

# IMS SAR support toolbox

- Existing tools
- Actions from previous IMS meetings
- IMS correspondence expert group on drift modelling
- Use of machine learning

**IMS UCM 17.5**

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Maritime Digital Services  
Digital Services and Simplification

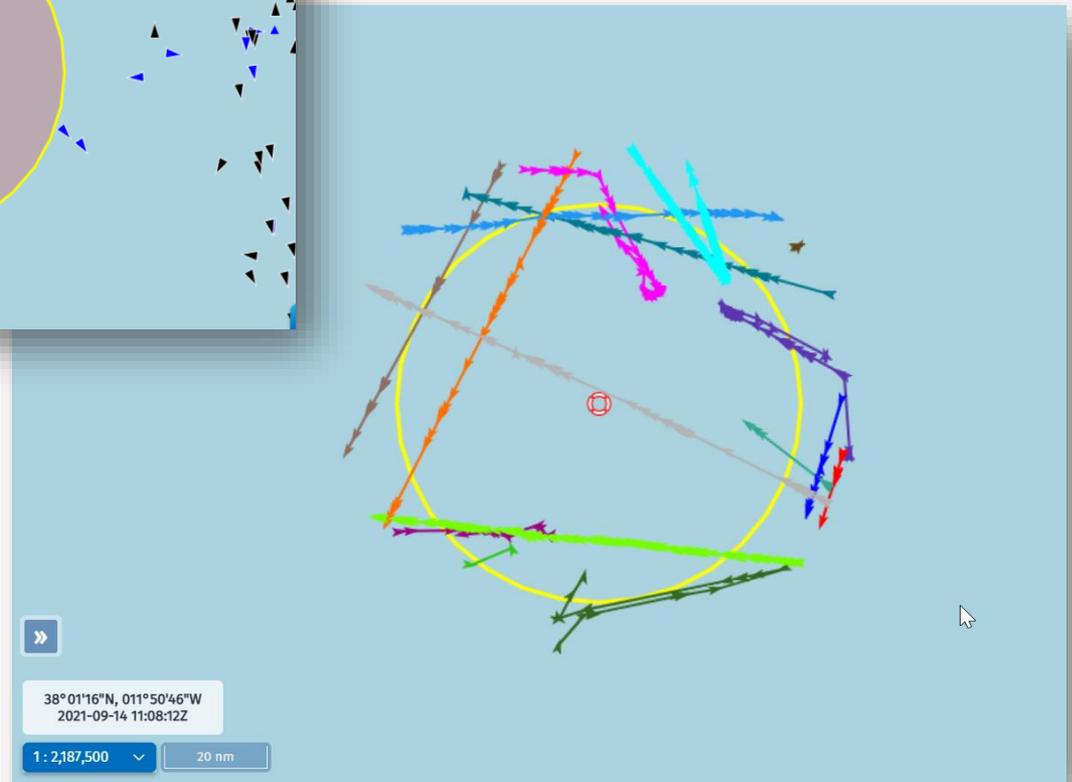
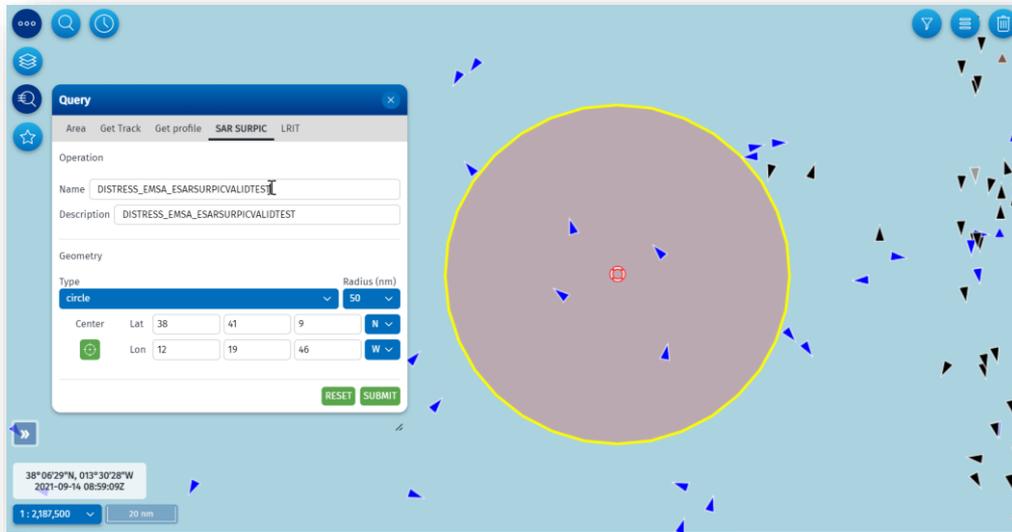
Lisbon, 21.10.2021

