

IMS Search and Rescue Toolbox

...supporting Search and Rescue Operations

Integrated Maritime Services (IMS)

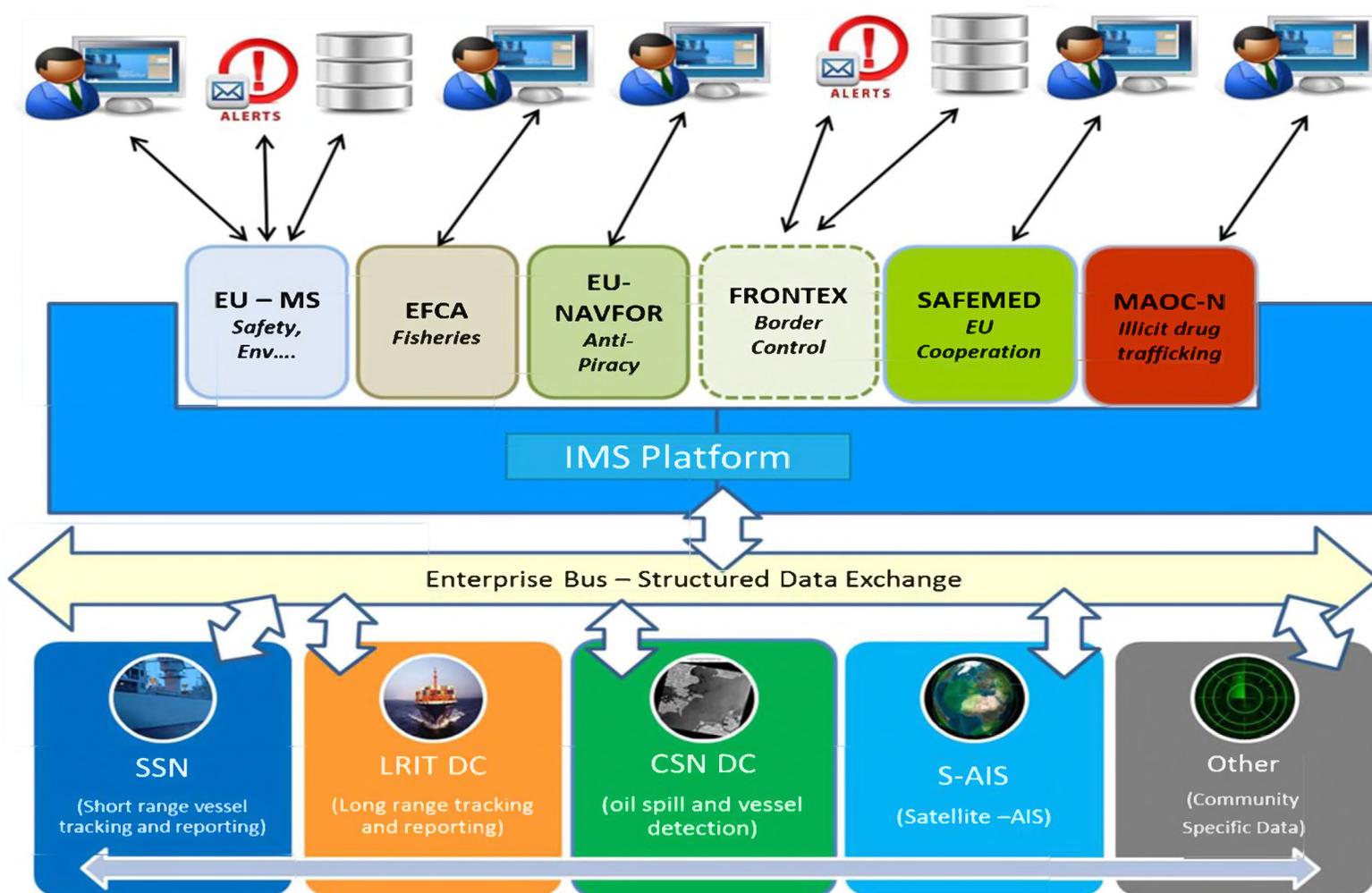
Maritime Digital Services
Digital Services and Simplification

28 November 2023



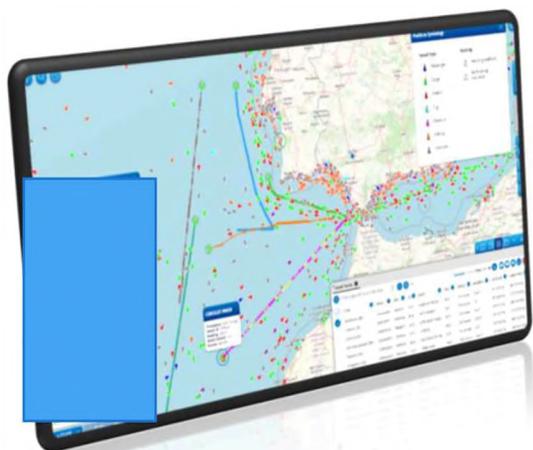
IMS – Integrated Maritime Services

Platform and capabilities



IMS – Integrated Maritime Services

Available interfaces

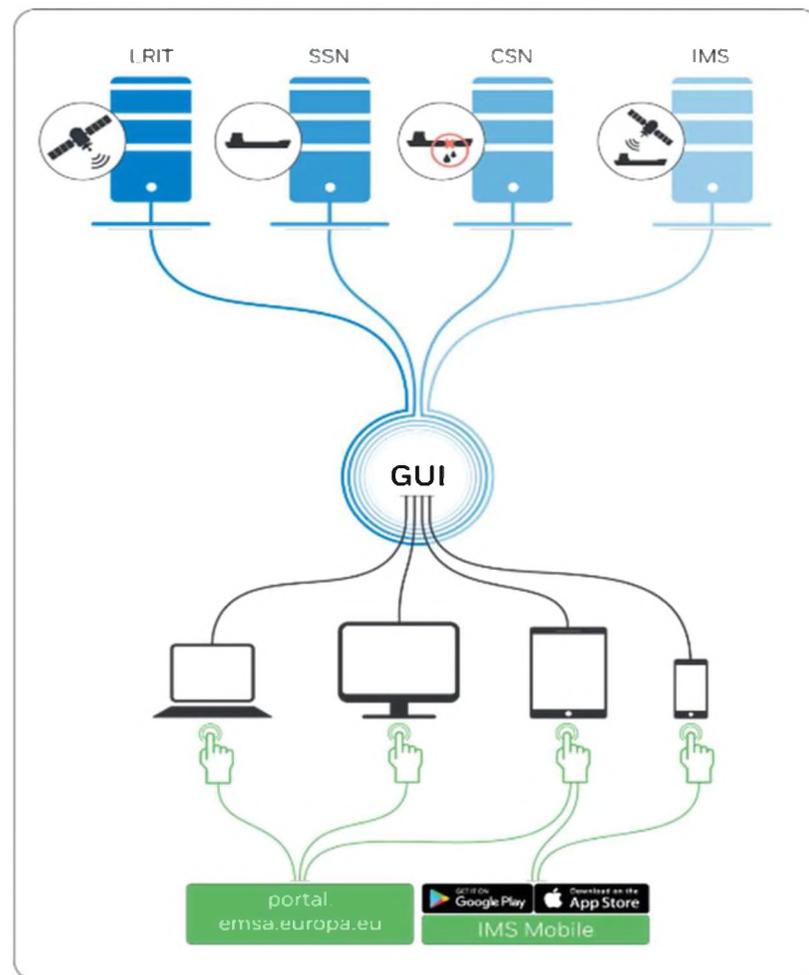


- **Desktop / Laptop**
- SEG (SafeSeaNet Graphical User Interface)
- Textual Interface – SSN and reference databases

