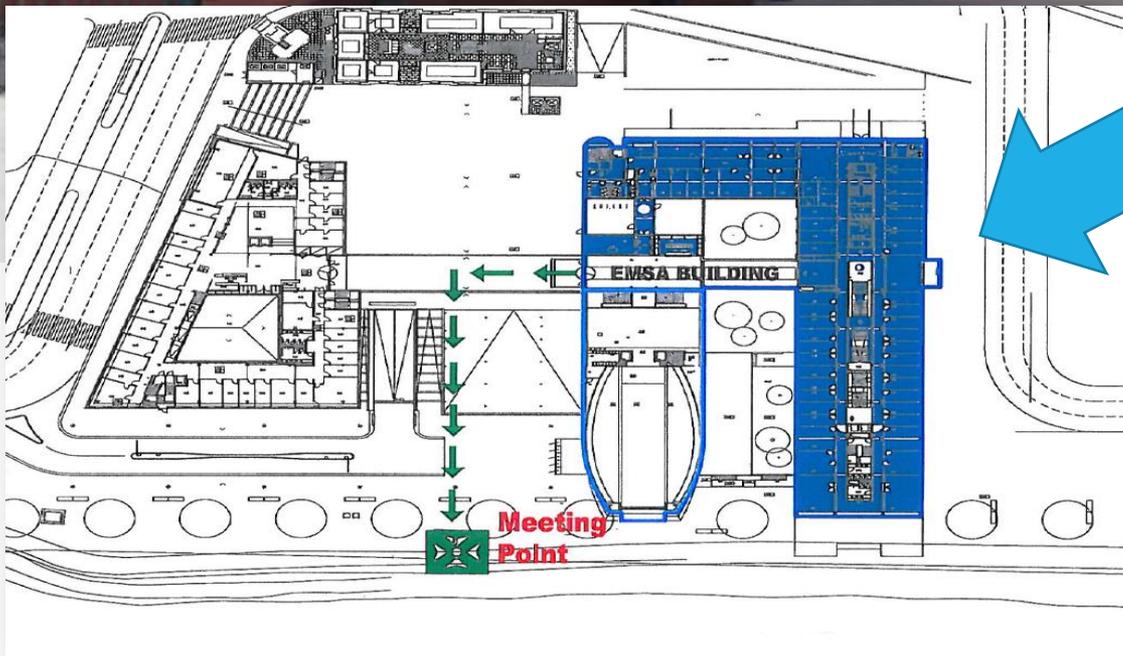
Lisbon/ 21 October 2016



- **Welcome and safety information**
- **Tour de Table**
- **Integrated Maritime Services (IMS) for Member States – background**
- **Overview of IMDatE platform capabilities**

Welcome, Safety information, evacuation procedures

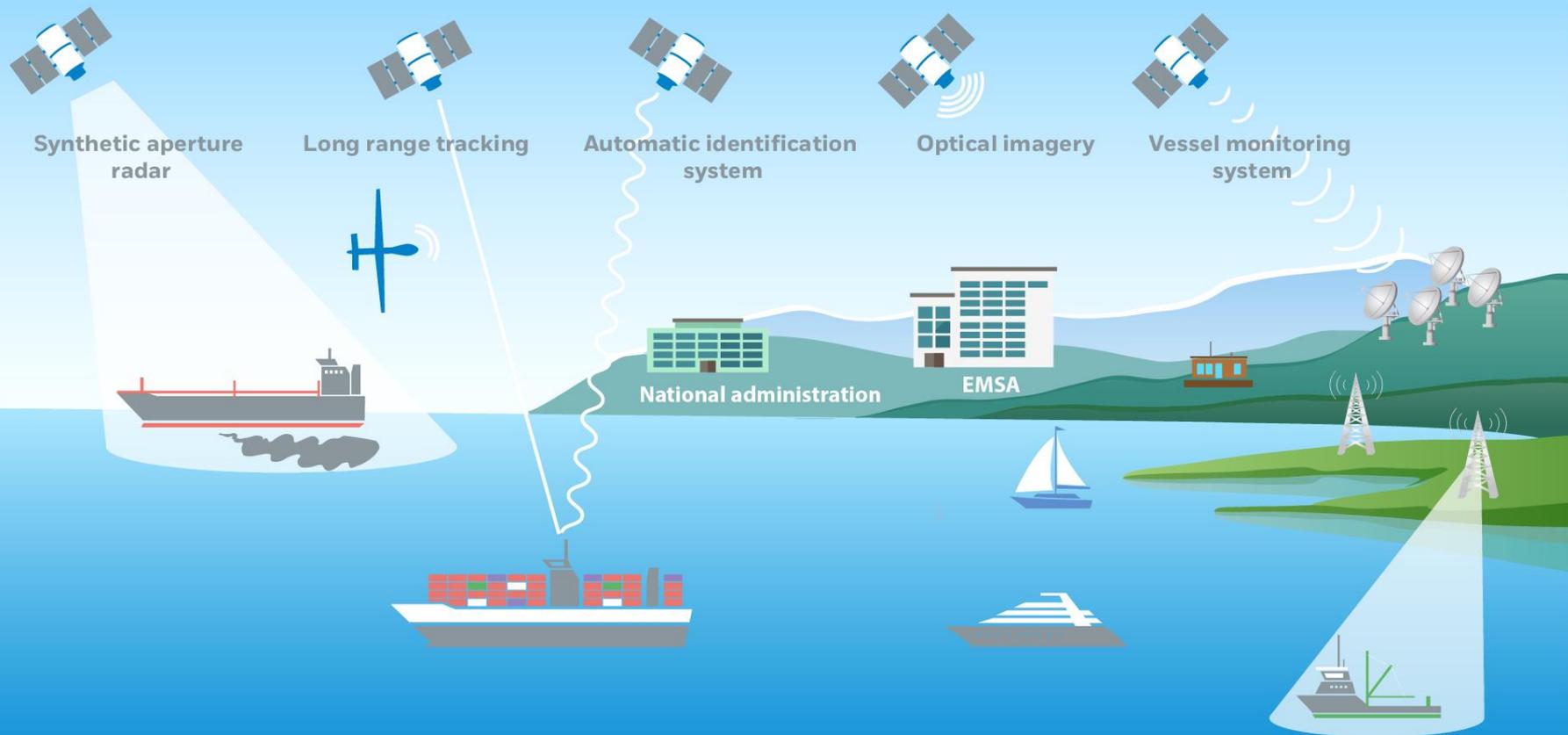
Safety information – evacuation procedures



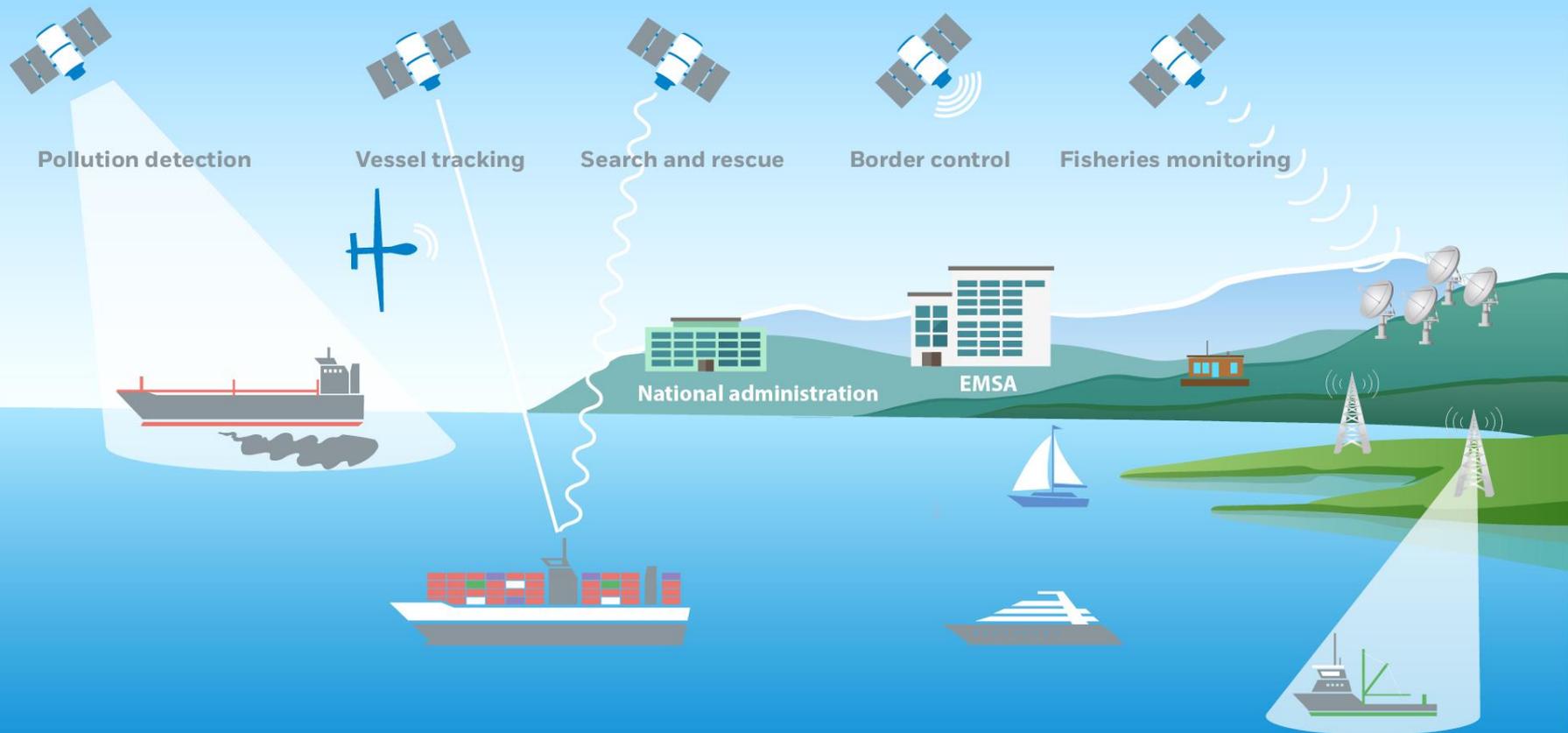
Tour de Table

IMS- Background

Integrated maritime services



Integrated maritime services

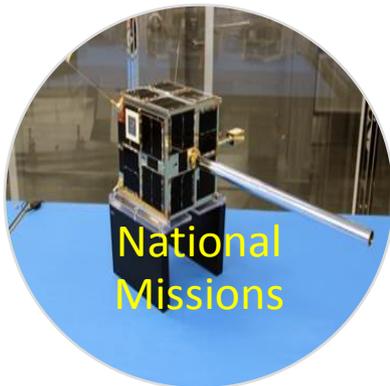


Why IMS?

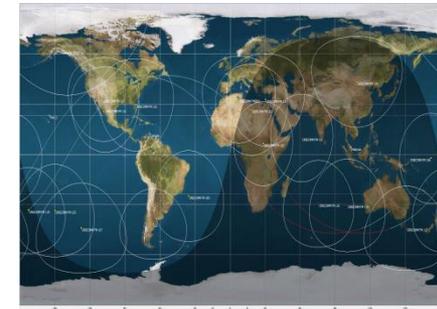
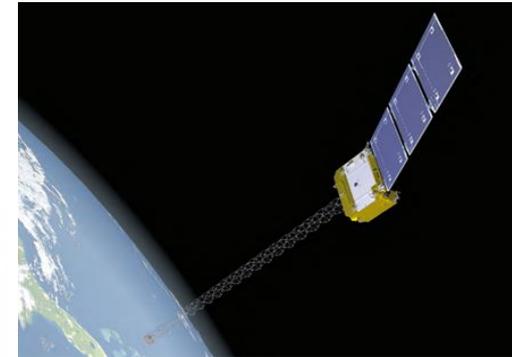
- Over 3000 users of EMSA VTMIS-related systems.
- Large amount of common users accessing different applications – SSN, LRIT, CSN.
- Users are asking for value added information based on integrated data.

What for?

- Maritime Domain Awareness (IMO definition) = effective understanding of anything associated with the maritime domain that could impact the security, safety, economy or environment.
- IMS is a voluntary service provided to national administration having “functions” related to the maritime domain



Provision of high quality SAT-AIS data services to EMSA users

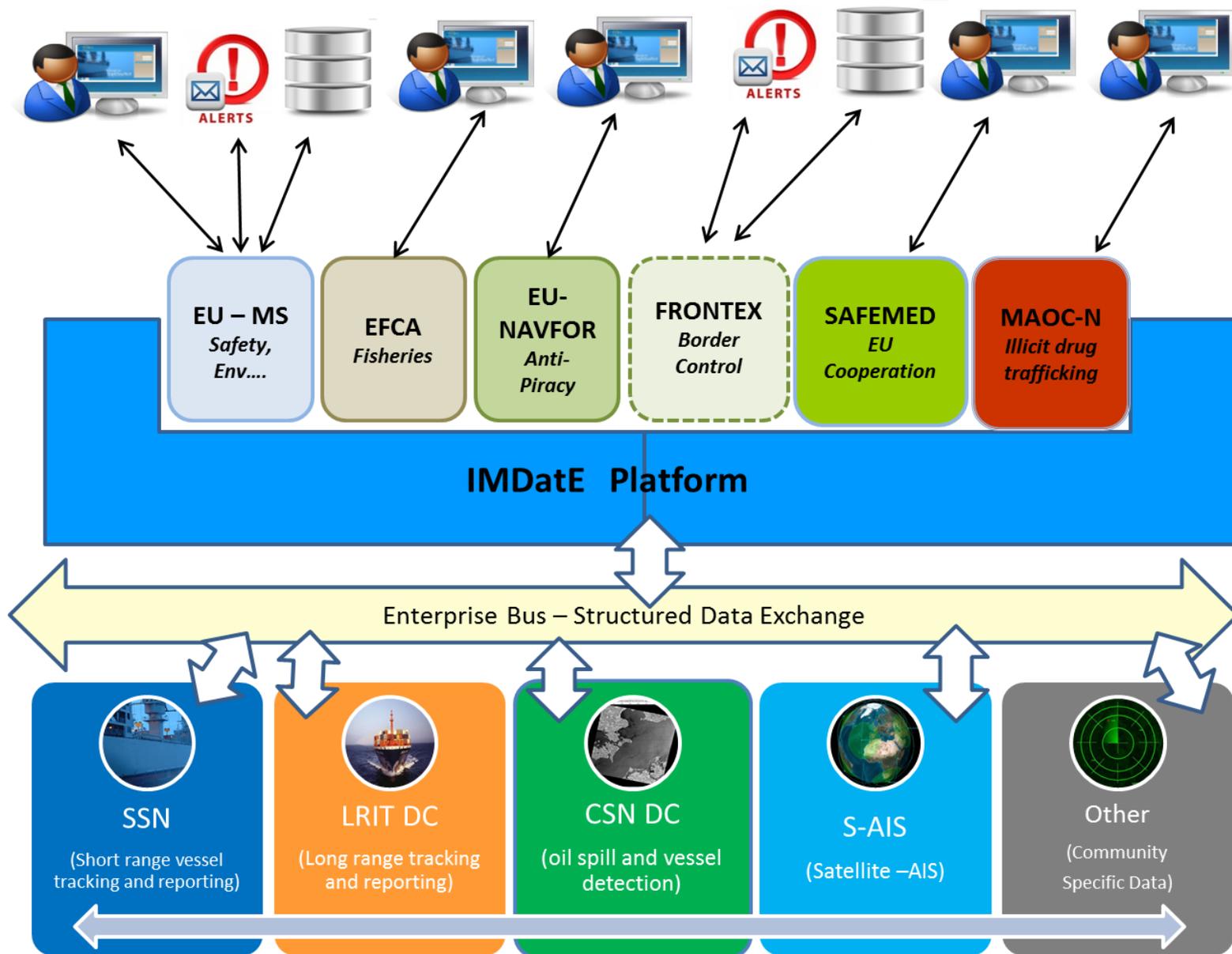


- February 2014 - Service roll-out;
- SAT-AIS Data Processing Centre as part of EMSA's Integrated Maritime Services (IMS);
- Global feed of SAT-AIS data from Norway (national mission) and from a SAT-AIS data provider LuxSpace
 - 16 Orbcomm 2nd Generation constellation;
 - AprizeSat 10 and NORAIS 2 (AIS receiver on the International Space station);
 - SAT-AIS positions are Doppler validated).

Overview of IMDatE platform capabilities

- **“Integration”**: bringing together and combine all available maritime and relevant ancillary information.
- **“Interoperability”**: enhancing the ability of diverse maritime (and non) systems to work together.
- **“Harmonisation”**: promoting the capability of these systems to follow common guidelines.

Integrated Maritime Services

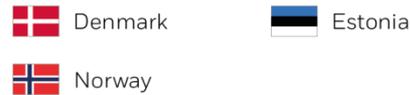


- Access to the platform can be gained via i) a web-based user interface, ii) XML-based system-to-system interfaces, and iii) other ways of data export such as email, etc.
- A platform to systematically **collect and fuse ship position reports**, perform **correlation** with the ship detected targets from satellite imagery (or coastal radar – under assessment), and **aggregate available ship information**, to provide most complete maritime picture.
- Live traffic picture and analysis tools to assess **vessel behaviour or specific events** associated to one of more vessels.
- EMSA can deliver **tailor made services** for new users [or user communities].