# Existing tools

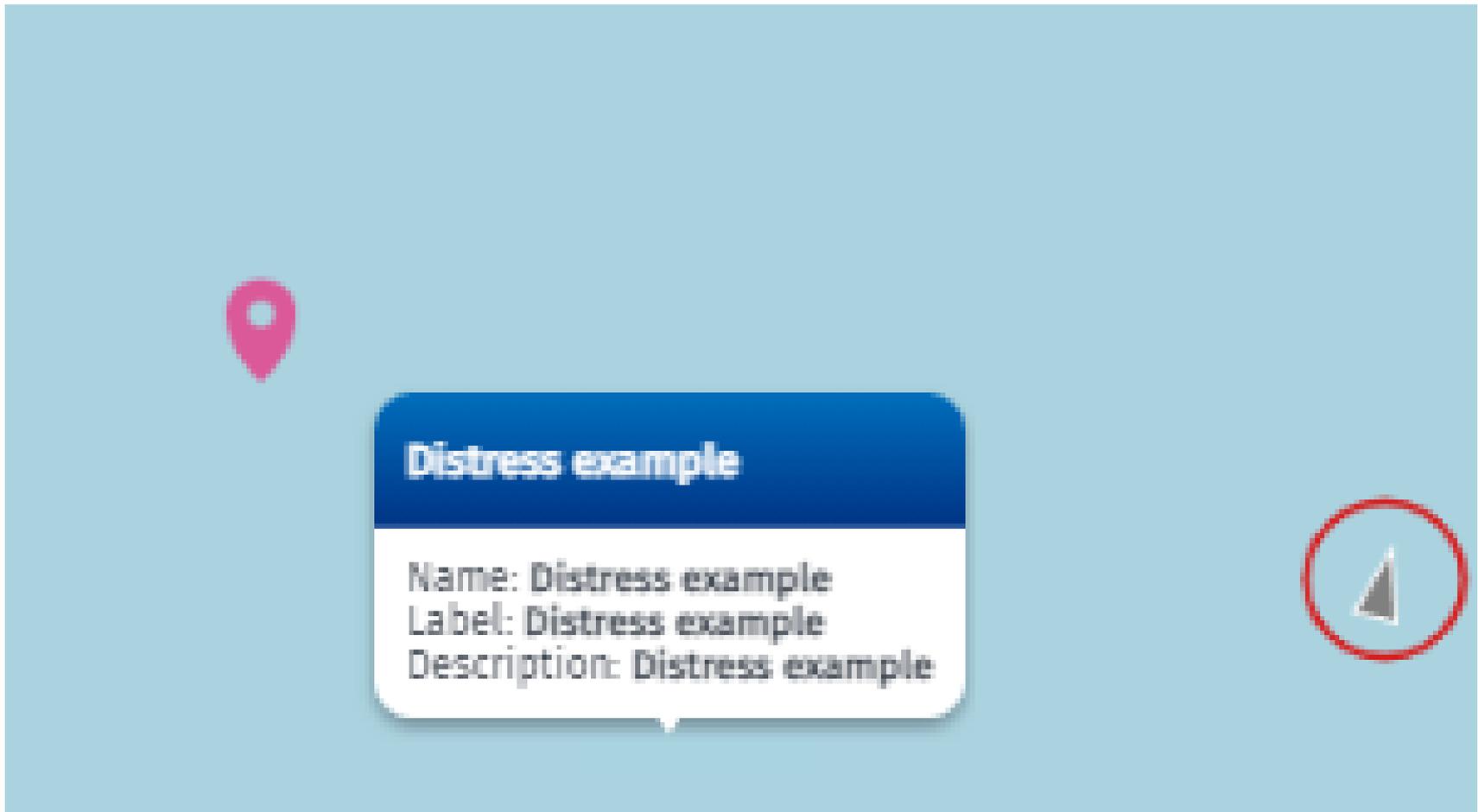
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- **Enhanced SAR SURPIC**
- **Distress location – placemarks**
- **Area of operations- areas**
- **SAR patterns - tracks**
- **Early warning – ABMs**
- **Trainings**
- **Use cases**
- **Future**