- **Mobile / Tablet**
- Android and IOS App

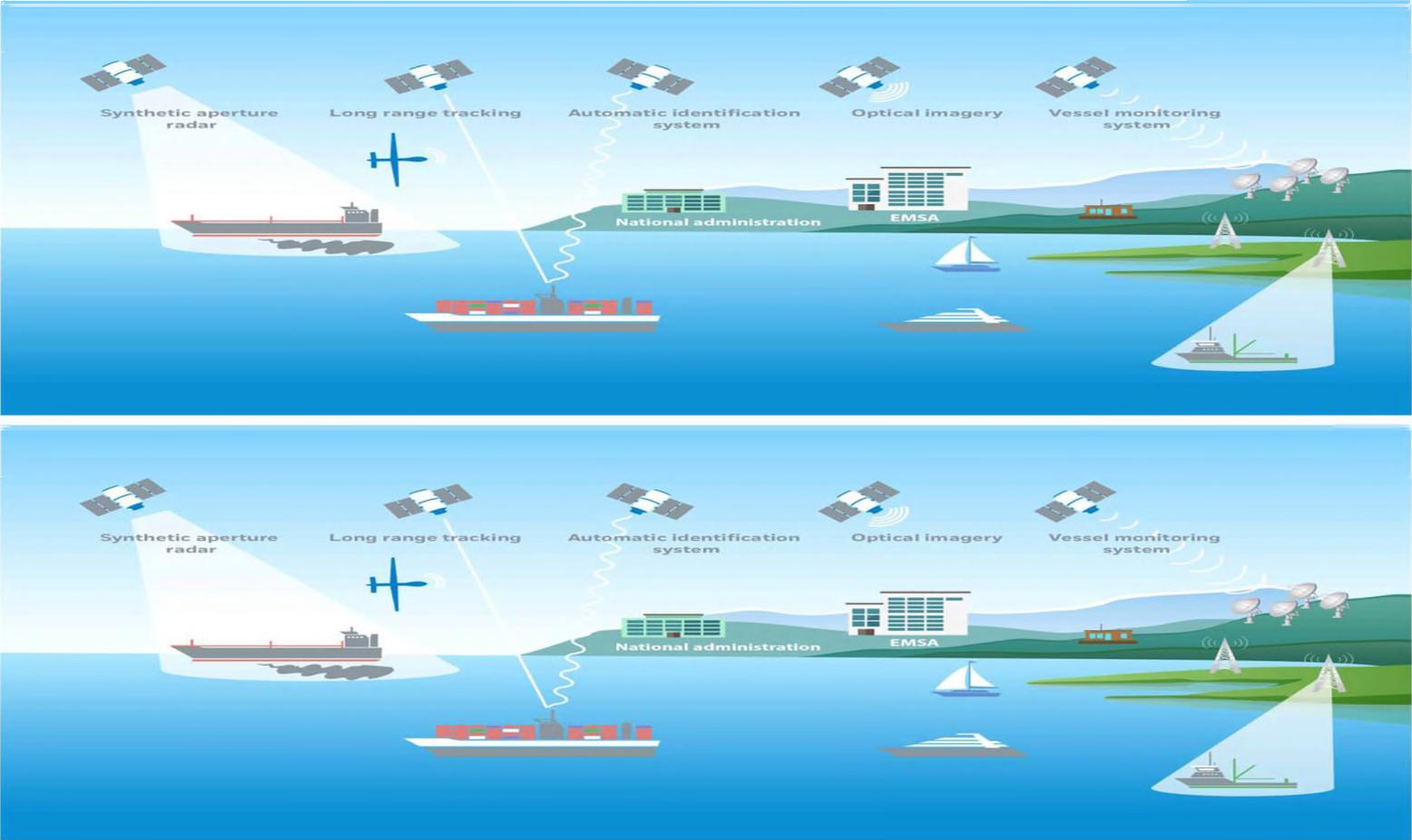


- **System-2-system interfaces**
- API Webservices



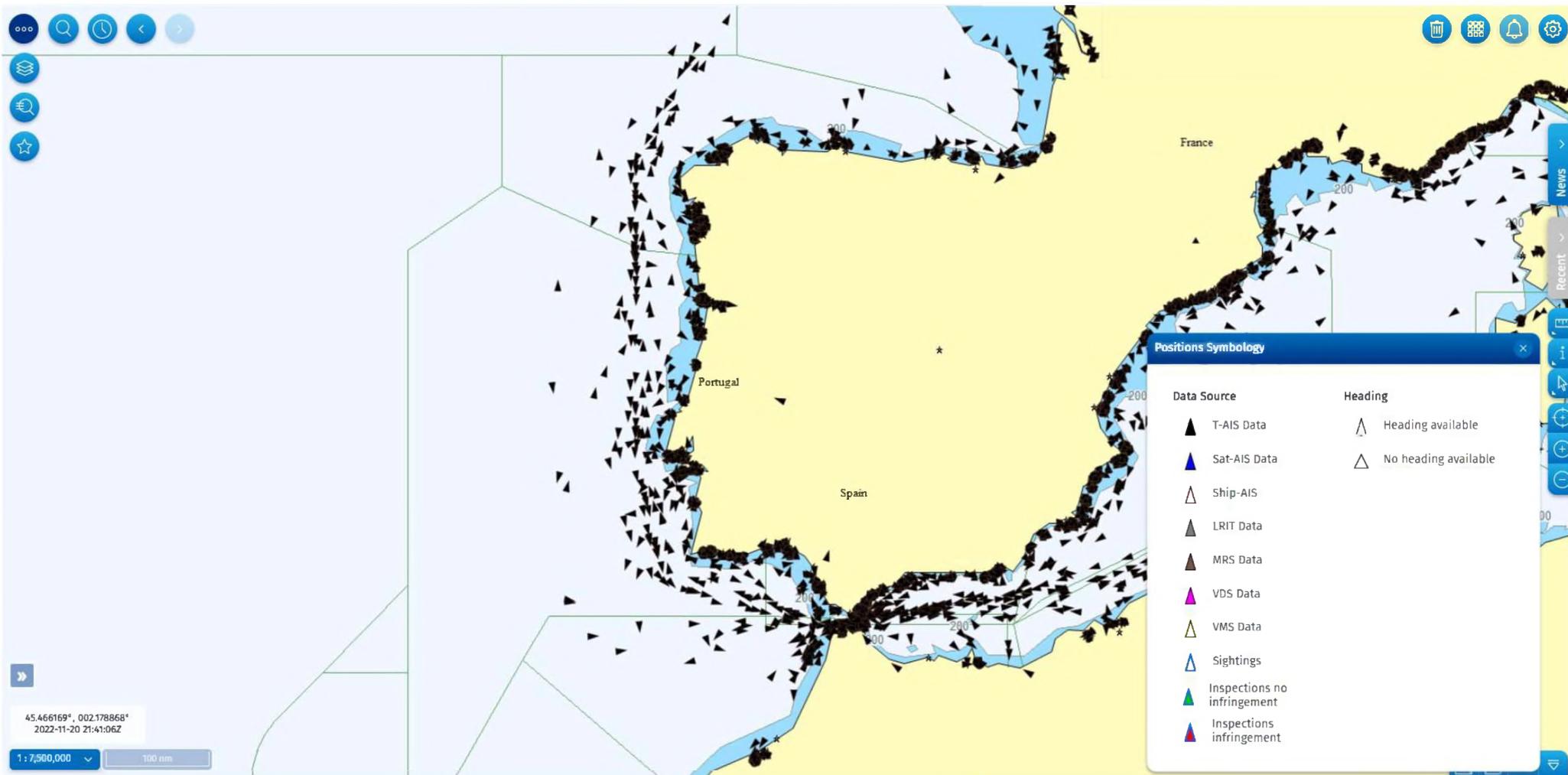
SEG – SafeSeaNet Ecosystem GUI

Building the “maritime picture” – T-AIS + Sat-AIS + VMS + LRIT



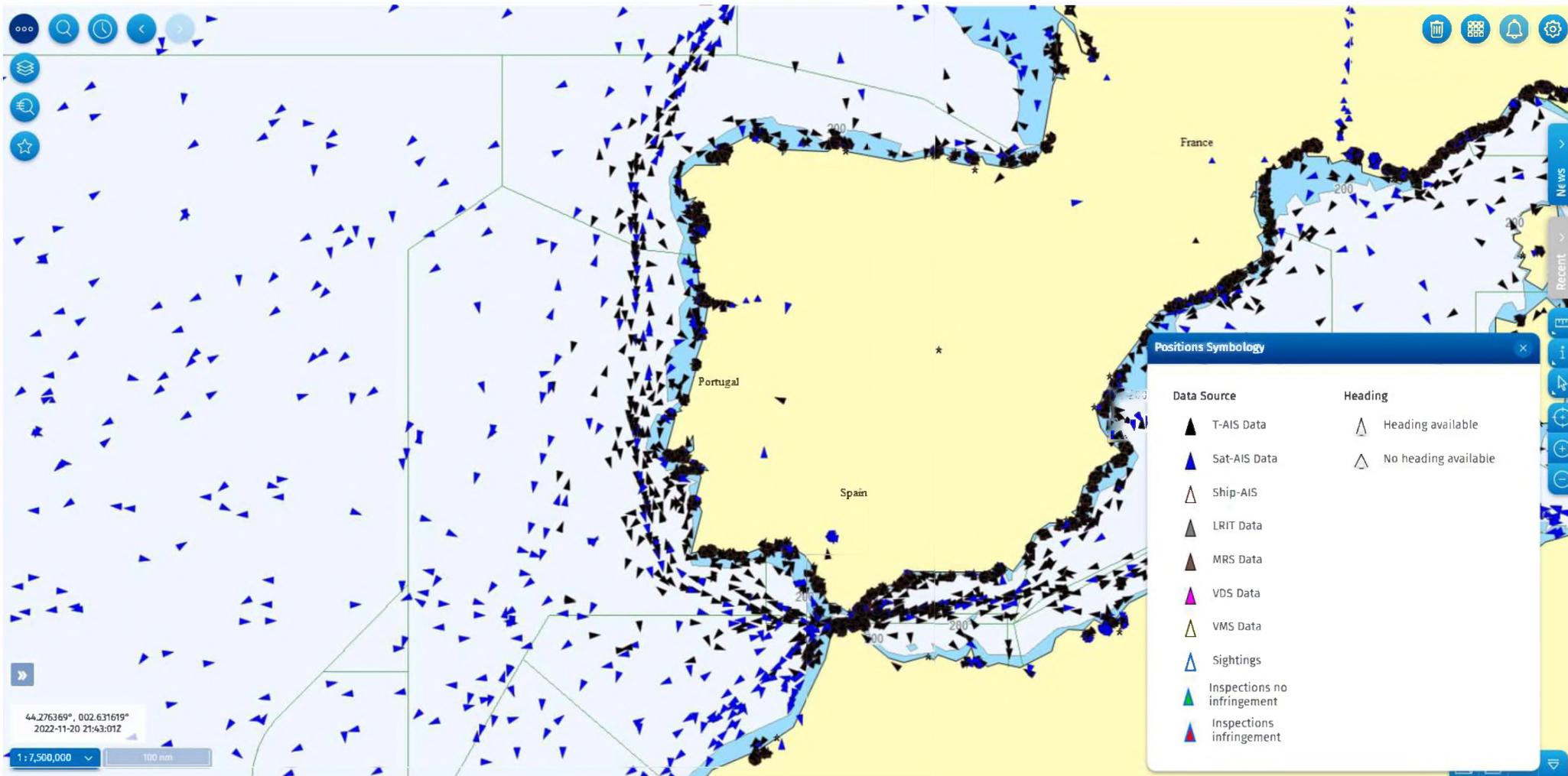
SEG – SafeSeaNet Ecosystem GUI

Building the “maritime picture” – T-AIS



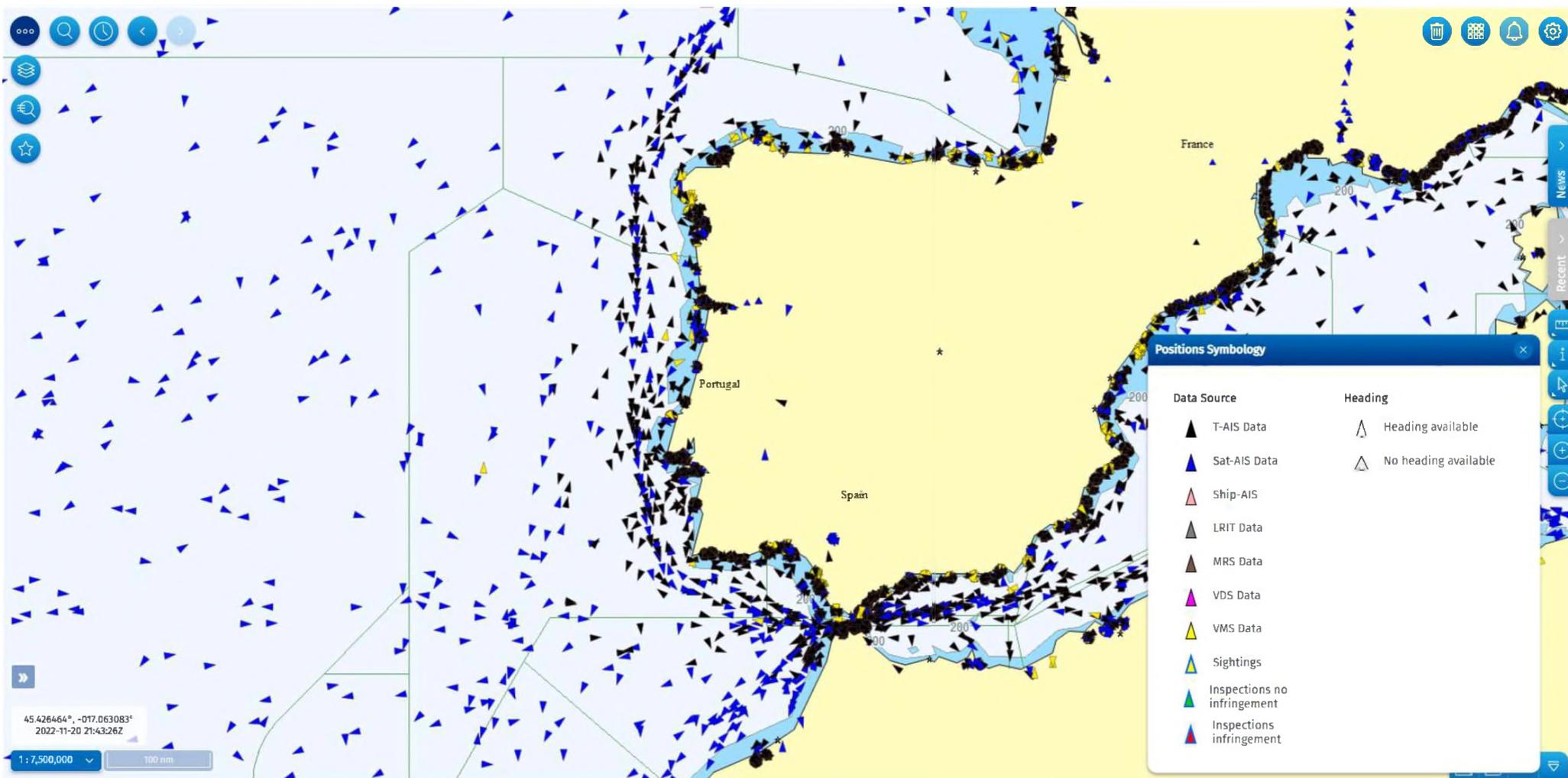
SEG – SafeSeaNet Ecosystem GUI

Building the “maritime picture” – T-AIS + Sat-AIS



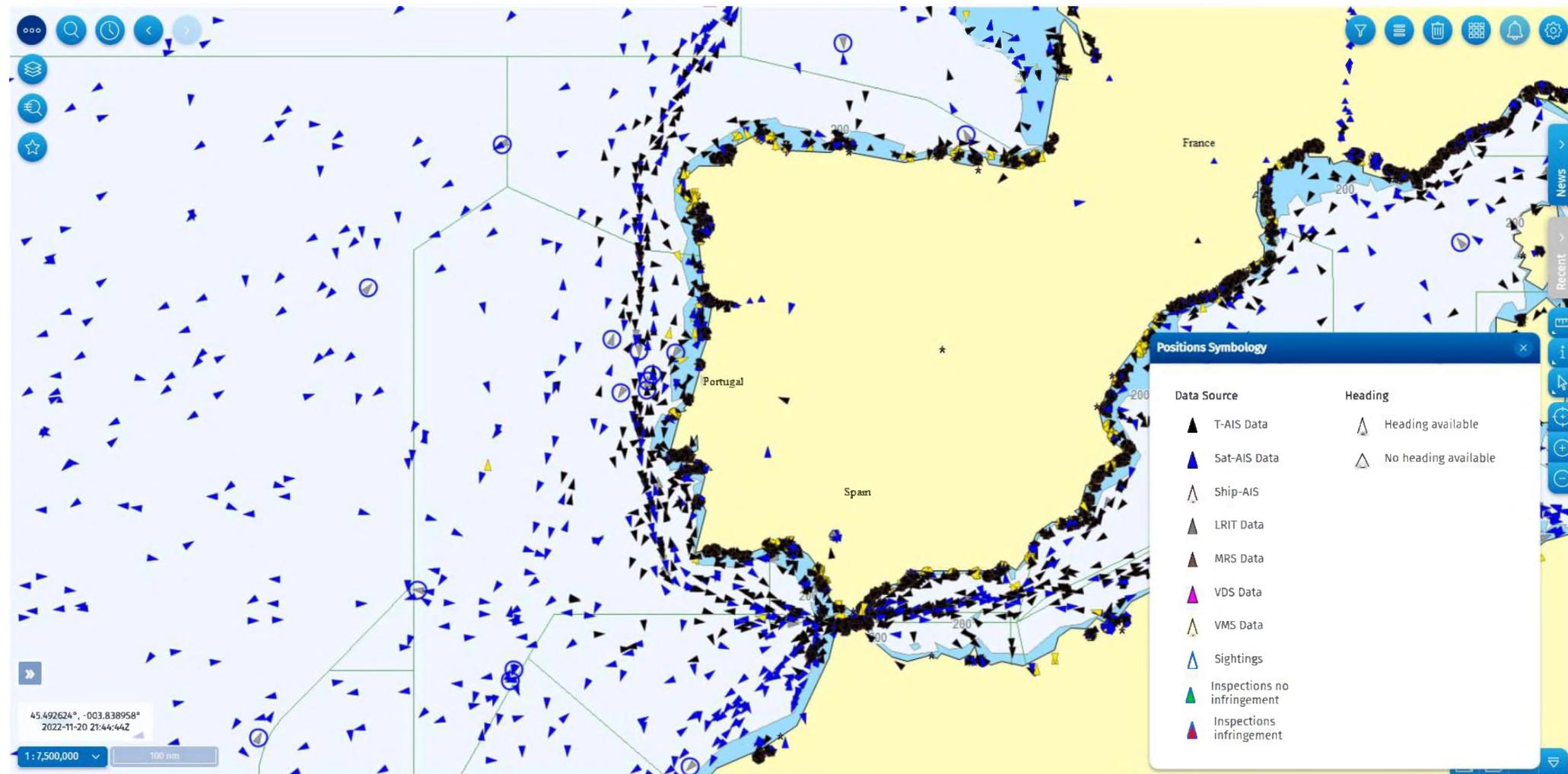
SEG – SafeSeaNet Ecosystem GUI

Building the “maritime picture” – T-AIS + Sat-AIS + VMS



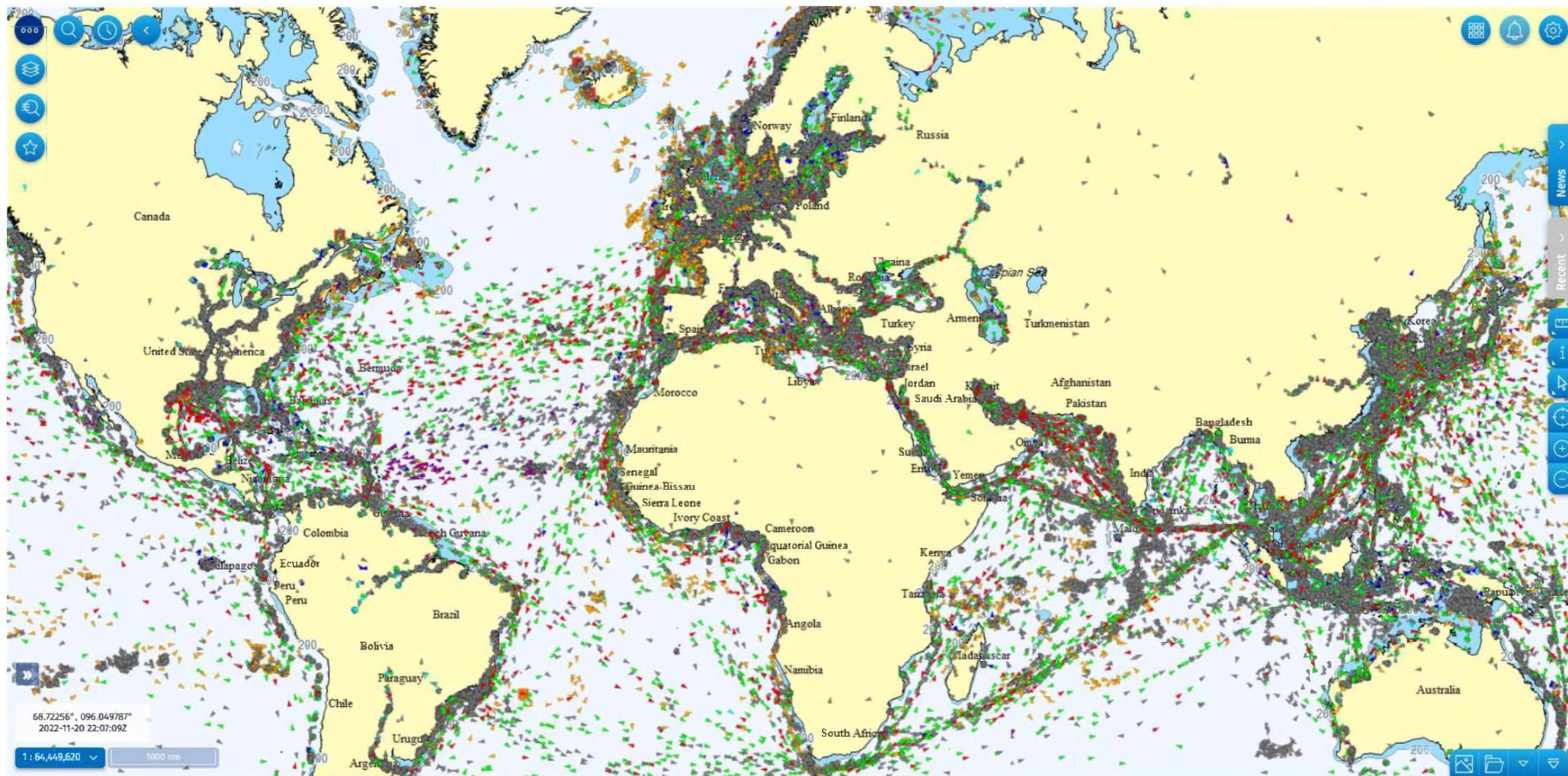
SEG – SafeSeaNet Ecosystem GUI

Building the “maritime picture” – T-AIS + Sat-AIS + VMS + LRIT



SEG – SafeSeaNet Ecosystem GUI

SEG – Global coverage / Awareness



IMS – Search and Rescue Toolbox