22

TOTAL OF MS INVOLVED IN IMS OVER 4 YEARS

2016



2015



2014



2013



Overall distribution of IMS users



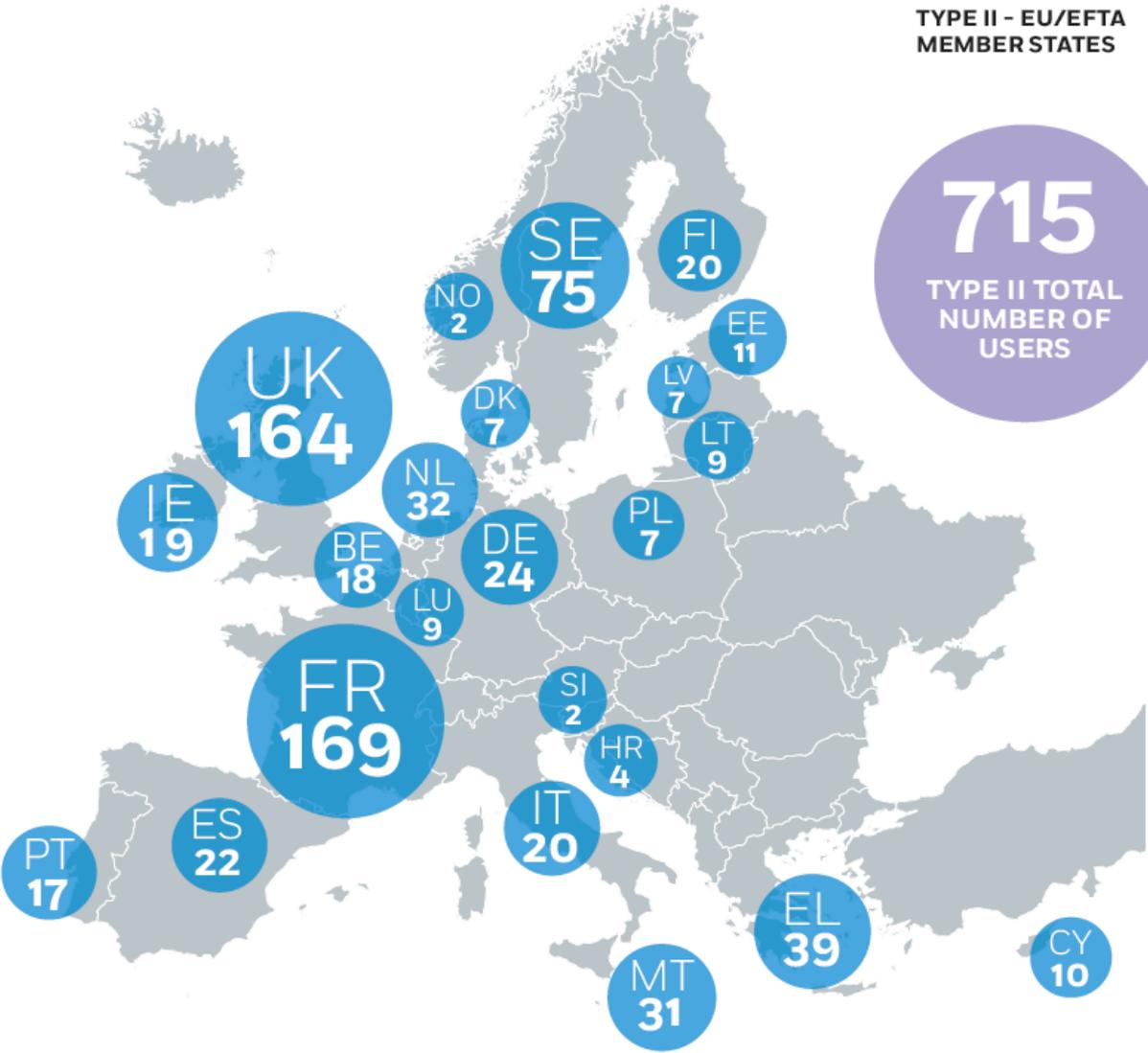
TYPE I - INSTITUTIONS/EU BODIES

167 TOTAL NUMBER OF USERS DISTRIBUTED BETWEEN

EMSA	72
EFCA	44
EC DG OLAF	26
EU NAVFOR	14
FRONTEX	6
MAOC	4
EC DG MOVE	1

TYPE II - EU/EFTA MEMBER STATES

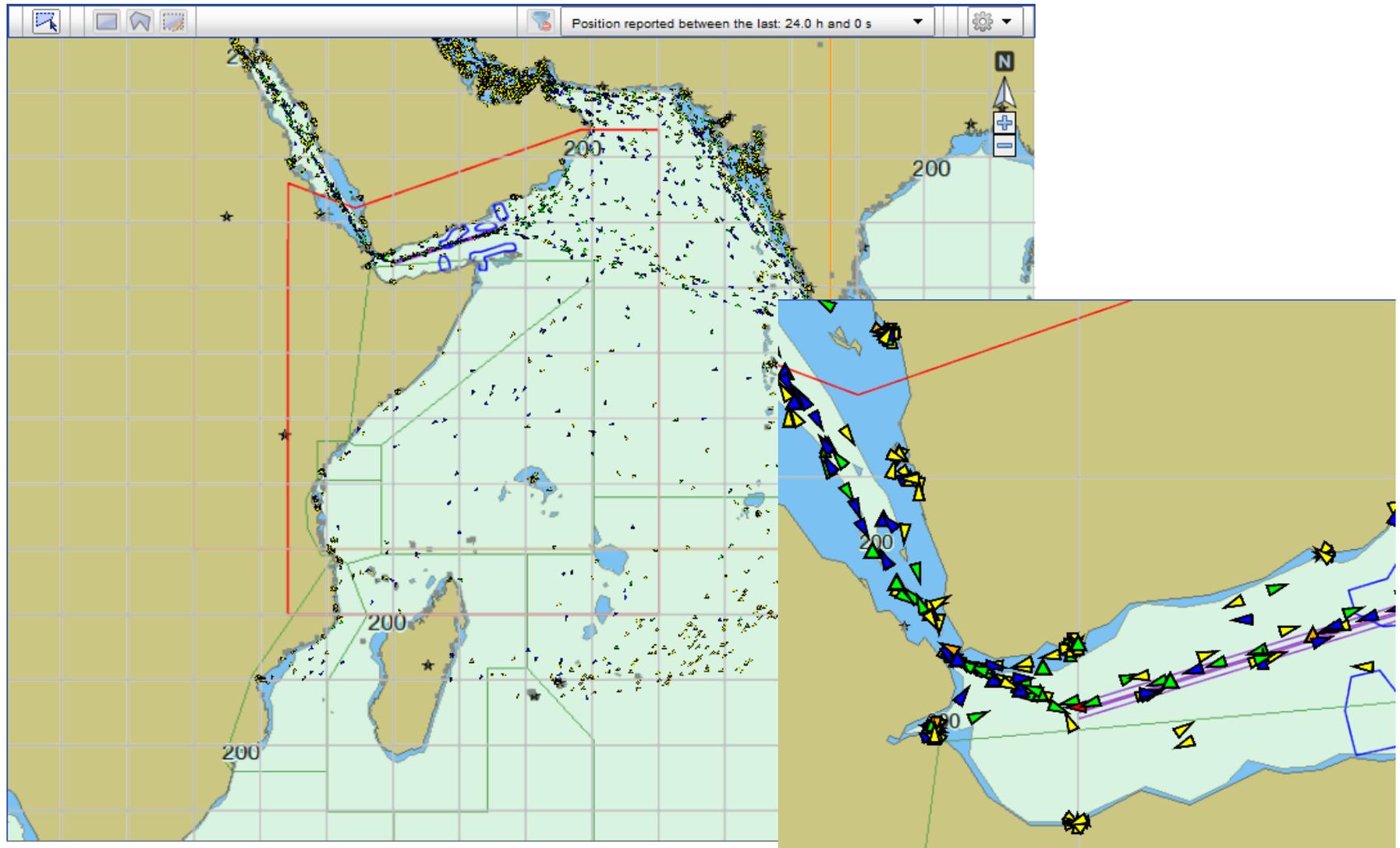
715
TYPE II TOTAL NUMBER OF USERS



TYPE III - NON-EU MEMBER STATES

35 TOTAL NUMBER OF USERS INVOLVING

MAROCCO	16	ISRAEL	2
TUNISIA	7	JORDAN	2
ALGERIA	4	AZERBAIJAN	1
GEORGIA	2	LEBANON	1



WUP Documents SMC Help

SEARCH

LAYERS

QUERY

PLACEMARKS

METOCEAN FORECAST

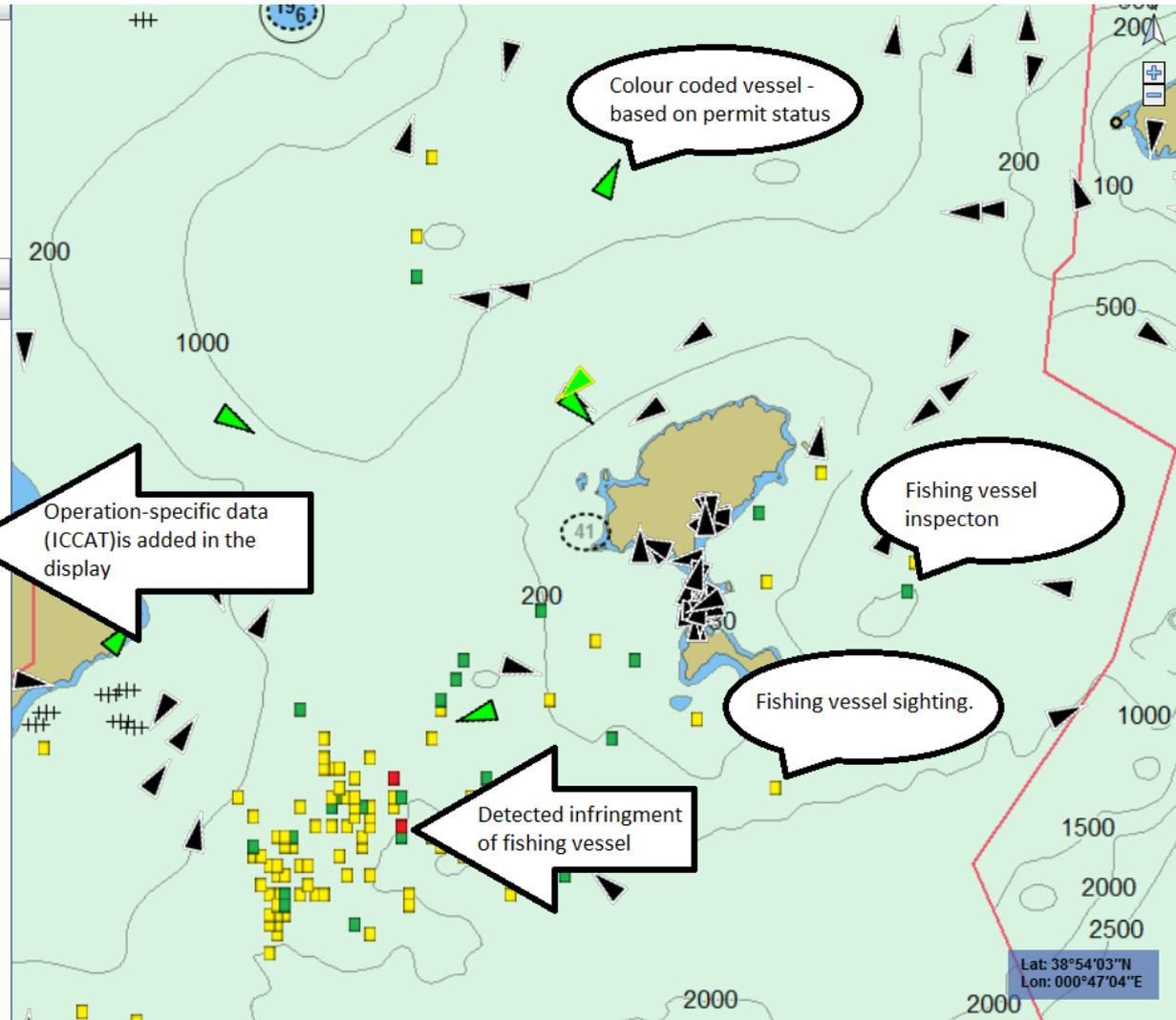
SELECTION INFO AND OPTIONS

Vessel info (center)

MMSI: 224058170
Ship Name: SAN RAFAEL
Flag state: Spain

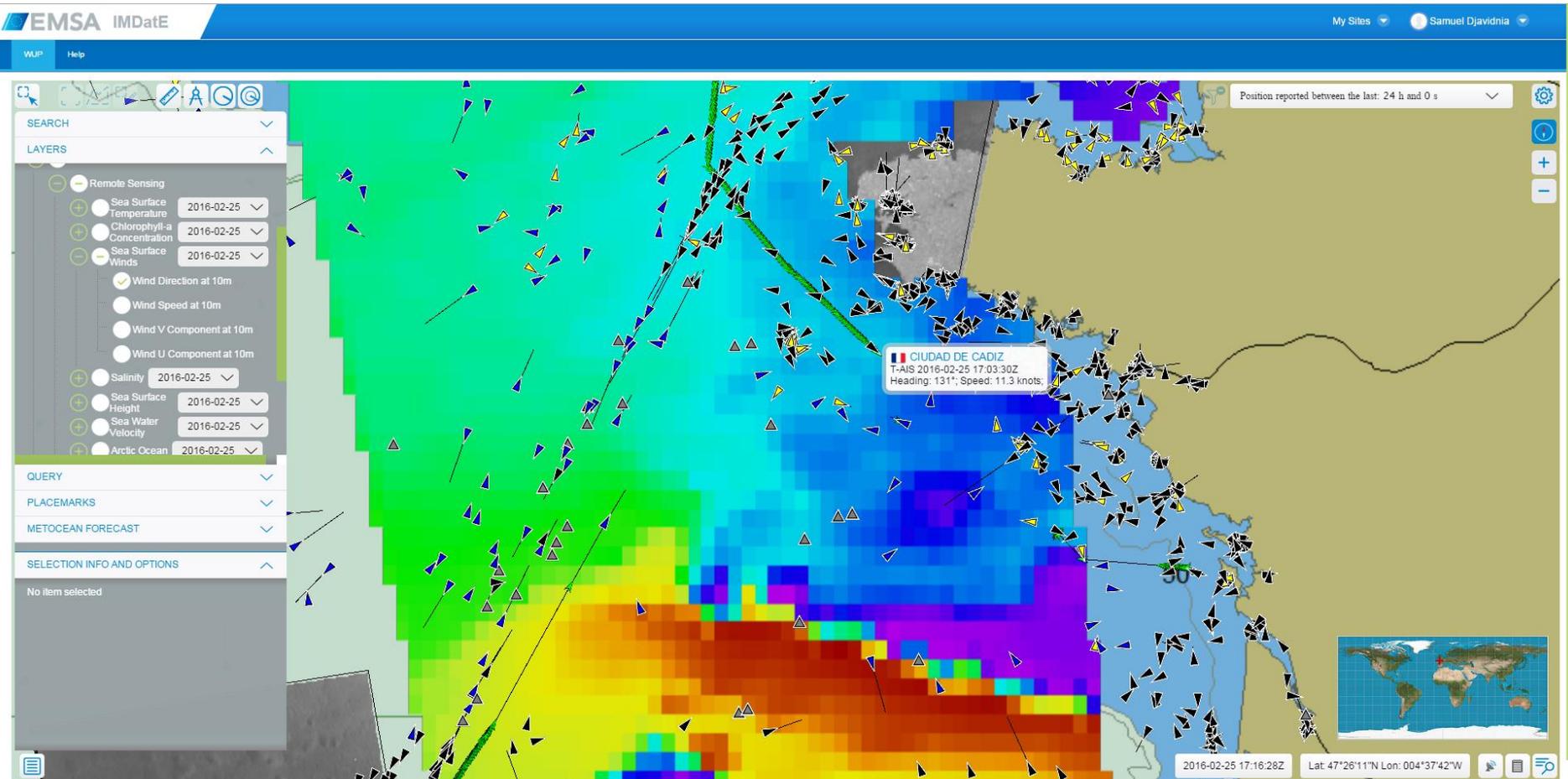
MEDITERRANEAN specific info

ICCAT ID: ATEU0ESP01331
Eu Code: Y
Reg Vessel Name: SAN RAFAEL
Ext Marking: 4-CA-5-7-92
Registry MMSI: 224058170
GT: 14.14
LOA: 17
GHL: N
Nafo Code: N
Catch Permit: Y
Permit type: BFT_OTHER_AUX
Permit from: 20/04/2015
Permit to: 31/12/2015
Catch permit: Y
Gear: NAP
NEAFC Code: N
Iccat Code: Y



- **Principles:**
 - Respect access rights as established by MS under the relevant Directives/agreements/applications.
 - Added value of having an integrated maritime service lies very much in the availability to share data/information between MS/administrations/sectors/communities as much as possible, and as such we try and encourage the sharing of non sensitive information whenever possible.