Vessel Comprehensive Overview (vessel details and track, voyage data, inspections)



The screenshot displays the IMS Search and Rescue Toolbox interface. The central map shows vessel tracks across Europe, with a red location marker over the Atlantic coast of Portugal. A 'Filter Out is active' notification is present at the top of the map. The interface includes several data panels:

- Left Panel:** A sidebar with navigation icons and a menu containing buttons for 'Get Track', 'Get profile', 'LRIT request', 'User risk level', 'Get voyages', 'Get Incidents', 'Get Exemptions', 'PSC Inspections', and 'Get Alerts (24hrs)'. Below the menu, it shows arrival and departure information for Rotterdam (NLRTM) and North sea (XZZNO), along with a table for MMSI, IR, and SPEED.
- Center Panel:** A detailed view of a vessel with tabs for 'General', 'Specific', 'SSN', and 'AIS Voyage Info'. The 'Voyage info' tab is active, showing sub-tabs for 'HAZMAT', 'Waste', 'Security', 'Bunkers', and 'MRS'. A 'Voyage Info' section is visible below the tabs.
- Right Panel:** A 'Vessel Details' panel with sections for 'Inspection Details' (Place Of Inspection, Inspection ID), 'Ship Particulars', 'ISM Company', 'Detained', and 'Inspected Ship Areas'. A 'Filter applied in all columns' message is shown at the bottom of this panel.
- Bottom Panel:** A 'Vessel Tracks' table with columns for FLAG, MMSI, IMO, IR, NAME, IRCS, SPEED, HEADING, LATITUDE, LONGITUDE, and TIMESTAM. A 'Filter applied in all columns' message is also present above the table.

IMS – Search and Rescue Toolbox

Vessel Comprehensive Overview (port call history, PoB, external sources)



The screenshot displays the IMS Search and Rescue Toolbox interface. It features a map of the Bay of Biscay region, showing parts of Belgium, France, Portugal, and Spain. A yellow arrow points to a vessel's location on the map. A 'Filter Out is active' notification is visible at the top of the map. On the left, there are navigation icons and a search bar. Below the map, there are several data panels:

- Voyage Info Panel:** Includes tabs for 'General', 'Specific', 'SSN', and 'AIS Voyage Info'. Under 'Voyage Info', there are sub-tabs for 'HAZMAT', 'Waste', 'Security', 'Bunkers', and 'MRS'. A table shows 'SHIPCALL ID', 'PORT OF CALL', and 'TOTAL PERSONS ON'. The table content is redacted with a blue box.
- Vessel Tracks Panel:** Shows a 'Filter applied in all columns' and a list of filter options: 'PORT OF CALL', 'ETA TO PORT OF CALL', 'ATA TO PORT OF CALL', 'ETD FROM PORT OF CALL', 'ATD FROM PORT OF CALL', and 'NEXT PORT'. The filter options are represented by radio buttons, and the table content is redacted with a blue box.
- Map Data:** Shows coordinates '47.986436°, -004.830543°' and a timestamp '2022-11-20 22:16:24Z'. A scale bar indicates '1: 15/41,584' and '200 nm'.