Data integration vs data access



IMPORTANT: Data owner determines who sees what. Integration and sharing does not imply that everybody will see everything

live demo

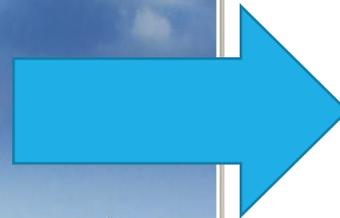
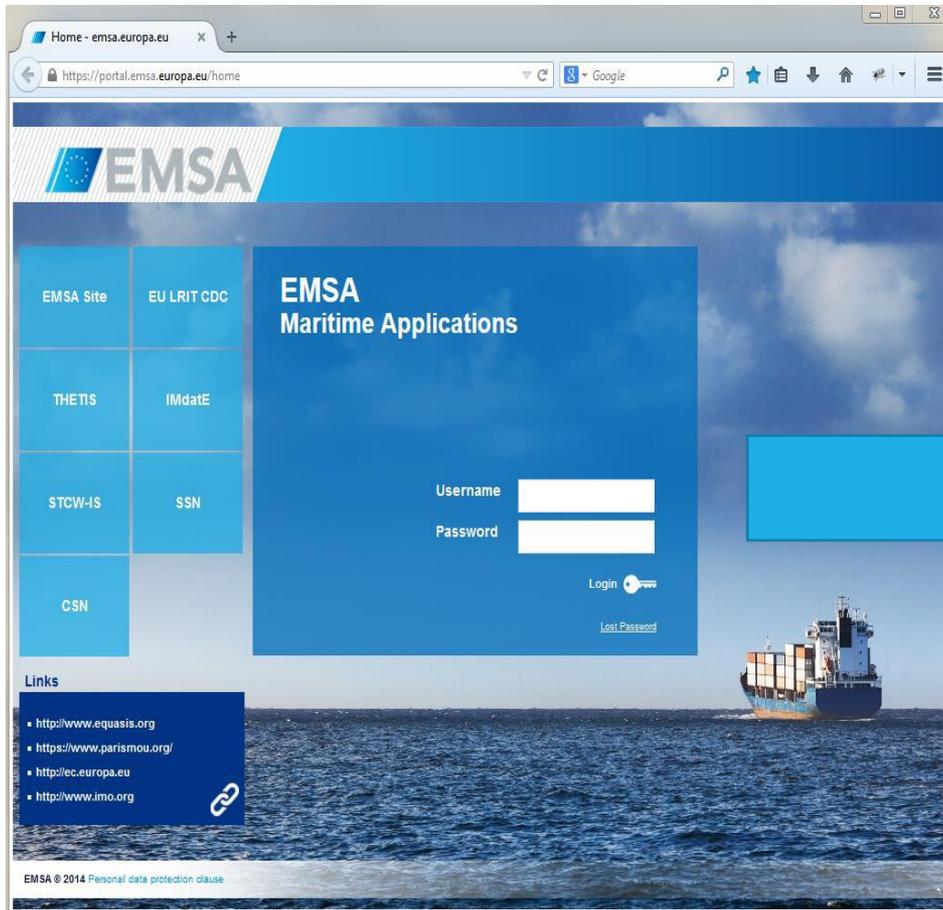
How the IMS could be used in your daily work?

IMDatE (Orientation and familiarisation with the user interface)

searching, position sources, filters, layers, visual preferences, place marks, areas

Log-in to the system

<https://portal.emsa.europa.eu>



The list of the Expressive Icons used through out the training material



= Click left mouse button



= Click right mouse button



= Information



= Control button



= Tab button



= Arrow buttons



= Drop Down Menu



= Double Click



= Scroll



= Hint



= Enter button



= Tab button triple press



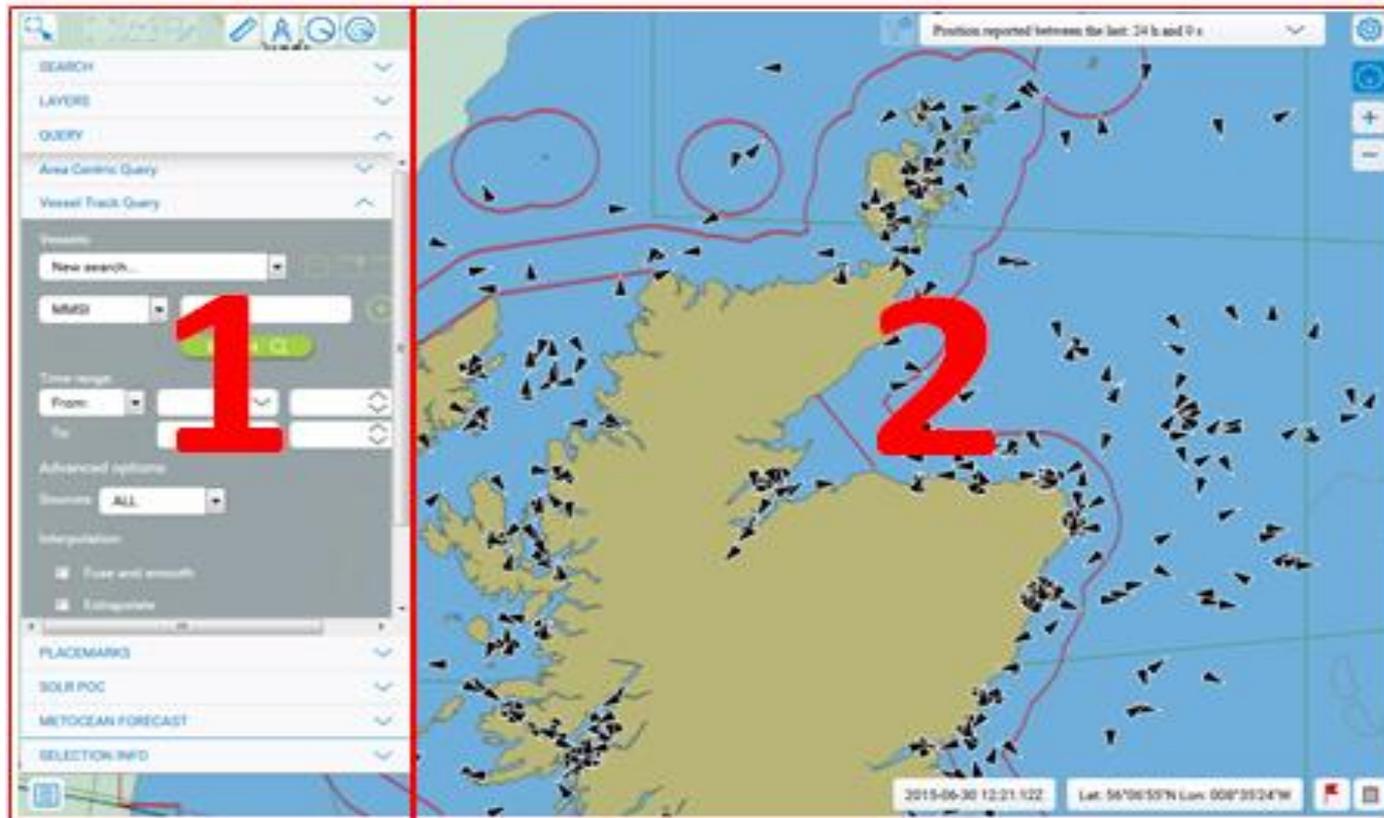
= Mouse pointer



= Will lead to

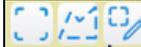
1- Control Panel (on the left hand side)

2- Map (on the right hand side)



Client Control 

Measurement Buttons 

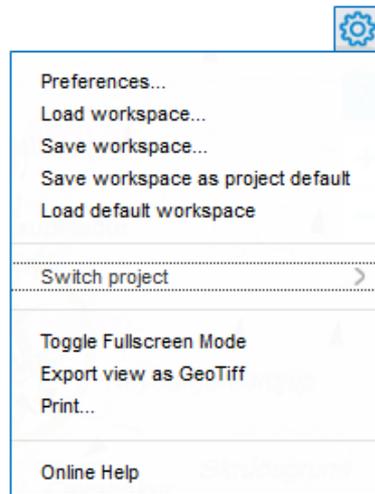
Query sub-panel, Areas Buttons 

Selection Button 

Position interval slider 0-24h 

Zoom In/Out 

Position 



Best practice: First time user, make sure to set up and save preferences that suits you.

By clicking on the Client Control tab a drop down menu with different options appears

Preferences: The user may choose to save a number of relevant display parameters, map projections, starting view point, etc.

Save/Load workspace: To save and load workspace with user defined parameters.

Load default workspace: Load the default workspace with default parameters.

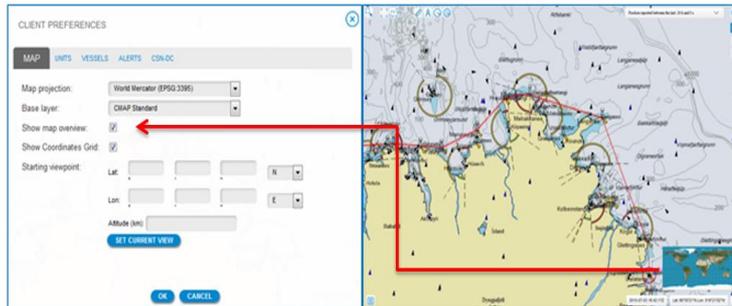
Switch project: To switch between different projects.

Toggle Fullscreen Mode: To switch to full screen mode or press **F11**

Export view as GeoTiff: To save the map as GeoTiff image

Print: To print the map with a resizable legend that can be adjusted

Online help: Open the PDF user manual



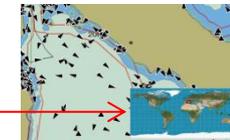
Map projection: The map projections available:

- World Mercator (EPSG:3395)
- Plate Carrée (EPSG:4326)
- Spherical Mercator (EPSG:3785)
- North Polar (EPSG:32661)
- South Polar (EPSG:32761)
- UTM 32N (EPSG:32632)
- UTM 33N (EPSG:32633)

Base layer: The base layers available:

- CMAP Base S52
- CMAP Standard
- CMAP Standard S52
- ArcGIS Ocean
- ArcGIS Satellite Data
- Cubewerx

Show map overview: To show the map overview for orientation when zooming in



Show Coordinates Grid: To show the grid coordinates



Starting viewpoint: To set starting viewpoint by manually inserting the Latitude and Longitude

Set current view: To set current view as starting viewpoint

Preferences → Units

CLIENT PREFERENCES ✕

MAP **UNITS** VESSELS ALERTS CSN-DC

Coordinates units:

Distance units:

Area units:

Time Zone:

Time Format:

Position timestamp format:

Coordinates units: The coordinates units available:

- DMS
- DM (DD MM.mm)
- Decimal (DDD.ddddd)

Distance units: The base layers available:

- Meters
- Kilometres
- Nautical Miles

Area units: The area units available:

- Square Meters
- Square Kilometres
- Square Nautical Miles

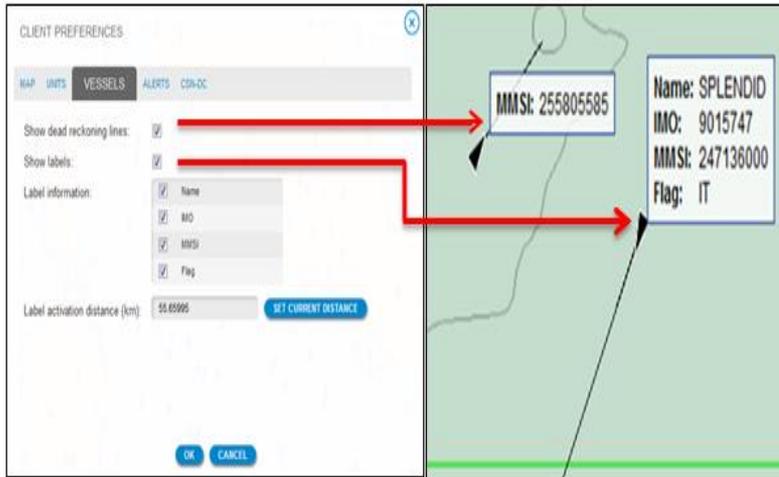
Time Zone: Can be set to UTC -12 to UTC+12

Time Format: Time format available:

- UTC
- Local

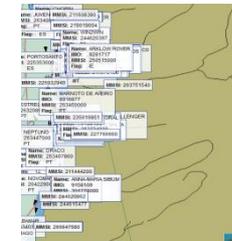
Position timestamp format: Position time stamp available:

- Absolute timestamp
- Time relative(to now)



Show dead reckoning lines: To show dead reckoning lines.

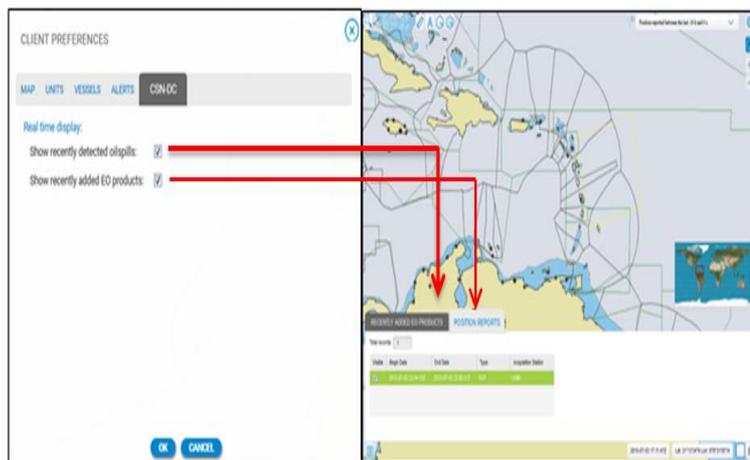
Show labels: To show the labels of the ships.



Label information: To set the label information fields through marking the check boxes.

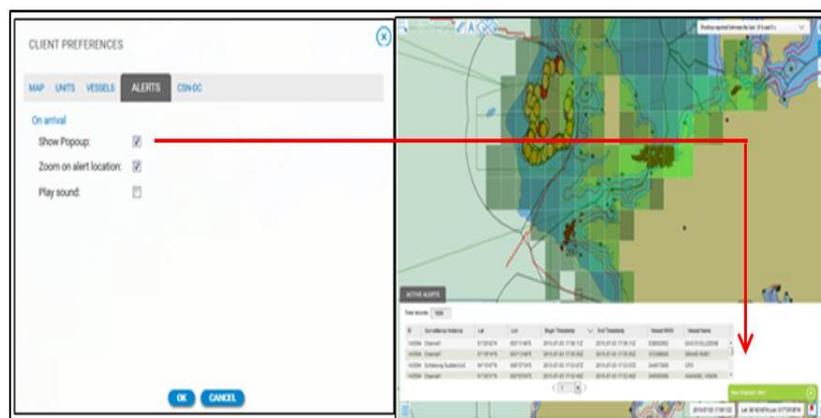
Field
<input checked="" type="checkbox"/> Name
<input checked="" type="checkbox"/> IMO
<input checked="" type="checkbox"/> MMSI
<input checked="" type="checkbox"/> Flag

Label activation distance(km): Press to set the distance in km.



Show recently detected oilspills: To show CSN recently detected oilspills. (Last 24h)

Show recently added EO products: To show CSN recently added EO products. (Last 24h)



Show Popup: To show popup alerts.

Zoom on alert location: To Zoom on alert location when alert is triggered.

Play sound: To play sound when alerts popup.

Exercise 1 - Preferences

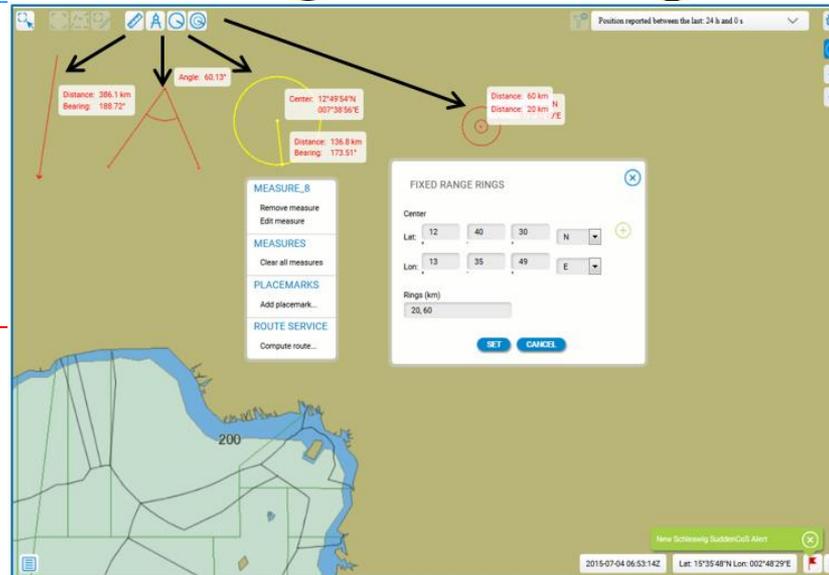
To perform different measures on the map



To all measures, to set press and to release press

Remove measure:

1. Mark the measure by it will become yellow.
2. On the map
3. From choose to **remove measure** or **clear all measures**



Distance measure : To measure the distance between two or more points

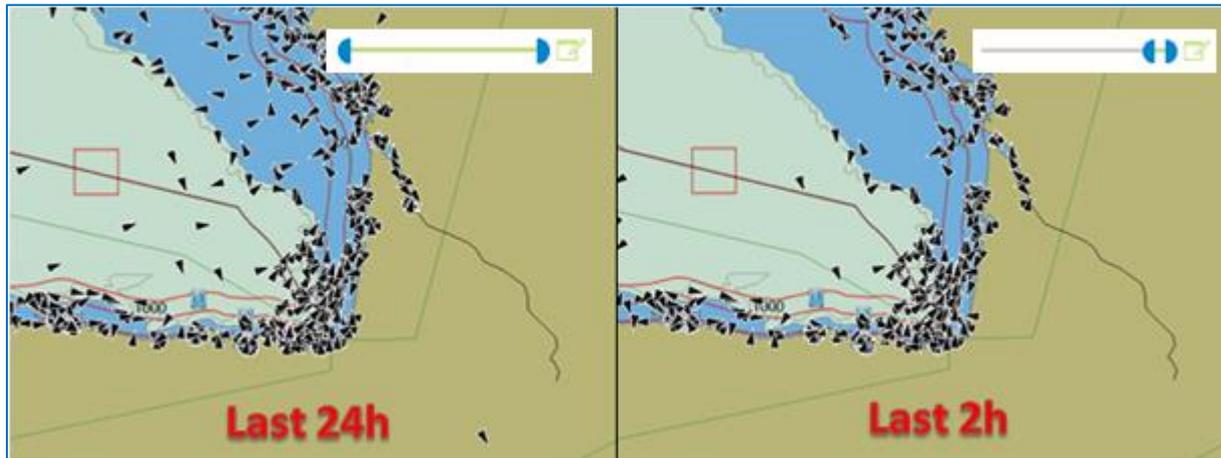
Bearing measure : To measure an angle

Bearing measure : To measure an angle of a circle

Fixed Ranged Rings : To measure distance in fixed ranged ring

Position interval slider 0-24h

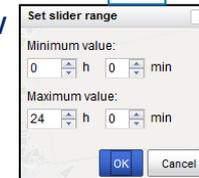
Zoom In/Out



Selection Button  : To select vessels by drawing a polygon. 

Position interval slider 0-24  To visualize vessels between 0-24h according to the user temporal resolution needed.

Slider range minimum and maximum value can be edited by pressing  and entering the desired values in the 'Set slider range' window

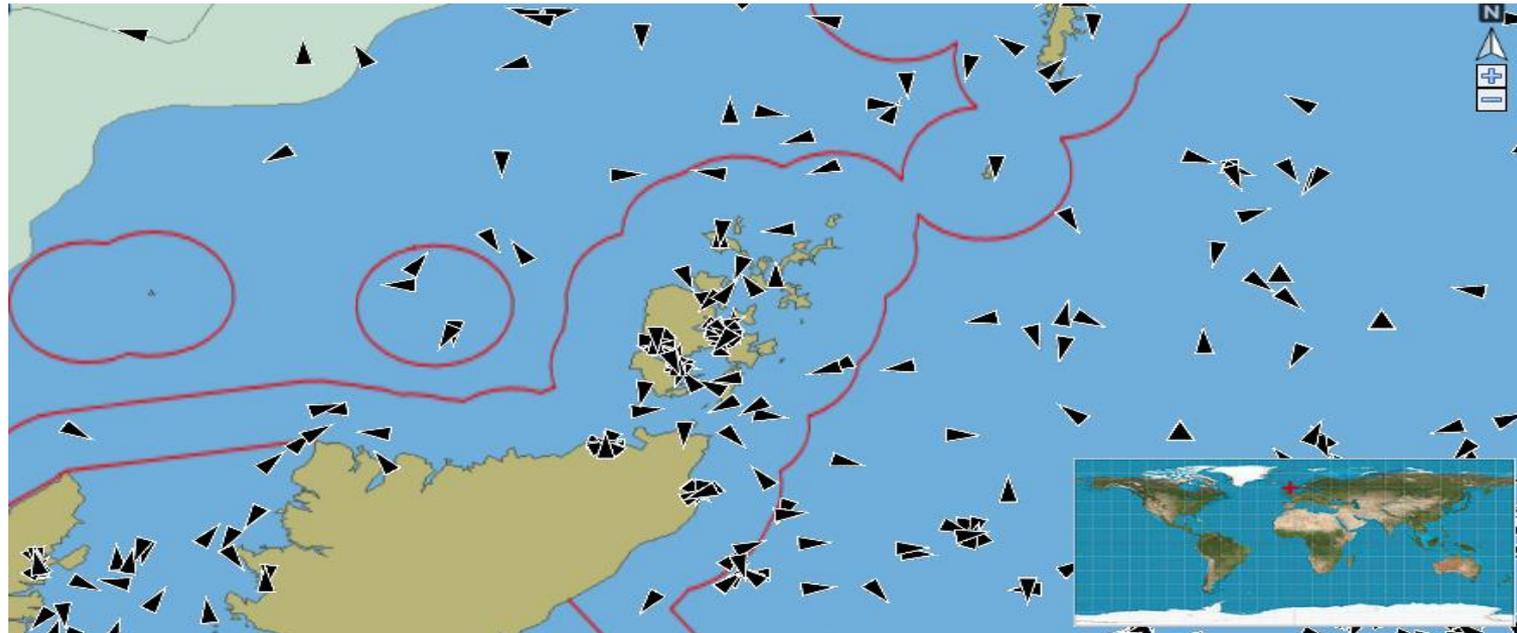


Zoom In/Out  : To zoom in/out the map.

Another way to zoom in/out is to use the mouse scroll wheel 

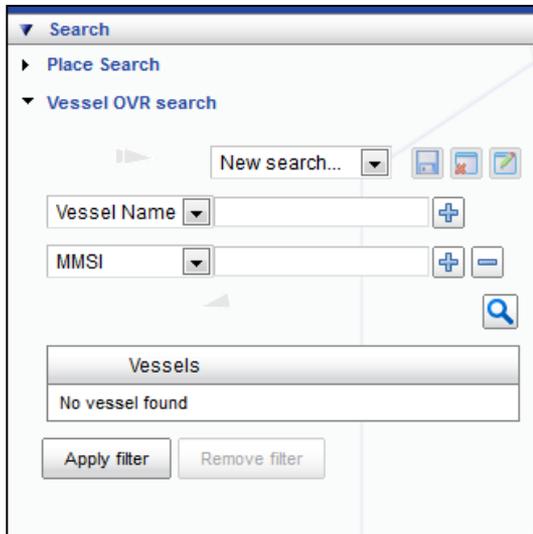
To see current position

Position map main purpose is orientation which is helpful when zooming in a certain area



On any place in the position map will redirect to that place

Search for vessel and have it displayed on the map



Vessel OVR search: Search for a vessel based on

- MMSI
- IMO
- IR
- Vessel Name
- Call Sign
- Flag
- Vessel Type
- Safetrx Id

The search criteria can be increased/decreased

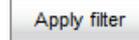
The search can be Saved/Removed/Edited



To search press



To only show the vessel found



To show all vessels again



The search operations available

- New search...
- Last search
- Saved queries
 - Saved Search 1
 - Saved Search 2

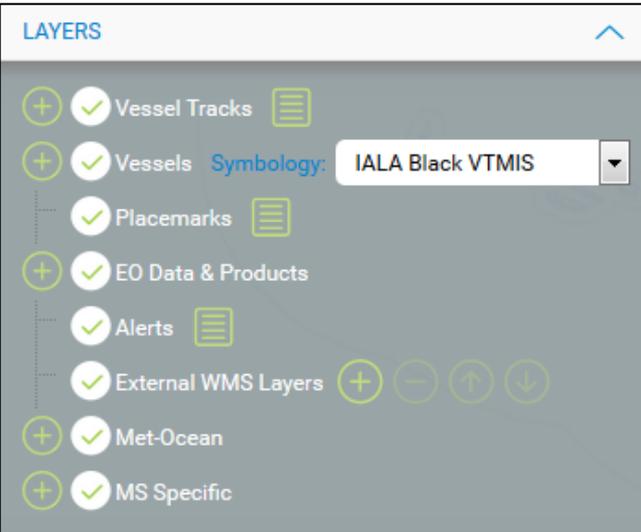
- Make a new search
- Recall the last search
- Recall a saved search

The result of the search is displayed in



on the vessel found will highlight it on the map

Switch on/off information layers



Symbology: The two modes available are:

Legend: Is displayed in a separate window by pressing

Tree View Checkbox: To Expand/Collapse/Select info layers

External WMS layers: Can be Added/Removed/Moved

Layers settings:

Settings for the selected layer are shown in the **Selection Info** window.

Obs. Settings may differ for different layers.

The two main settings for each layer are:

Opacity: To change opacity of the layer

Position: To reposition the layer



By repositioning the layers, the user can rearrange the layers to have those frequently used lined close to each other

Select vessel/vessels on the map

Vessel selection can be done in two different ways:

- 1- Set the mouse pointer on a vessel and click
 To select several vessels: hold , the next vessel and click

- 2- Press **Select by polygon** and draw a polygon around the vessel/vessels to select

Vessel info (center)

MMSI: 238234000
IMO: 9321914
Ship Name: LIBERTAS
Flag state: Croatia

Call sign: 9AA5195
Ship type: General cargo/multipurpose (360)
Dimensions: Length: 192 + 33 m
Beam: 9 + 23 m

Last Position Report

Common Data

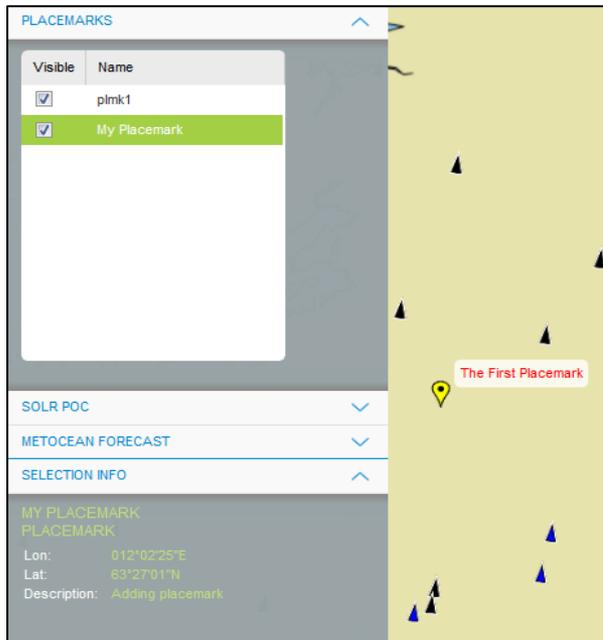
Lon: 015°13'15"W
Lat: 36°17'55"N
Transmission Time: 2015-10-14 10:30:40Z
Speed: 12.6 knots
Heading: 276 degrees
Position Source: Sat-AIS
Originator: ou=satais,dc=ee,dc=com
Navigational Status: Under way using engine
True Heading: 275 degrees
Validity Flag: Validated

Vessel image



- Vessels, Placemarks, Areas and generally all objects become **yellow** when selected
- Information about the object selected is displayed in the **Selection Info** window
- The information displayed in the **Selection info** window can be expanded or collapsed
- Click on selected object will open
- The amount of vessel information in the **Selection info** window may vary depending on the information available from the different sources

Mark a position or a location



Add Placemark: To add Placemark:

1. On the map click → appears
2. Select 'Add placemark'
3. Fill in the 'Add Placemark' dialog window with:

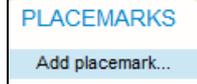
Name: Name of the placemark

Label: Name to display on the label

Color: Choose color of the placemark

Description: Description of placemark

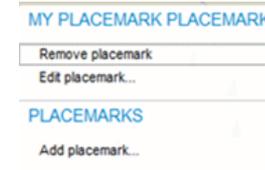
Position: Position of the placement is automatically filled in but can be modified manually



4. Press to create the Placemark
 Placemark appears in the sub-Panel Placemarks

Remove/Edit Placemark: To remove or edit the Placemark:

1. Mark the Placemark, it will become yellow
2. Click → appears



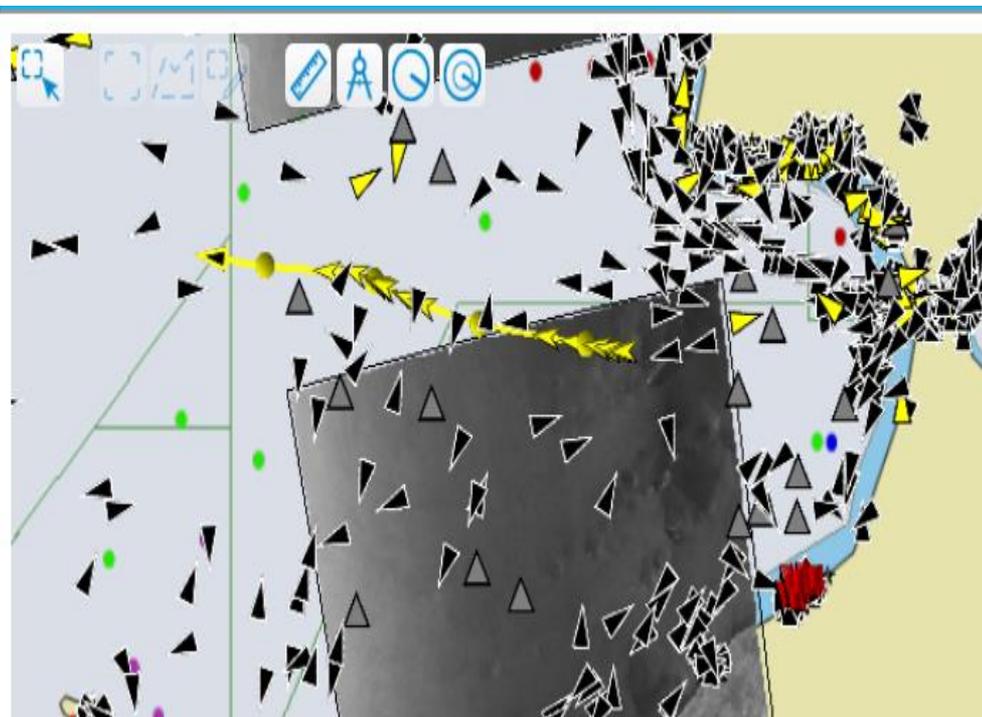
3. To remove select **Remove placemark** and to edit select **Edit placemark**

Exercises 2 - 4

IMDatE (Orientation and familiarization with the user interface)

Vessel Track, ACQ, ISP

Get track of selected vessel/vessels for the last 24h



- 1- Select vessel/vessels
- 2- Click on the map appears



3- Select Get track

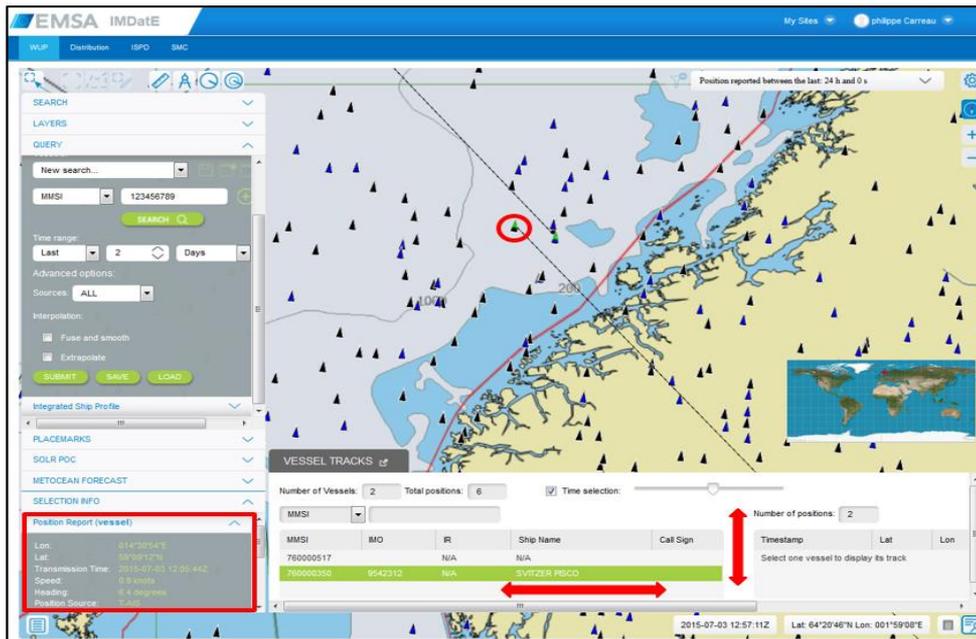
- The **Get track** option will return the tracks for the last 24h.
- The tracks of the vessel are displayed in the map in **yellow**
- The **Vessel Tracks** tab floats in containing more detailed info about the tracks
- To hide the **Vessel Tracks** tab, press
- To detach the **Vessel Tracks** tab, press
- Filter out other vessels** will only show the selected vessel



Vessel Tracks tab: Contains:

- Total number of positions found
- Time selection slider to walk through the tracks
- Table on the left with the selected ships
- Table on the right with the tracks of ship selected
- Click on the tracks table, appears with different options to **export the tracks**

Get track of selected vessel/vessels customized



Vessel Tracks tab detached

Number of Vessels: 4 Total positions: 463 Time selection:

MMSI:

Number of positions: 27

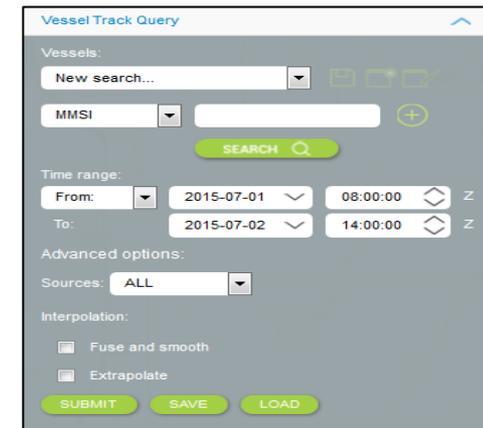
MMSI	IMO	IR	Ship Name	Call Sign
238234000	9321914	N/A	LIBERTAS	9AA5195
538004505	9349980	N/A	CLOVELLY	V7XK9
251322110	7224485	N/A	STEINUNN	TFAG

Timestamp	Lat	Lon	Heading	Speed	Source
2015-10-14 01:05:52Z	37°22'47"N	002°43'46"E	77	8.8	Sat-AIS
2015-10-13 17:32:55Z	37°07'20"N	001°27'42"E	76	8.7	T-AIS
2015-10-13 16:15:35Z	37°04'07"N	001°13'51"E	70	9.2	T-AIS

- 1- Select vessel/vessels
- 2- Click on the map appears



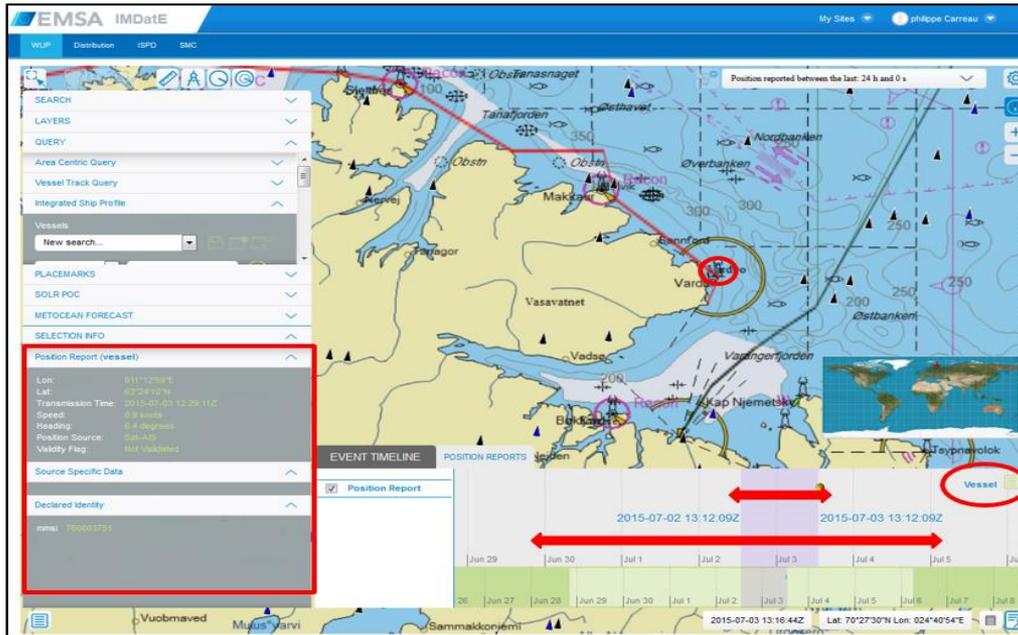
- 3- Select Get track...



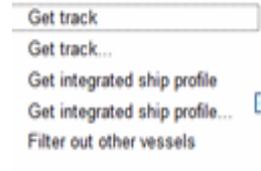
- 4- Enter Time range and select Advanced options

5- Press

Get integrated ship profile of a vessel for the last 24h



- 1- Select a vessel
- 2- Click on the map appears



- 3- Select Get Integrated Ship Profile and a new tab **EVENT TIMELINE** will float in together with the **EVENT TIMELINE** tab

The Get Integrated Ship Profile option will return a set events, if existed for the last 24h.

- Can be used to navigate the event time line. Another way to do that is to and click
- The tab **Event timeline** floats in together with the **Position Reports** containing different events presented in the time line
- To hide the **Vessel Tracks** tab, press
- To centre the vessel in the map, press **Vessel**
- To view the ISP Symbology, press

Positions Reports tab of the same vessel



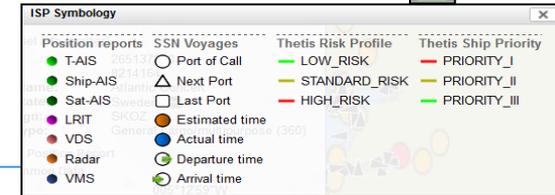
Total records: 27

Timestamp	Lat	Lon	Heading	Speed	Source
2015-10-14 01:05:52Z	37°22'47"N	002°43'46"E	77		
2015-10-13 17:32:55Z	37°07'20"N	001°27'42"E	76		
2015-10-13 16:15:35Z	37°04'07"N	001°13'51"E	70		
2015-10-13 16:08:46Z	37°03'47"N	001°12'35"E	71		

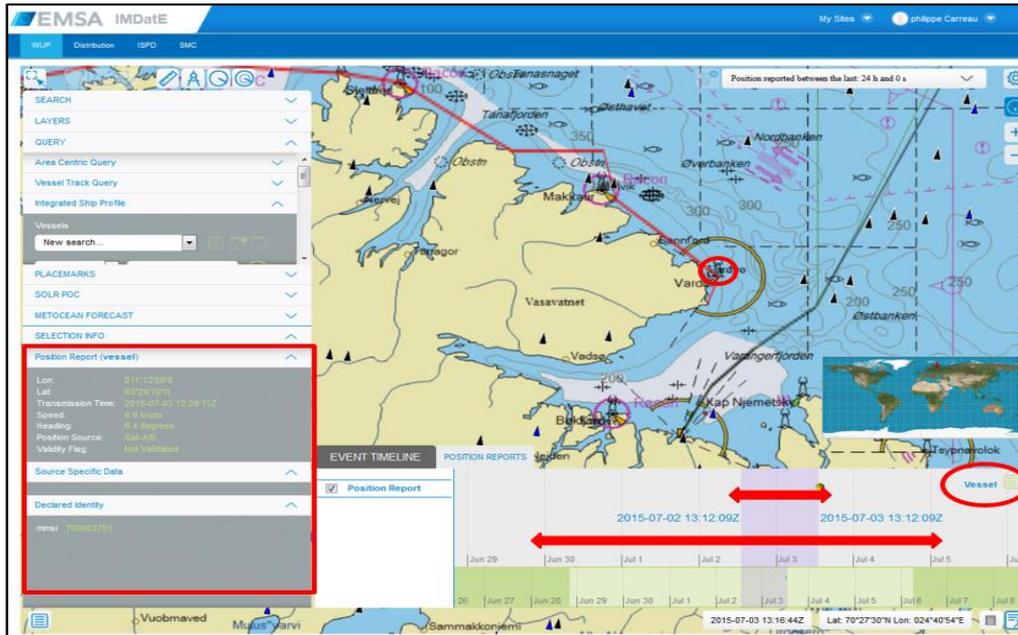
TABLE OPERATIONS

- Tabular Export >
- Vectorial Export >

Excel
CSV
XML
PDF



Get integrated ship profile of a vessel customized



- 1- Select a vessel
- 2- Click on the map appears

Atlantic Concert

- Get track
- Get track...
- Get integrated ship profile
- Get integrated ship profile...
- Filter out other vessels

Placemarks

- Add placemark...

Global operations

- Clear query results

- 3- Select Get Integrated Ship Profile...

INTEGRATED SHIP PROFILE ✕

Time range:

From: Z

To: Z

Service options:

- Vessel position reports
- Position sources
- SSN Hazmat
- SSN Ship voyages
- Thetis Risk Profile History
- Thetis Ship Priority History
- Thetis Ship Particulars History
- Thetis Inspections

- 4- Enter Time range and choose Position sources
- 5- Press

Positions Reports tab of the same vessel /export tracks drop down menu

Event timeline Position Reports

Total records: 997

Timestamp	Lat	Lon	Heading	Speed	Source
2014-09-07 15:39:37Z	57°40'08"N	011°47'25"E	50	12.6	T-AIS
2014-09-07 15:31:56Z	57°39'17"N	011°44'29"E	72	15.7	T-AIS
2014-09-07 15:21:13Z	57°37'27"N	011°40'48"E	102	15.9	T-AIS
2014-09-07 15:15:07Z	57°36'34"N	011°38'32"E	102	16.3	T-AIS
2014-09-07 15:09:02Z	57°36'38"N	011°35'29"E	102	16.3	T-AIS
2014-09-07 15:02:58Z	57°36'47"N	011°32'40"E	102	16.3	T-AIS

Table operations
Tabular Export
Vectorial Export
KML
GML

2014-09-12 15:02:51Z Lat: 52°32'42"N Lon: 000°46'52"W

Query the IMDatE database

QUERY

Area Centric Query

Vessel Track Query

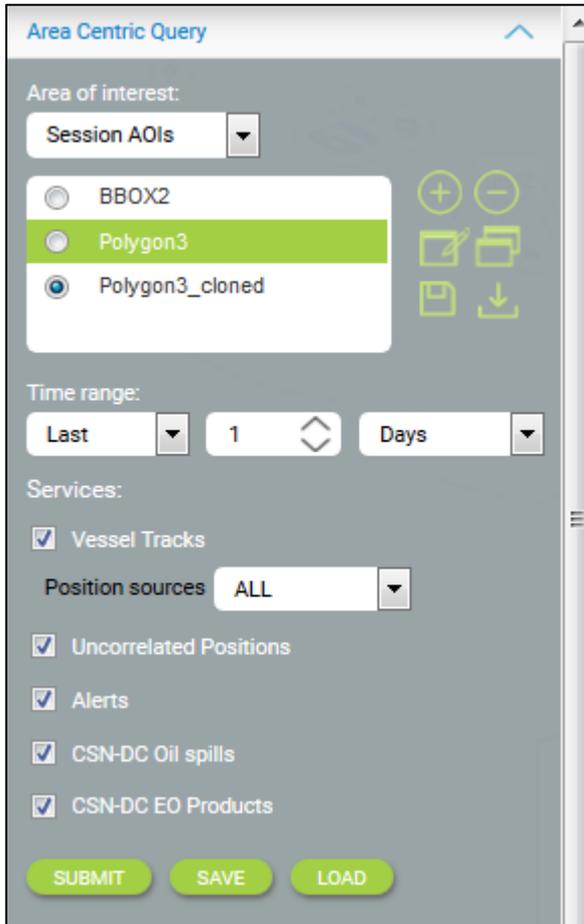
Integrated Ship Profile

Area Centric Query: Enables the user to make a query in a defined area and search over a specific time period for vessel tracks, Uncorrelated positions, Alerts, Incidents, CSN-DC oil spills and CSN-DC EO products.

Vessel Track Query: Allows the user to search for one or multiple vessels and have their tracks displayed on the map.

Integrated Ship Profile: Enables the user to make a query for a vessel and get aggregated information for that vessel in the 'Event timeline' panel, to provide better awareness of temporal events and information which is taking place at a specific points of time.

Sub Panel: Query → Area Sub Panel



Area of Interest: The available options are:

- Session AOIs
- Saved AOIs
- Global AOIs

Select an area: Managing an area can be done using two different set of buttons

- Map set of buttons
- Sub panel set of buttons

Selection methods: Draw Rectangular area

Insert coordinates

Import from shape file

The area selected can be: Edited Renamed Saved
Removed

Time range: The options to specify time and date:

- | | |
|--------|---------------------------|
| From: | From & To date /time |
| Last | The Last number of days |
| Around | Date/time Around +/- days |

Services: Choose services through marking the check box

Submit: To submit the queries press



For vessel tracks service:
MMax time range: 24 h

Area centric query - results

The screenshot displays the EMSA Vessel Tracking System interface. A search query has been executed, resulting in a pop-up window titled "Results" with the following information:

- Retrieving Vessel Tracks...Found 186 vessels
- Retrieving Alerts...No alert found matching query
- Retrieving CSN-DC Oil spills...Found 2 oil spills
- Retrieving CSN-DC EO Products...Found 1 products

The main map area shows a satellite view of the Atlantic Ocean with numerous green vessel tracks and black triangular markers. A red line indicates a specific track. The interface includes a left sidebar with navigation options like "SEARCH", "LAYERS", "QUERY", "Sources", "Interpolation", "Fused", and "Extra". Below the sidebar is the "Integrated Ship Profile" section. At the bottom, there is a "TIME EXPLORER" section with tabs for "CSN-DC DETECTED OIL SPILLS", "CSN-DC EO PRODUCTS", and "VESEL TRACKS". The "TIME EXPLORER" section includes a "Time link to map" checkbox, a play button, a stop button, a "Speed" dropdown set to "60X", and a "Loop" checkbox. A date and time selector shows "2016-04-13 16:21:26Z". Below this is a timeline grid with columns for hours from 12hr to 21hr and dates from Apr 8 to Apr 19. A green bar highlights the "QUERY START" period from approximately 14hr on Apr 12 to 18hr on Apr 13, and a "QUERY END" period from 16hr on Apr 13 to 18hr on Apr 13. The bottom status bar shows the current date and time "2016-04-14 13:43:25Z" and coordinates "Lat: 55°10'48"N Lon: 017°33'14"E".

Panel: Query → Vessel Track Query

Vessel Track Query

Vessels:

MMSI

Time range:

From: Z

To: Z

Advanced options:

Sources:

Interpolation:

Fuse and smooth

Extrapolate

Vessels: Search for a vessel based on

- MMSI
- IMO
- IR
- Vessel Name
- Call Sign
- Flag
- Vessel Type
- Safetrx Id

The search criteria can be increased/decreased
 The search can be Saved/Removed/Edited
 The search operations available

- | | |
|--|---------------------------|
| <input type="button" value="New search..."/> | Making a new search |
| <input type="button" value="Last search"/> | Recalling the last search |
| <input type="button" value="Saved queries"/> | Recalling a saved search |

The result of the search is displayed in



on the vessel found will highlight it on the map

Vessels

No vessel found

Time range: The options to specify time and date:

From:	From & To date /time
Last	The Last number of days
Around	Date/time Around +/- days

Source: Select position source either or mark

Submit: To submit the query press

Save: To save the query press

Load: To load a saved query

Sub Panel: Query → ISP panel

Vessels: Search for a vessel based on

- MMSI
- IMO
- IR
- Vessel Name
- Call Sign
- Flag
- Vessel Type
- Safetrx Id

The search criteria can be increased/decreased



The search can be Saved/Removed/Edited



The search operations available

- New search...
- Last search
- Saved queries

- Making a new search
- Recalling the last search
- Recalling a saved search

The result of the search is displayed in

on the vessel found will highlight it on the map

Time range: The options to specify time and date:

- From:
- Last
- Around

- From & To date /time
- The Last number of days
- Date/time Around +/- days

Source: Select position source either or choose source

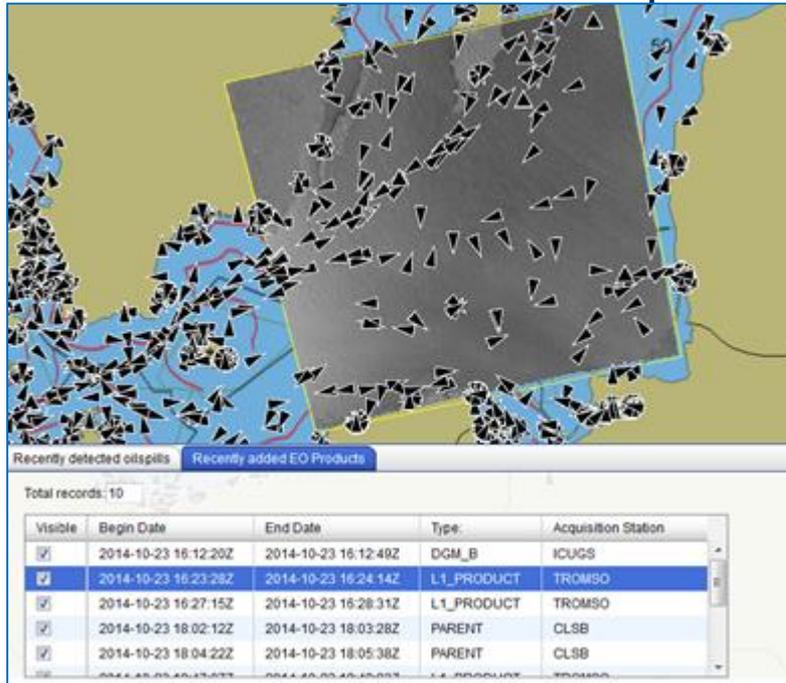
Submit: To submit the query press

Save: To save the query press

Load: To load a saved query

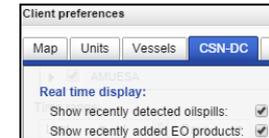
Exercises 5 - 7

Show oil spills and EO products



Recently added EO Products tab/Export data

1- In Client preferences CSN-DC select and press OK



Icon will appear on the map

2- Click on

3- For recently detected oilspills, press tab **Recently detected oilspills** and select from the table.

For Recently added EO Products (images), press **Recently added EO Products** and select from the table.