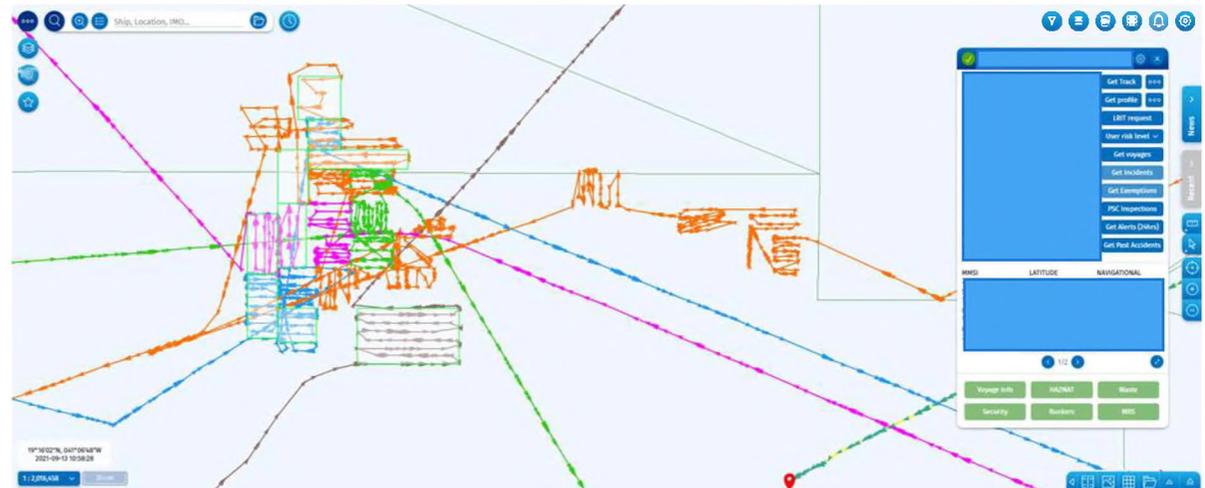
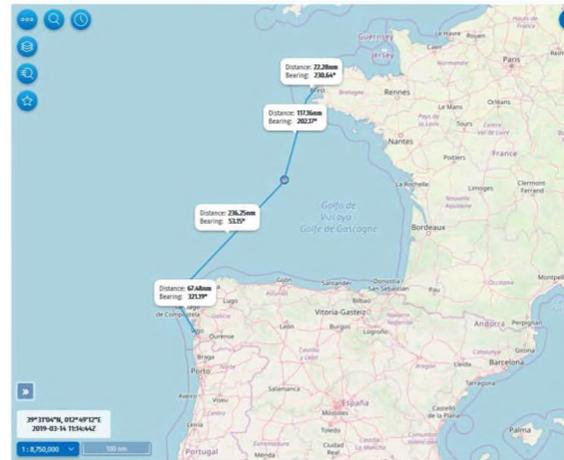
The screenshot displays the Equasis website interface. The top navigation bar includes 'Home', 'My Equasis', 'About Equasis', and 'Statistics'. A search bar for 'IMO Name, Company' is located in the top right. The main content area is titled 'Ship info' and includes a 'Go to My Equasis' button. Below this, there are sections for 'Ship info' (with links to 'See picture on VesselTracker' and 'See picture on MarineTraffic'), 'Last update of ship particulars 27/09/2022', and three tabs: 'Ship info', 'Inspections (99)', and 'Ship History'. The 'Overview' section provides a summary of the ship's status, including 'Flag performance' (Paris MOU White, Tokyo MOU White) and 'Flag targeting' (USCG: not targeted). The 'Management detail' section features a table with columns for 'IMO number', 'Role', 'Name of company', 'Address', 'Date of effect', and 'Details'. The table content is redacted with a blue box.

IMS – Search and Rescue Toolbox

Operational Awareness



- **Favourites / Vessels of Interest**
- Tracks your response vessels and SAR assets in the area
- **E-SARSURPIC (Enhanced Search and Rescue Surface Picture)**
- E-SARSURPIC combines various data sources (T-AIS, LRIT, Sat-AIS, VMS) and provides a unique view of the vessels in the vicinity that may respond to a distress situation in any ocean region, worldwide
- **Search patterns**
- Displays the search patterns and historical tracks of vessels and assets engaged in the SAR operations



IMS – Search and Rescue Toolbox

Operational Awareness

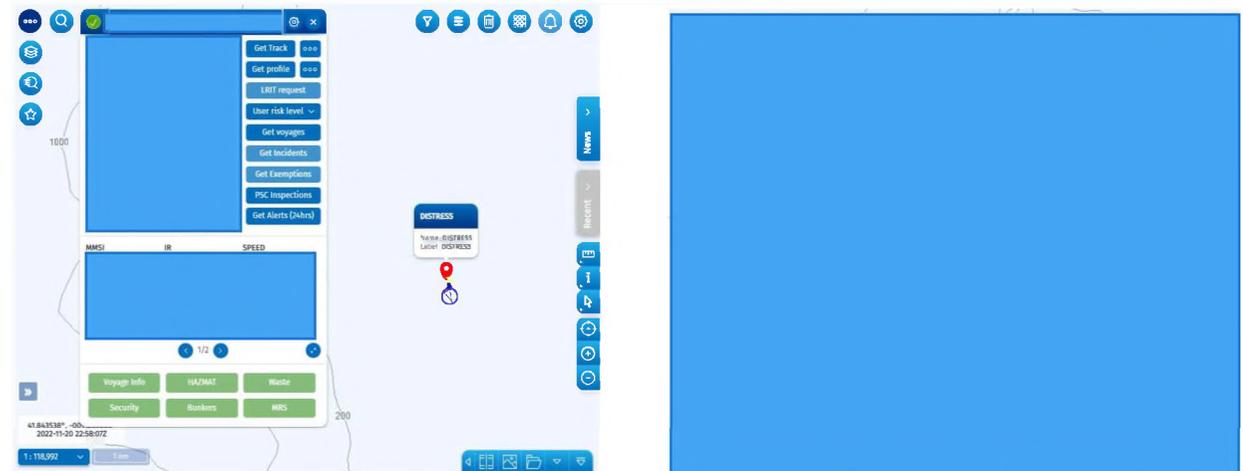


- **Placemarks**

- Marks the location of the accident / emergency

- **Nautical chart base-layer**

- Vessels and other represented features overlaid in updated nautical charts with different levels of detail

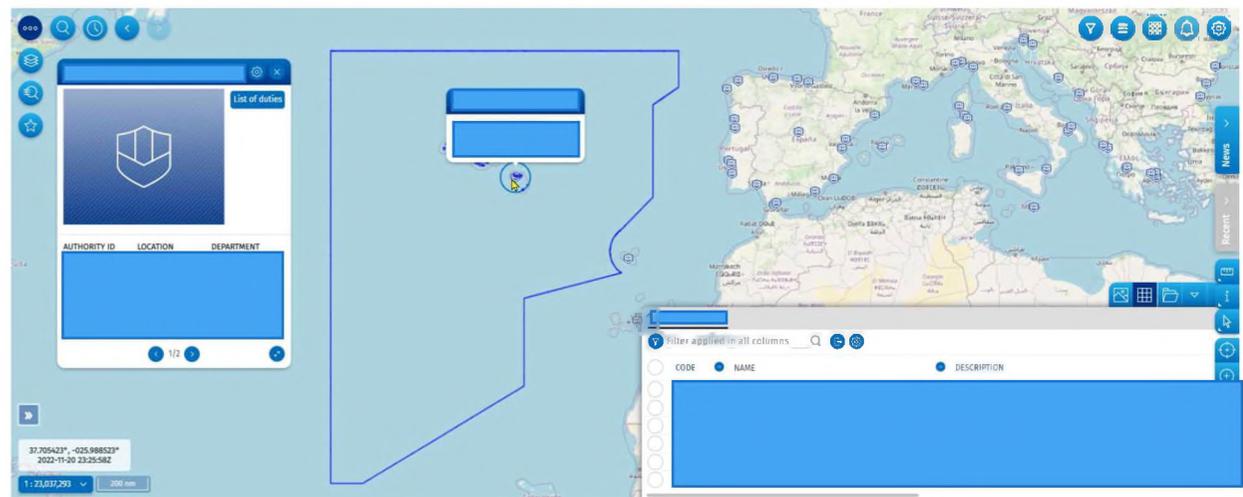


- **Authority Contacts and Duties**

- Shows the locations, contacts and duties of the authorities as identified by each Member State