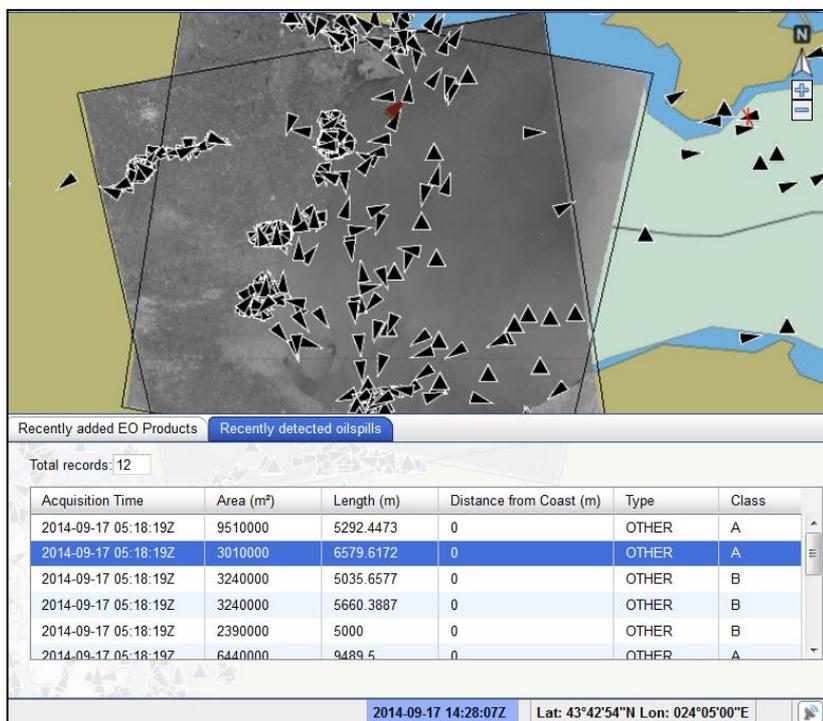
4- on the selected item from the table to show and redirect on the map.



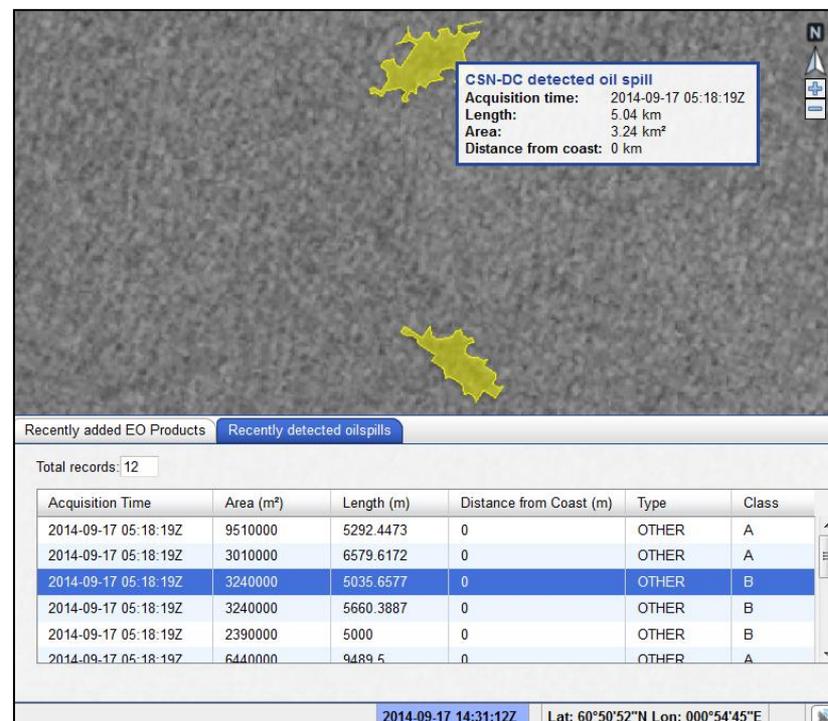
- Information about the item selected will appear in the Selection Info window

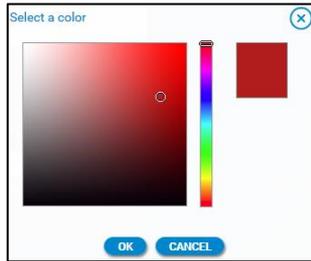
- Click → to export data to excel, xml, etc..

Earth Observation Product



Detected oilspills



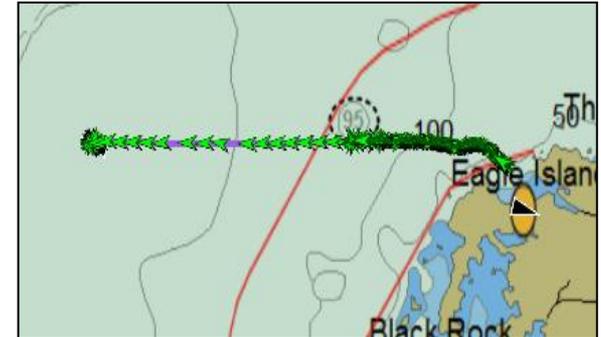


Opacity is set to

Track color is set to

Track width is set to

The result is displayed to the right →

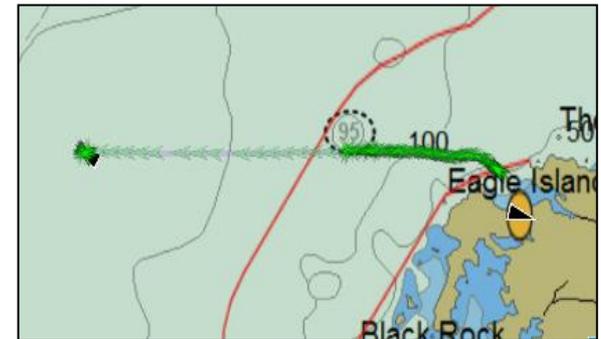


Opacity is set to

Track color is set to

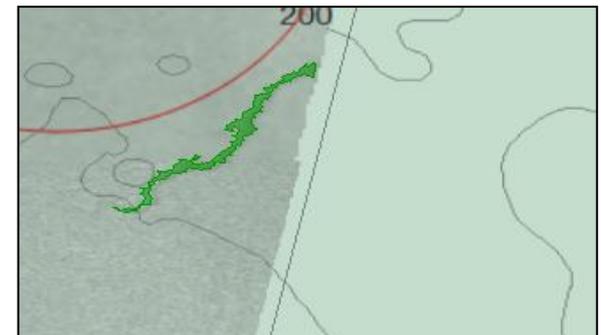
Track width is set to

The result is displayed to the right →

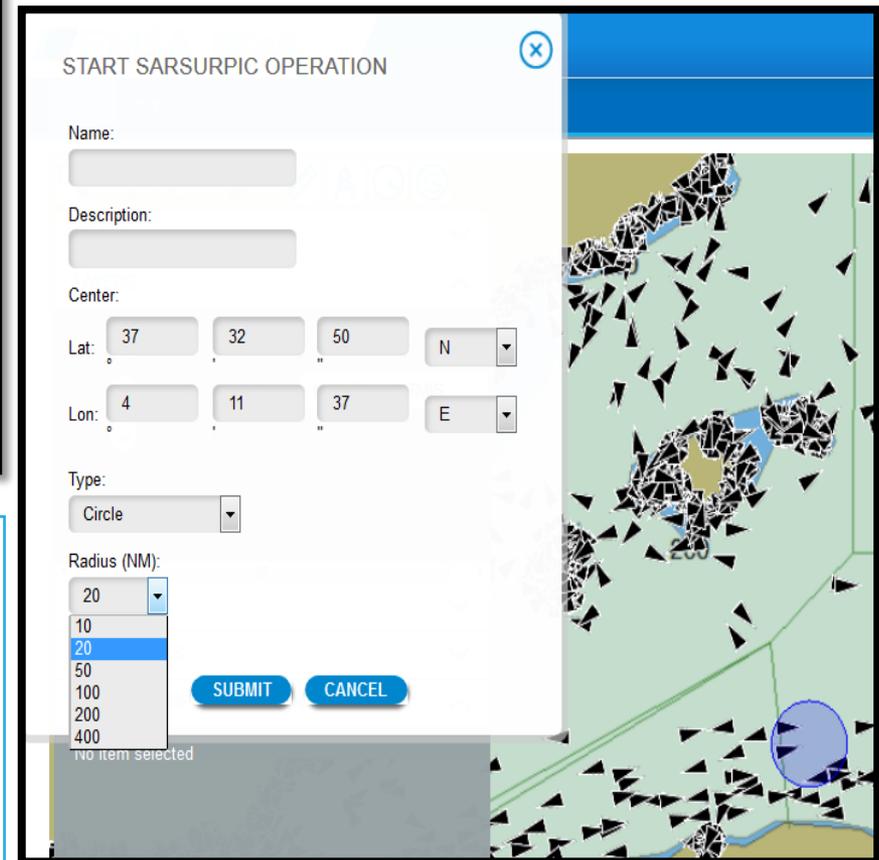
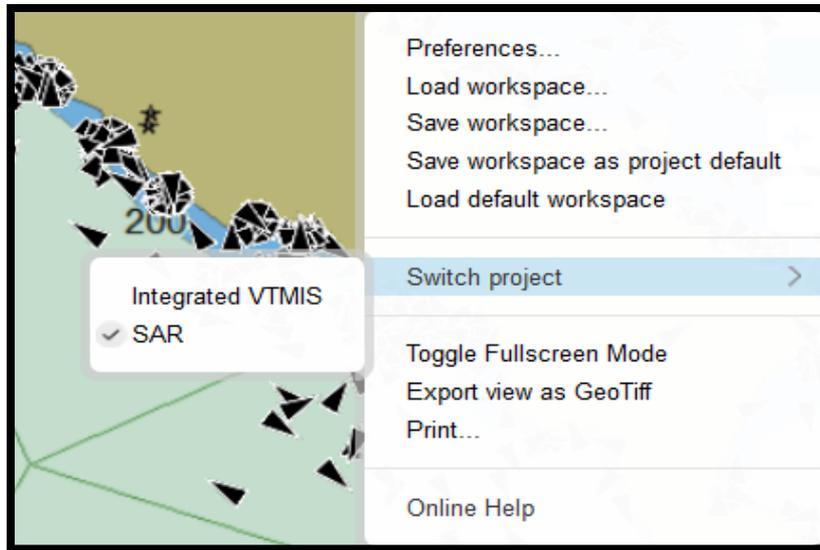


Opacity is set to

The result is displayed to the right →



Exercise 8



1) Right mouse button click  on the centre of the SAR SURPIC

select "Start new SARSurpic operation..."

2) Enter a name and short description of the Operation and select the SURPIC Area type (Circle or Bounding Box) and its size

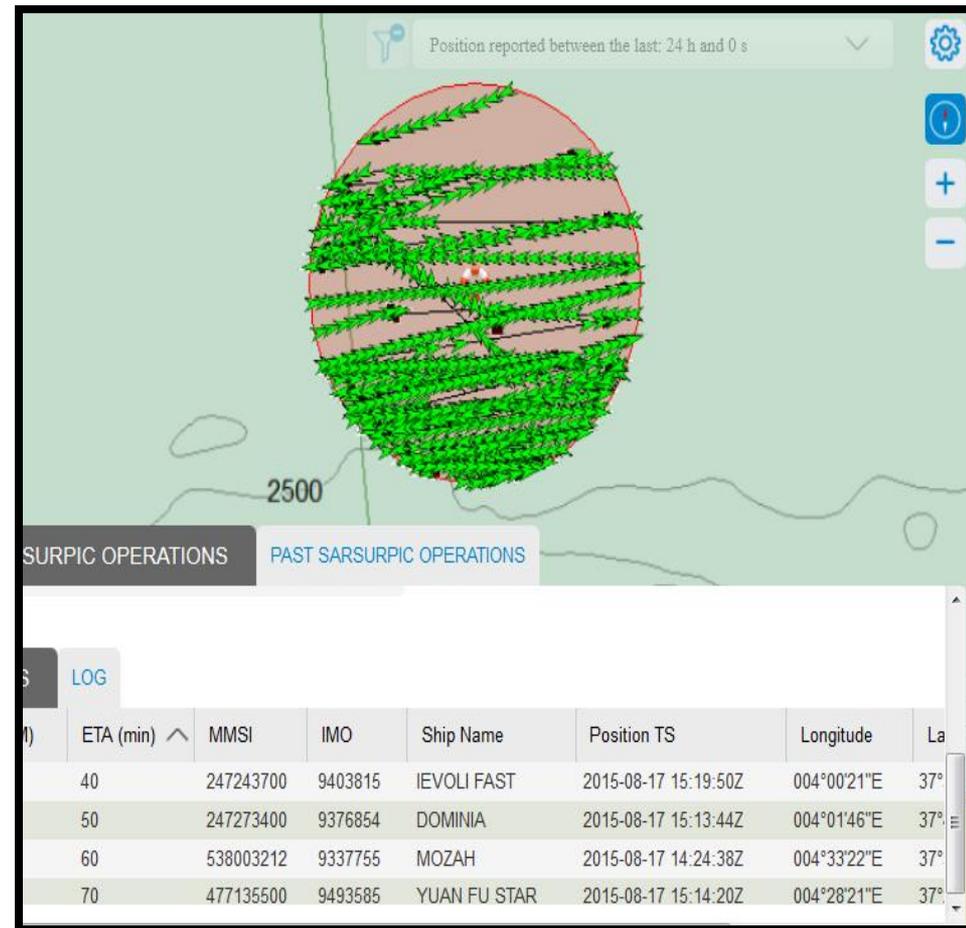
Then click  on the button Submit.

After some time (up to 2 minutes) all positions of the last 24 hours will be displayed on the screen, irrespective of the data source (currently T-AIS, Sat-AIS, LRIT).

In the table at the bottom of the screen you can see the list of ships.

You can sort the list by clicking  on the title of each column.

Sorting by “Distance to Target” shows the ships that are closest to the SURPIC Centre.

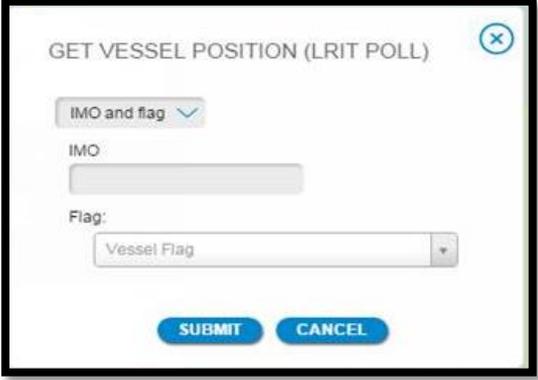


You can request the current position of a ship by using the LRIT Poll function.

Right click  on the ship position and select the option “Get Current Position (LRIT poll)”. After a few minutes the current position will appear on the screen.

Note: - The LRIT Poll every LRIT Ship, even if the IMO/flag information is not present in the IMDatE database. In this case the MRCC Officer has to manually set the IMO/Flag.

If no position appears then the ship is likely not in the SURPIC area anymore or it is not responding to the LRIT Poll.



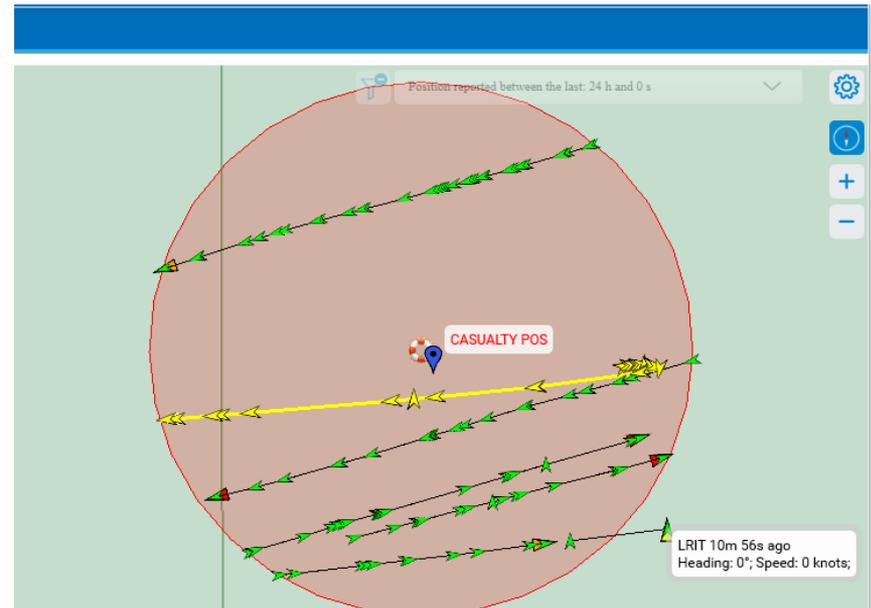
GET VESSEL POSITION (LRIT POLL)

IMO and flag ▾

IMO

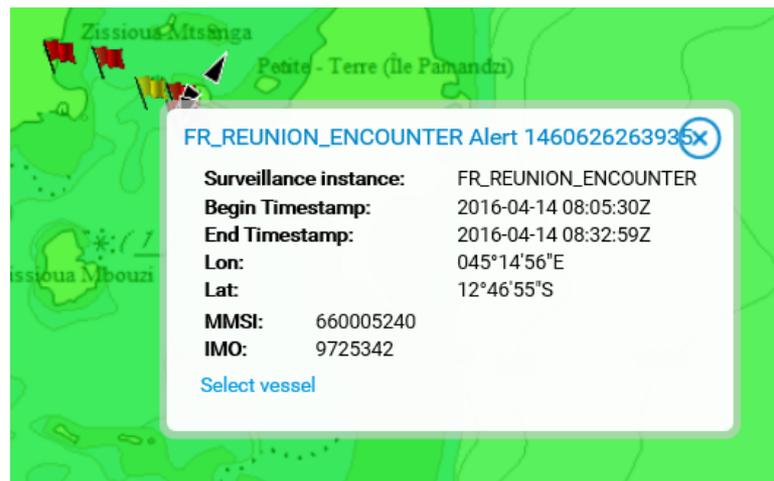
Flag: Vessel Flag ▾

SUBMIT CANCEL



Practical scenarios 1

Anomaly Detection and Automated Behaviour Monitoring (ABM) tools are computer-based systems analysing real time vessel position reports (as made available in EMSA's operational maritime applications) for the detection of abnormal and/or user specific behaviours.