- **Areas of Interest**

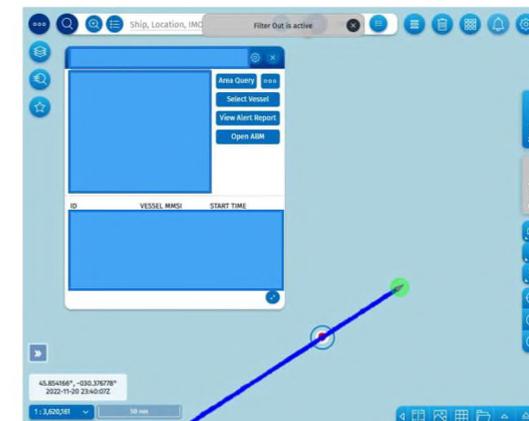
- Shows EU areas of interest (territorial waters, indicative EEZ) and Member State defined areas



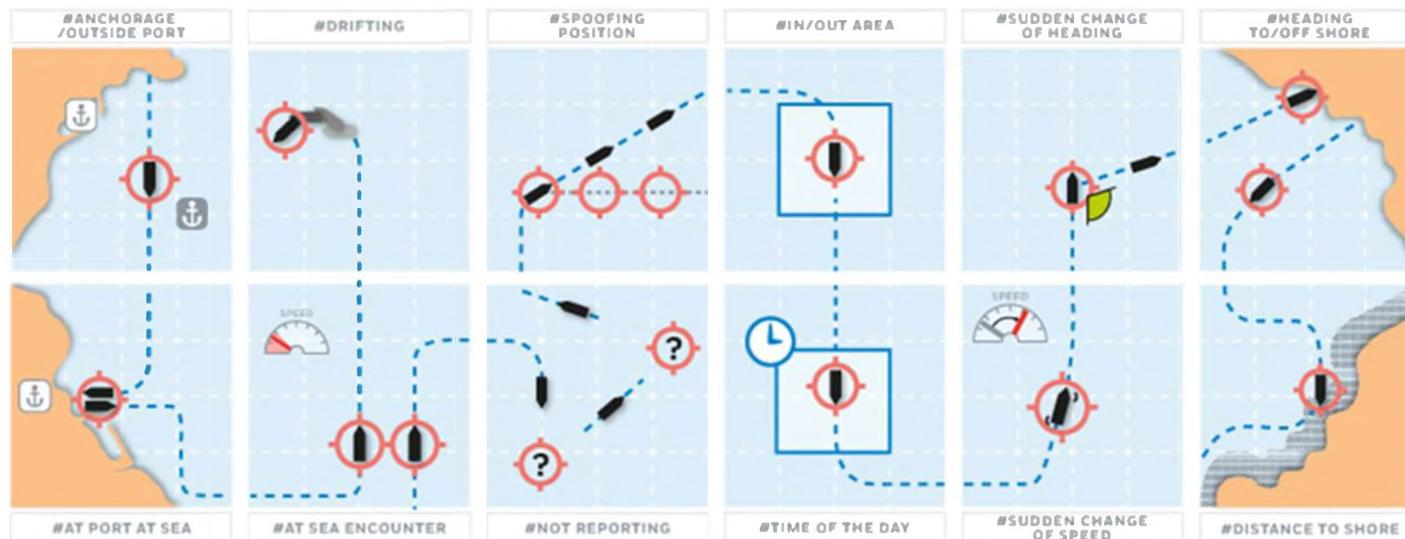
IMS – Search and Rescue Toolbox

Operational Awareness – Automated Behaviour Monitoring (ABM)

- **ABM – Automated Behaviour Monitoring**
- Early warnings on developing dangerous situations at sea through algorithms provided by the Automated Behaviour Monitoring (ABM) and the IMS interfaces, linking to the Earth Observation (EO) imageries, products and services

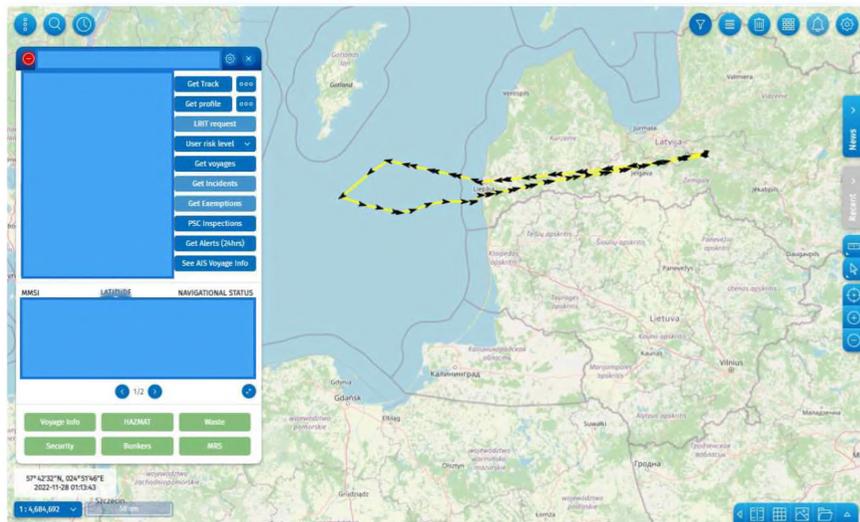


- **ABM detection**
- Near-Real-Time ABMs (NRT-ABMs)
- Historical ABMs (H-ABM)
- **ABM alerting**
- Email Alert
- On-screen Alert
- Mobile App Alert display
- System-2-System

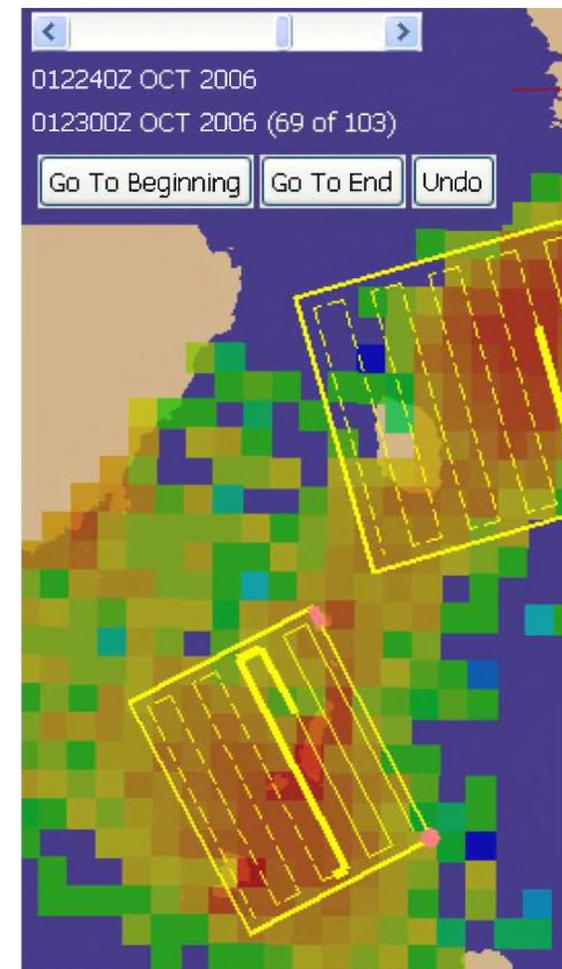
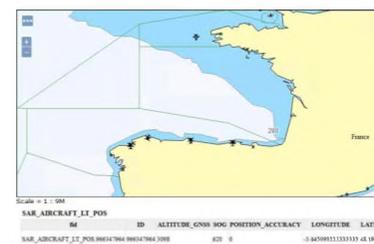
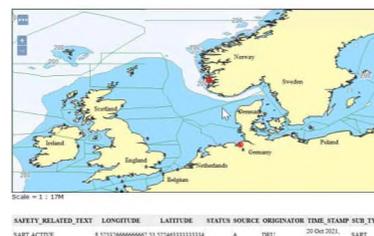
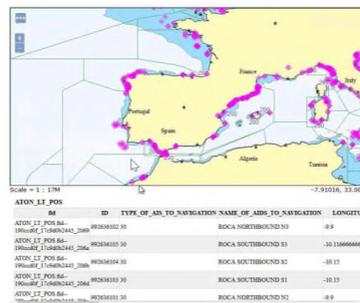