ABM Type – description which events are automatically detected	ABM name
Entry of a particular vessel(s) to an area of interest	InArea
Passage of a vessel close to the shore	DistanceToShore
Vessels entering or leaving ports	AtPortAtSea
Anchored vessels	Anchorage
Frequency of vessels' position reports higher or lower than expected	UnderOverReporting
Vessels approaching one another closer than an indicated distance, with a speed below defined threshold	AtSeaEncounter
Change of heading higher than a threshold (e.g. more than 20 deg.)	SuddenChangeOfHeading
Sudden change of speed	SuddenChangeOfSpeed
Change of speed above or below a limit set	SpeedAnomallyOverPeriod
Passage of a vessel close to an area of interest	DistancetoArea
Vessels entering a closed area at a specific time	TimeAndPeriodOfDay

How the ABM could be used / are used in your organization?

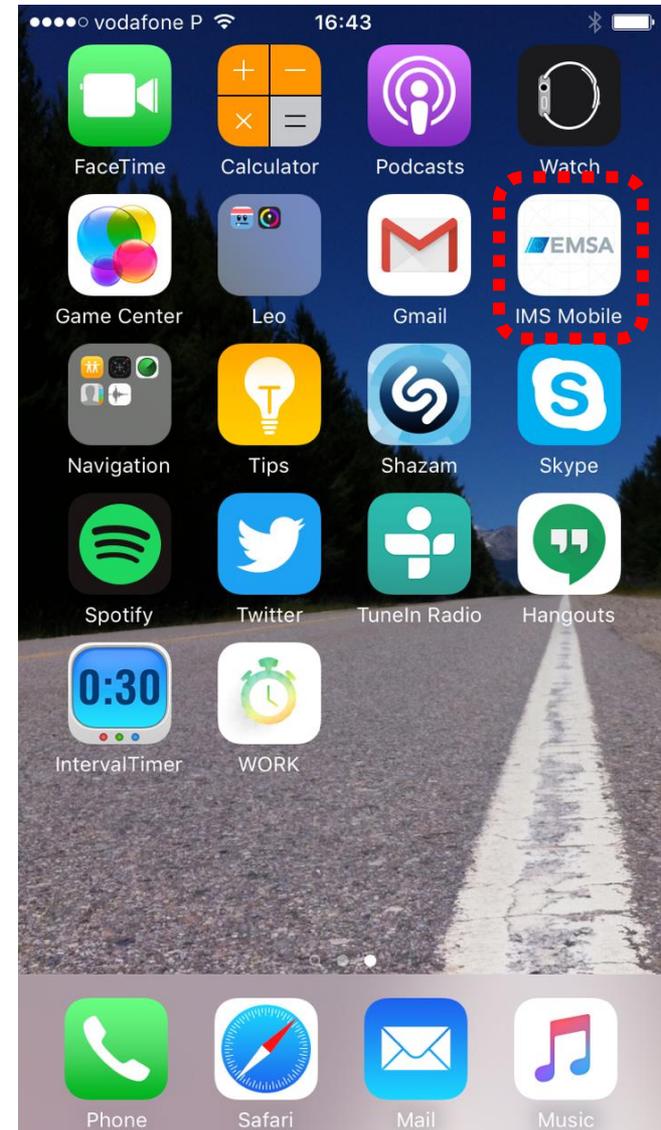
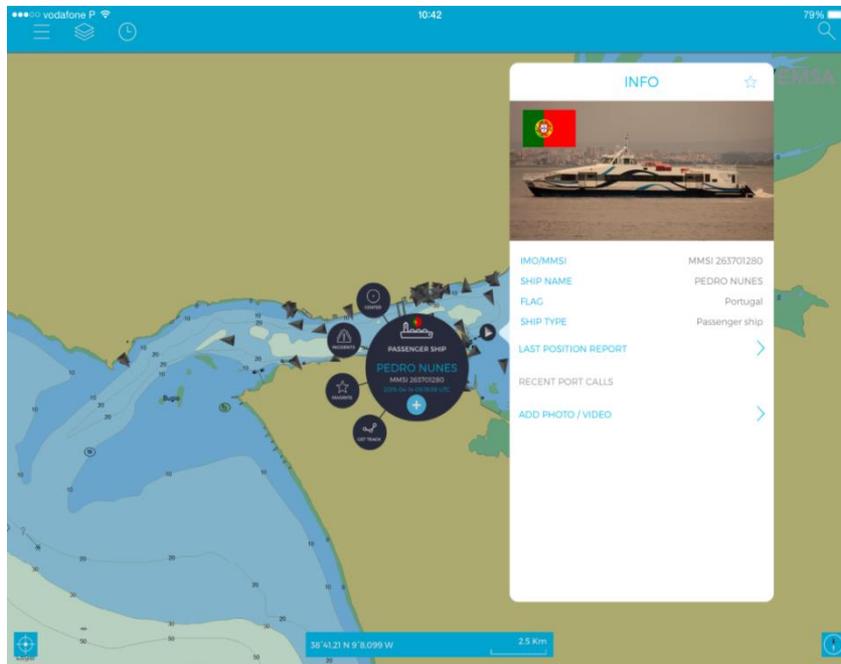
Practical scenario 2

IMS Future

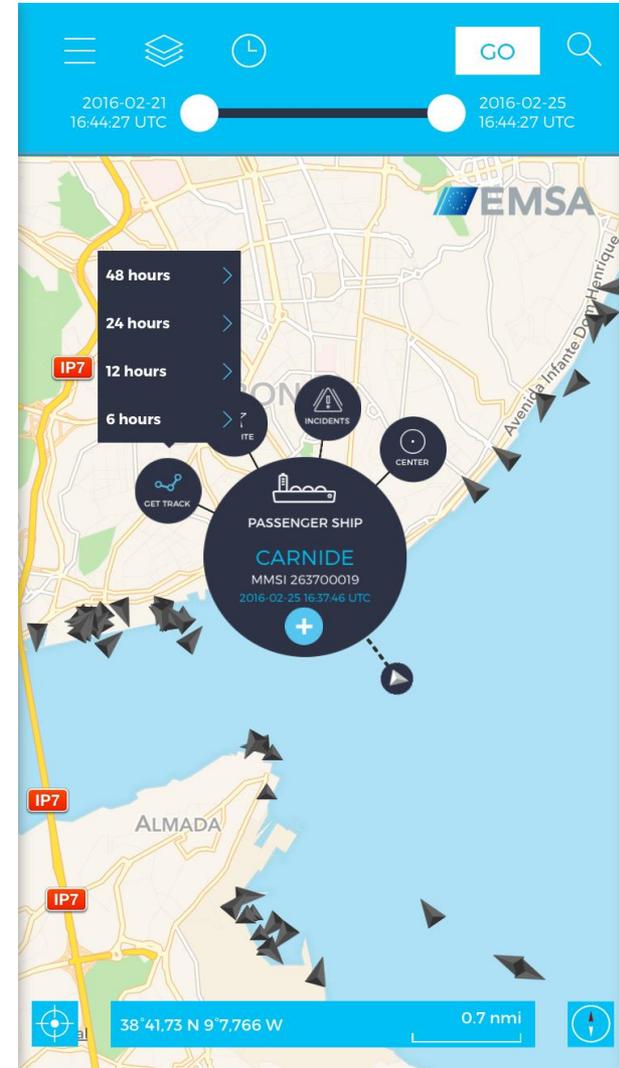
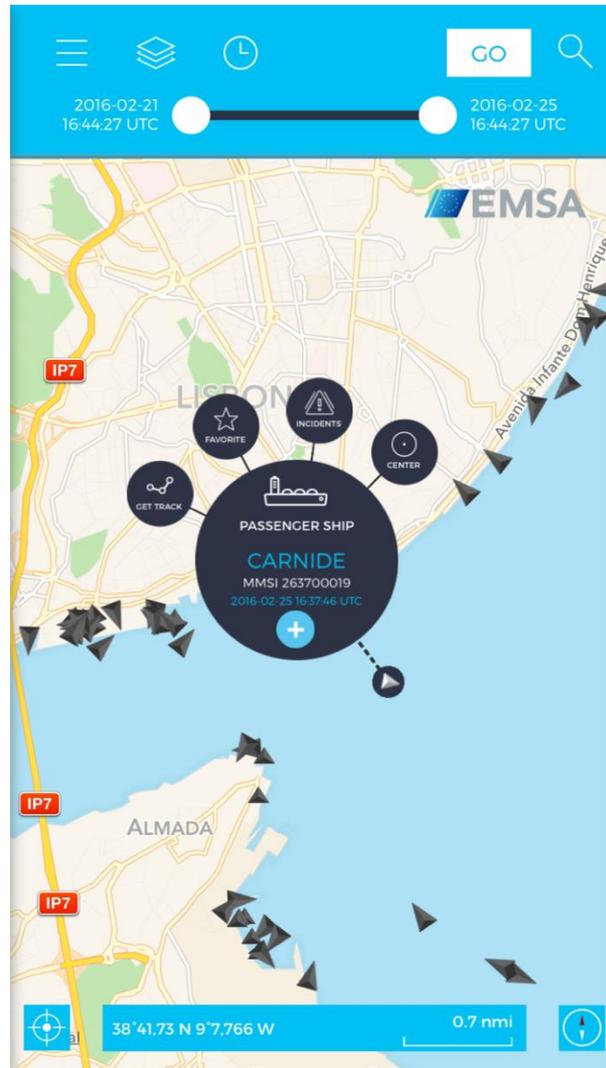
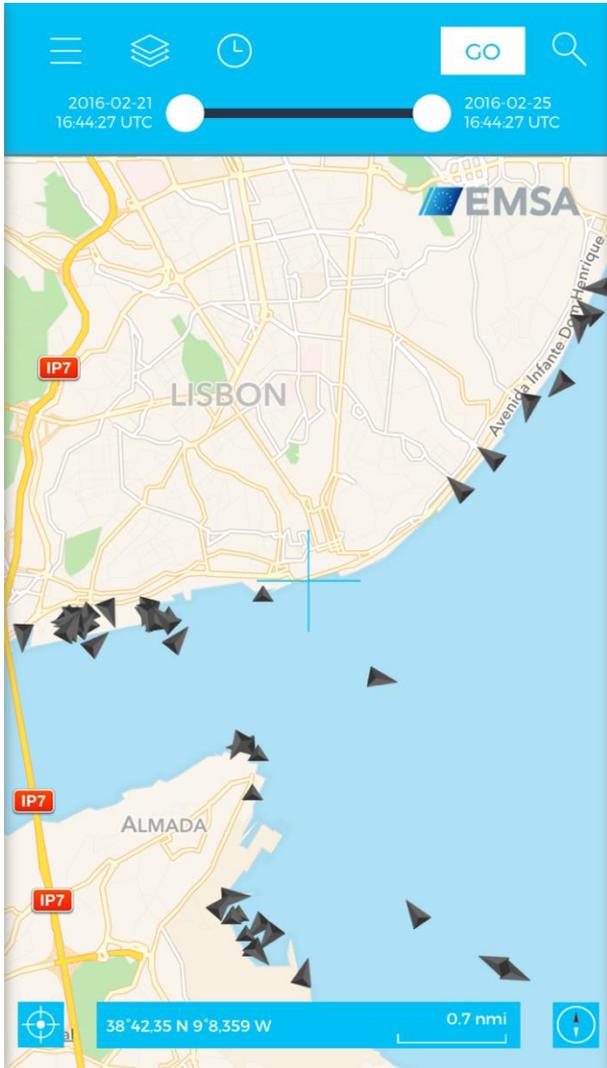
- **IMS Mobile App**
- **SafeSeaNet Ecosystem GUI (SEG)**
- **Video streaming**
- **Other developments**

IMS Mobile App (i)

- Development of iOS and Android application to address a set of use cases, including:
 - ✓ Vessel position & information
 - ✓ Area centric query
 - ✓ Incident reporting
 - ✓ Oil spill monitoring and feedback
- Tablet (iPad and Android) version
- Mobile phones (iOS) version



IMS Mobile App (ii)



Demo of the IMS APP



IMS APP

- How to download?
 - ✓ Search for EMSA IMS Mobile on App Store and Google Play
 - ✓ *Next release expected....*
- How to join?
 - ✓ Channel request through IMS PoC
- Questions?
 - ✓ Email samuel.djavidnia@emsa.europa.eu

SEG

New Single GUI

Focus on integrated users / user functions

- Take the best of each existing interface
- Simple and straightforward
- Introduce some innovations and solutions commonly used
- New approach to certain data sets
- Customised for each user community

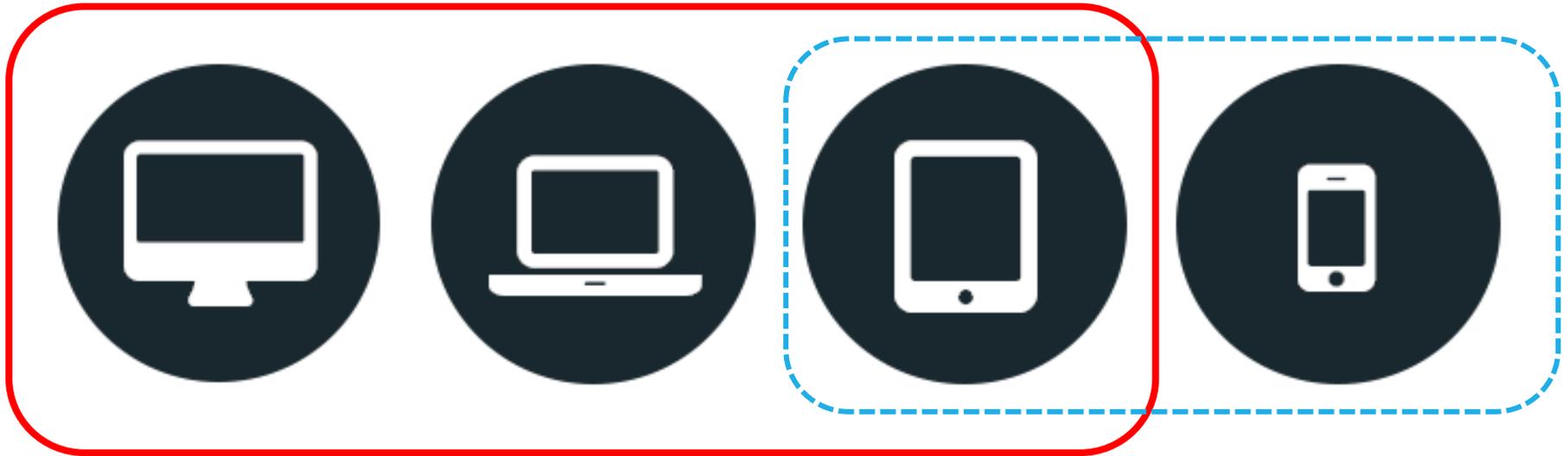
Existing GUIs

Focused on specific current users / user functions

- Served existing users very well
- Interesting functions in each interface
- Some functionalities are duplicated
- Some elements will remain available e.g. administrative or reference databases (LRIT, SSN TI)

SSN Ecosystem GUI

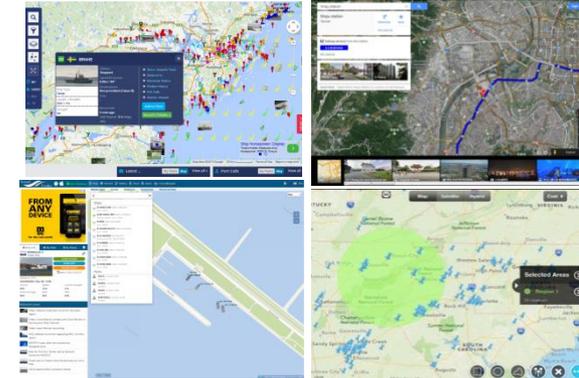
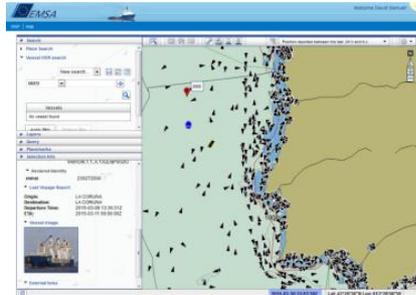
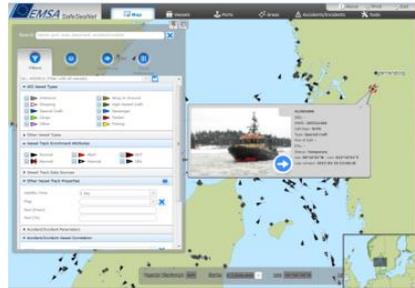
IMS App



SSN Ecosystem GUI: html on desktop, laptop and tablet.

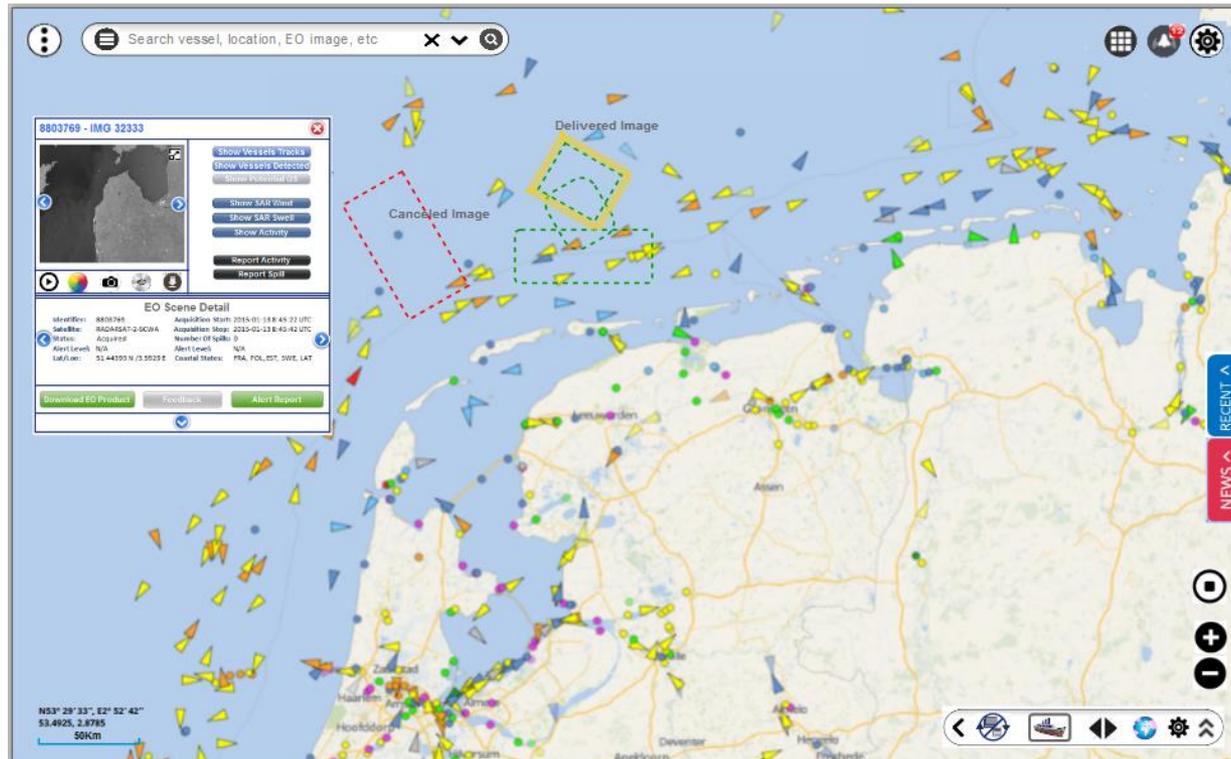
IMS App: iOS and Android on tablet and smart phone.

Benchmarking Internal Applications/External Web Applications



- Business requirements reviews
- Iterations in form of workshops with stakeholders
- User research and usability testing on wireframes

Google Maps, Google earth, Vessel Finder, Marinetransit, Microstrategy, Different mobile apps



SEG Timeline

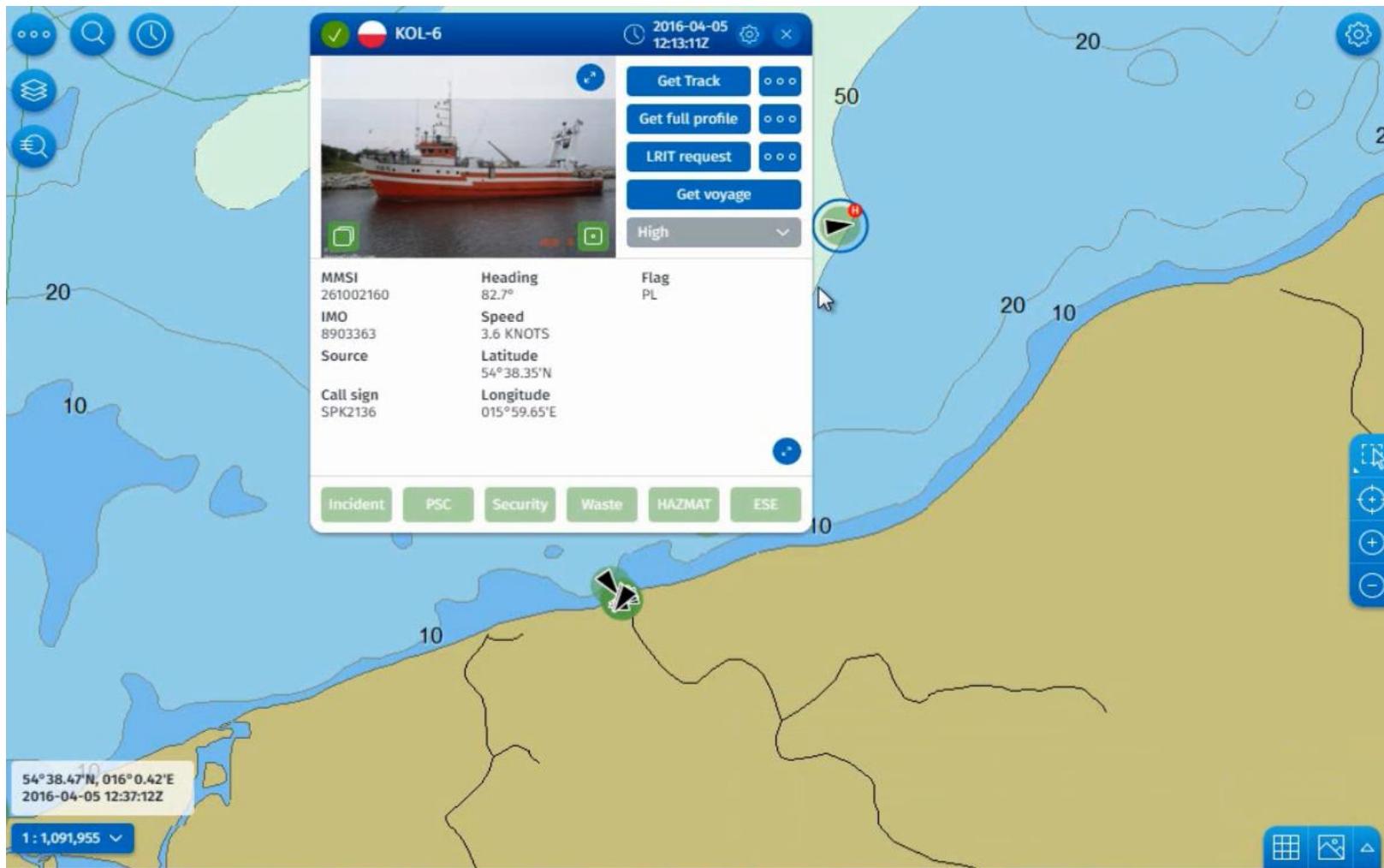
- April/July 2016: Intermediate Releases – open only to limited users for testing purposes.
- November 2016: Version 1.0 Go-Live

The screenshot displays the SEG interface with a map of the Mediterranean Sea. The map is populated with numerous colored triangles representing vessel tracks and activity. A search bar at the top left contains the text "Search vessel, location, EO image, etc". On the left side, there is a detailed view of an EO scene for ID "8803769 - IMG 32333". This view includes a thumbnail of the EO image and a list of actions: "Show Vessel Track", "Show Vessel Location", "Show Potential Oil", "Show SAR View", "Show SAR Swath", "Show Activity", "Report Activity", and "Report Spill". Below this, the "EO Scene Detail" section provides the following information:

Parameter	Value	Parameter	Value
ID	8803769	Acquisition Start	2016-01-14 08:30:00 UTC
Satellite	SARASAT-2-06000	Acquisition Stop	2016-01-14 08:45:00 UTC
Status	Acquired	Number of Spills	0
Alert Level	N/A	Alert Level	N/A
Latitude	33.44553 N	Coastal State	ITA, POL, GR, GRC, LAT

At the bottom of the interface, there is a gallery of "EO images" showing a sequence of seven images. The first image is highlighted with a blue border. The gallery includes a search bar and navigation controls. In the bottom left corner, the coordinates "N52° 29' 33", E2° 52' 42" and "53.4925, 2.8785" are displayed, along with a "500m" scale bar.

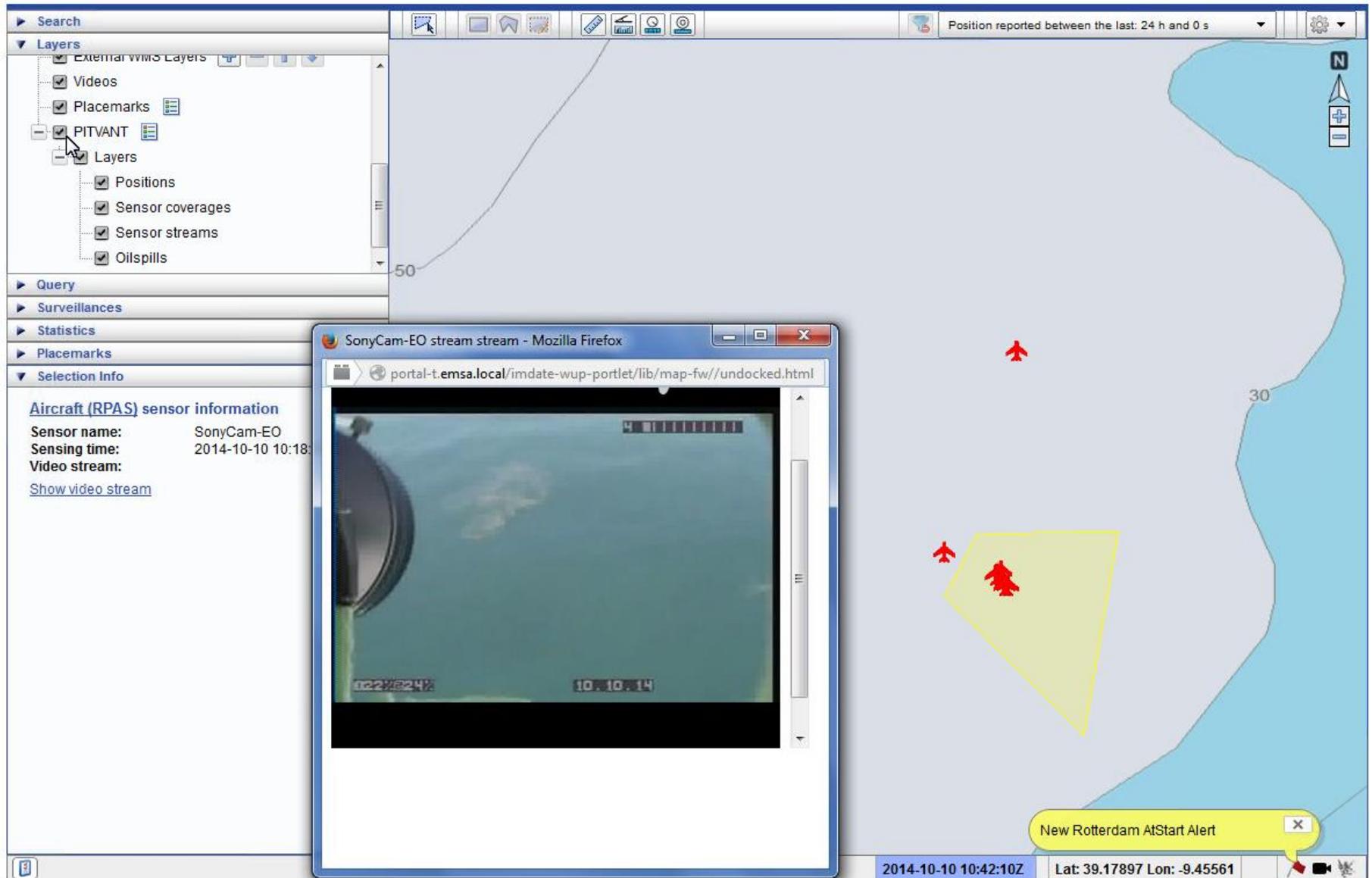
DEMOS OF SEG



- **What is the most positive aspect of SEG?**
- **What is the most positive aspect of IMS App?**
- **How could you use SEG?**
- **How could you use IMS App?**
- **What functionalities are still needed for SEG?**
- **What functionalities are still needed for IMS App?**

OTHER DEVELOPMENTS

Next steps: Video streams



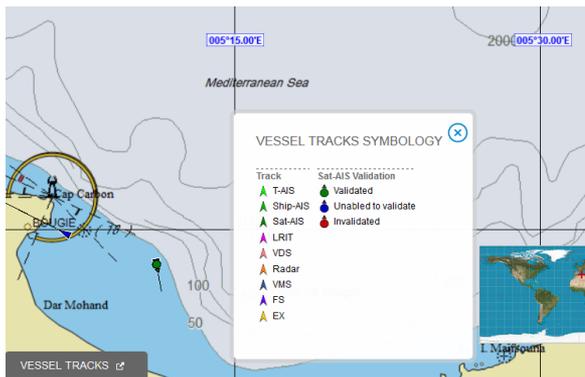
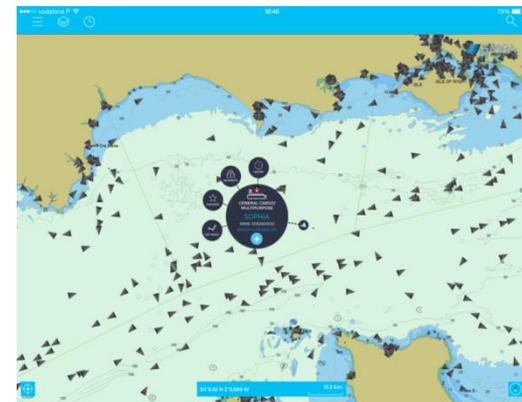
The screenshot displays the EMSA web application interface. On the left, a 'Layers' panel is visible, showing a tree structure with 'External WMS Layers' expanded to include 'Videos', 'Placemarks', 'PITVANT', and 'Layers'. The 'Layers' sub-panel is further expanded to show 'Positions', 'Sensor coverages', 'Sensor streams', and 'Oilspills'. Below the layers panel, there are sections for 'Query', 'Surveillances', 'Statistics', 'Placemarks', and 'Selection Info'. The 'Selection Info' section is currently active, displaying 'Aircraft (RPAS) sensor information' for a 'SonyCam-EO' sensor, with a 'Sensing time' of '2014-10-10 10:18:...' and a 'Video stream' link.

The main map area shows a geographical view with a red aircraft icon and a yellow polygon highlighting a specific area. The map includes a scale bar, a north arrow, and zoom controls. The status bar at the bottom indicates the current time as '2014-10-10 10:42:10Z' and the coordinates as 'Lat: 39.17897 Lon: -9.45561'. A yellow notification bubble in the bottom right corner reads 'New Rotterdam AtStart Alert'.

The video stream window, titled 'SonyCam-EO stream stream - Mozilla Firefox', shows a live feed from the aircraft sensor. The video frame includes a timestamp '10.10.14' and a sensor ID '122324'. The video content shows a view from the aircraft looking down at the ground.

Future plans and on-going developments

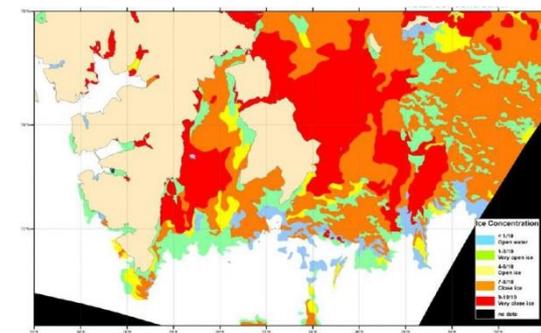
- S-AIS - Validity/Invalidity Check of an AIS message
- S-AIS - Doppler validation
- Specific display of ships exceeding a defined SO² (Sulphur) emission threshold
- Display of the ice concentration, ice thickness



Number of Vessels: 1 Total positions: 2 Time selection:

MMSI: [dropdown]

MMSI	IMO	IR	Ship Name	Call Sign	Timestamp
311046100	9346811	N/A	PODLASIE	C5WT9	2015-09-30 14:19:16+00:00



- **Coordination** of system developments with MSs and COM
- **Operate** the system maintaining technical/operational documentation
- IT and operational **helpdesk**
- **POC for reporting** on quality of systems and information
- **Training** for users



- IT & operational Helpdesk for EU maritime applications
- Application monitoring & incident management
- SPOC for requesting EMSA pollution response services
- 24/7 services

Contact Details:

Tel: +351 211 209 415

Fax: +351 211 209 480

Email: MaritimeSupportServices@emsa.europa.eu

- **How the IMS could be used in your daily work?**
- **<https://extranet.emsa.europa.eu/evaluation-questionnaire> - fill in the feedback form**



 twitter.com/emsa_lisbon
 facebook.com/emsa.lisbon

 **EMSA**
European Maritime Safety Agency