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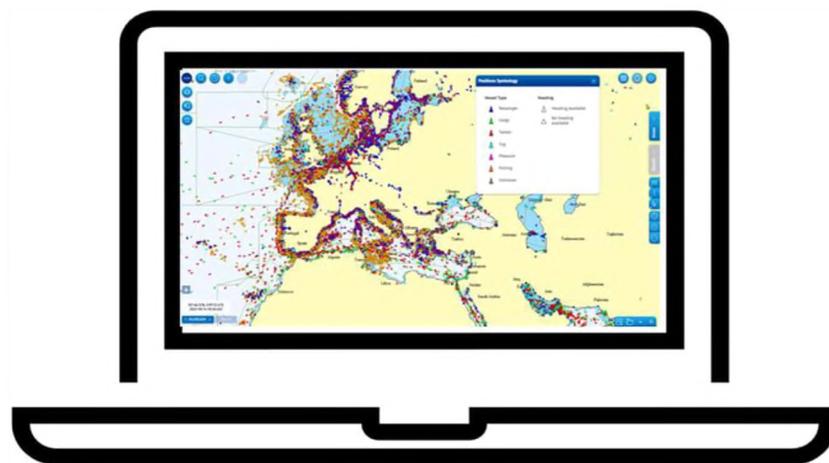
Future integrations



- **New AIS messages types integrated in SEG and the Mobile App**
- Integration and display of AtoN, SAR Assets, SART, AIS-MOB and EPIRB
- **Drift models**
- Integration of existing drift models (pollution, object)



Live demo



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

IMS – SEG / IMS App / ABM

Support documentation and training



Integrated Maritime Services SAR Toolbox

- <https://www.emsa.europa.eu/we-do/digitalisation/maritime-monitoring/items.html?cid=86&id=4655>

SafeSeaNet Ecosystem GUI (SEG)

- **Get Started Guide:** <https://www.emsa.europa.eu/ecosystem/seg-get-started-guide.html>
- **Video Tutorials:** <http://www.emsa.europa.eu/ecosystem/seg-training-videos.html>

IMS Mobile App

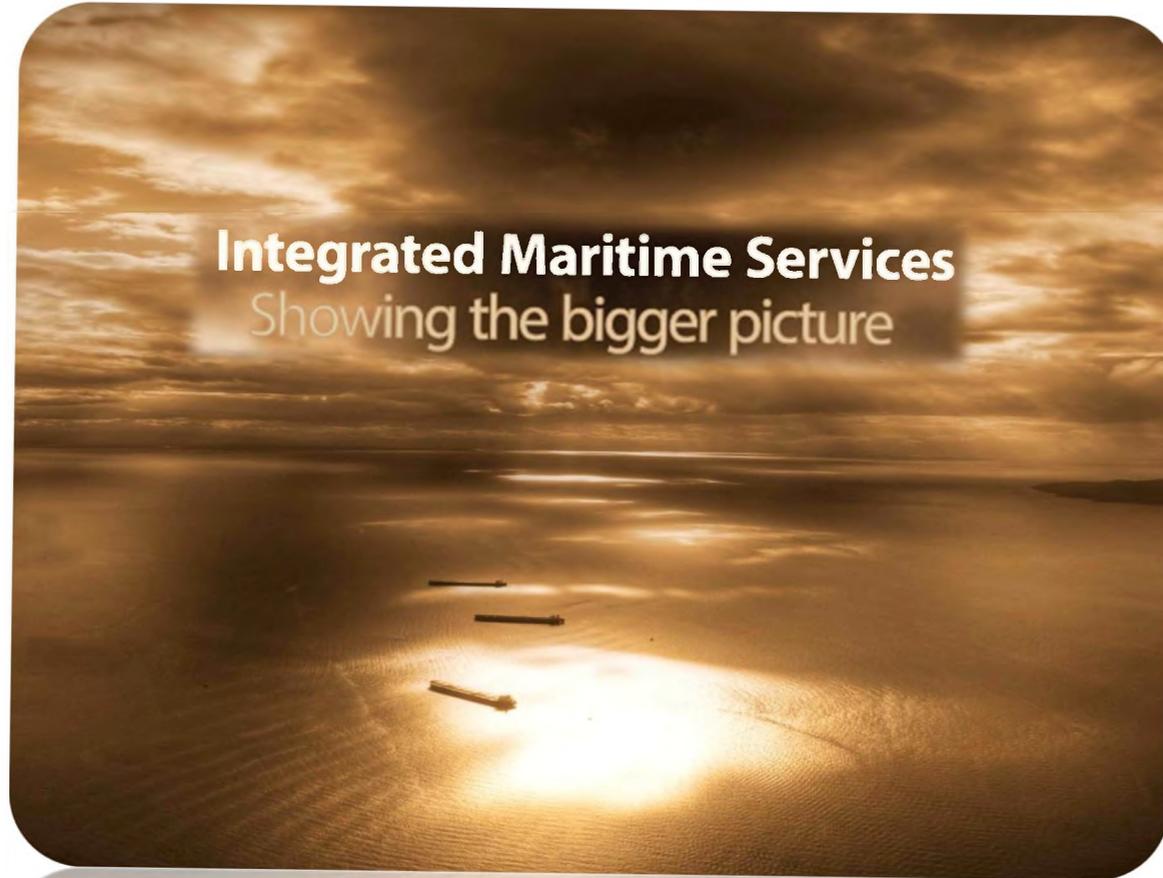
- **Get Started:** <https://emsa.europa.eu/we-do/digitalisation/download/6137/3870/23.html>
- **Video Tutorials:** <https://youtu.be/uu3vdvg3lGs>

Automated Behaviour Monitoring (ABM)

- <https://www.emsa.europa.eu/ssn-main/download/5100/3206/23.html>

Need a training?

- Contact EMSA's ims@emsa.europa.eu for 'ad-hoc' awareness sessions
- Consult the training opportunities on EMSA's web page
- Check scheduled courses on <https://extranet.emsa.europa.eu/e-register/events>



Integrated Maritime Services
Showing the bigger picture

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European Maritime Safety Agency