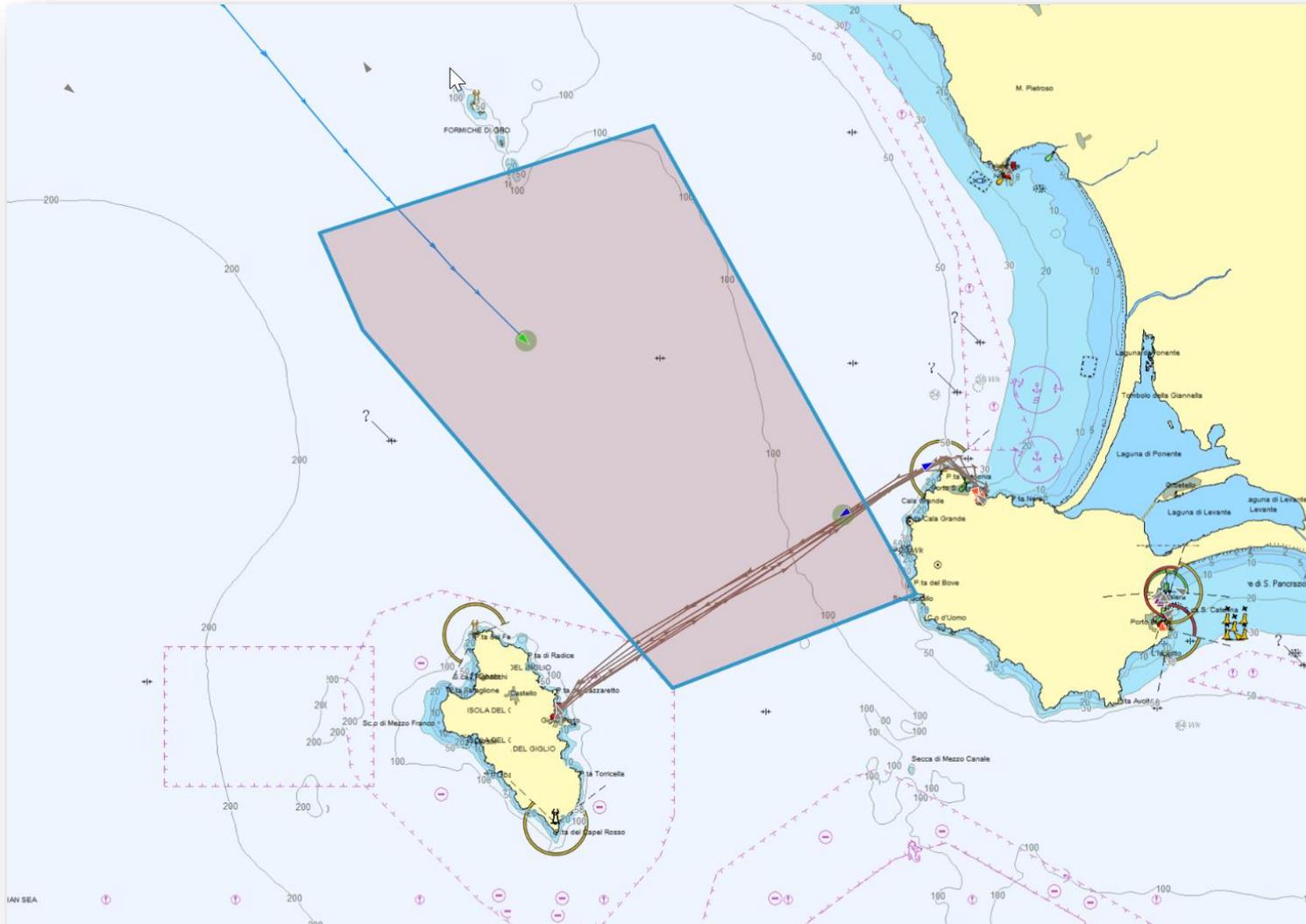
# Enhanced SARSURPIC



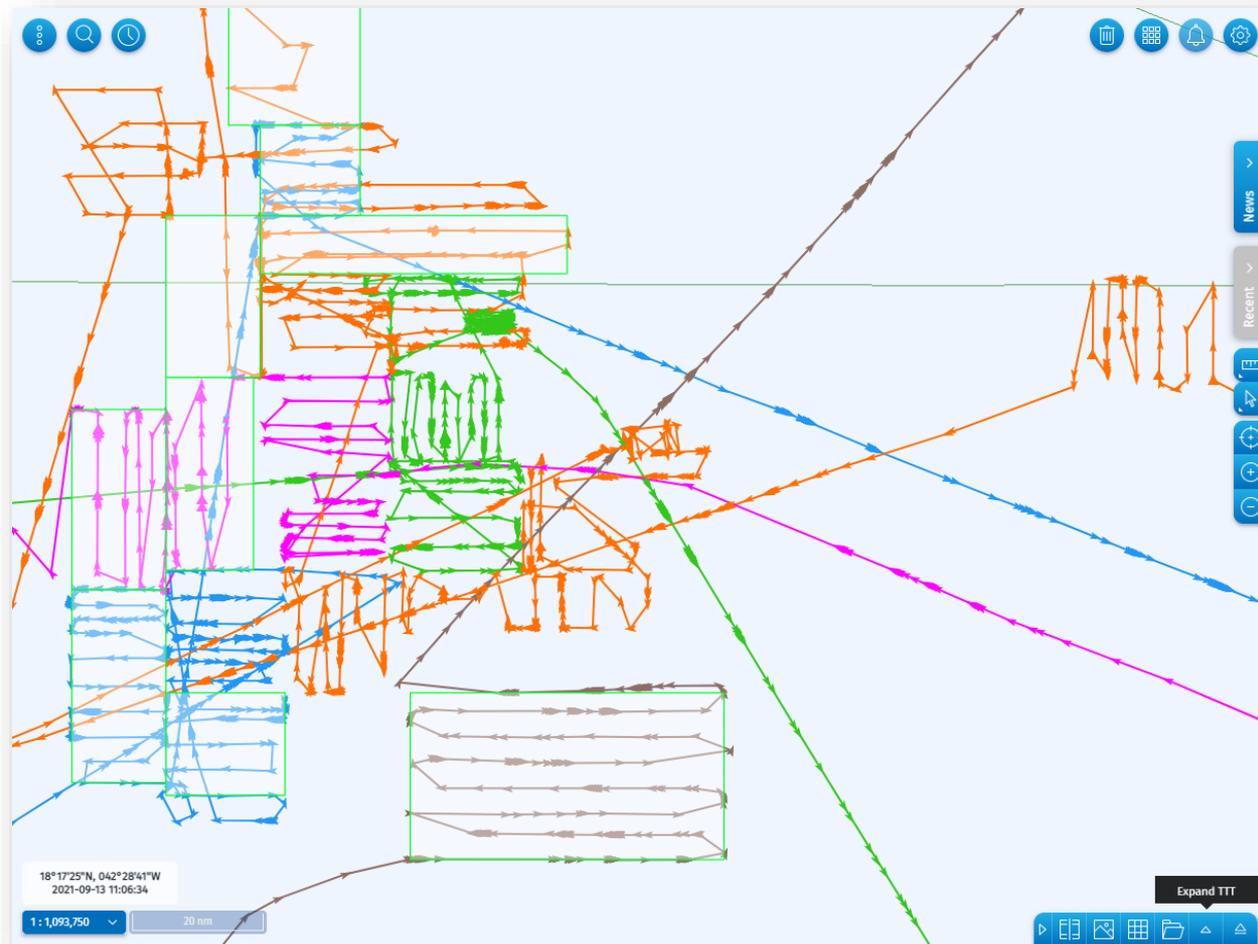
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# Area of operations

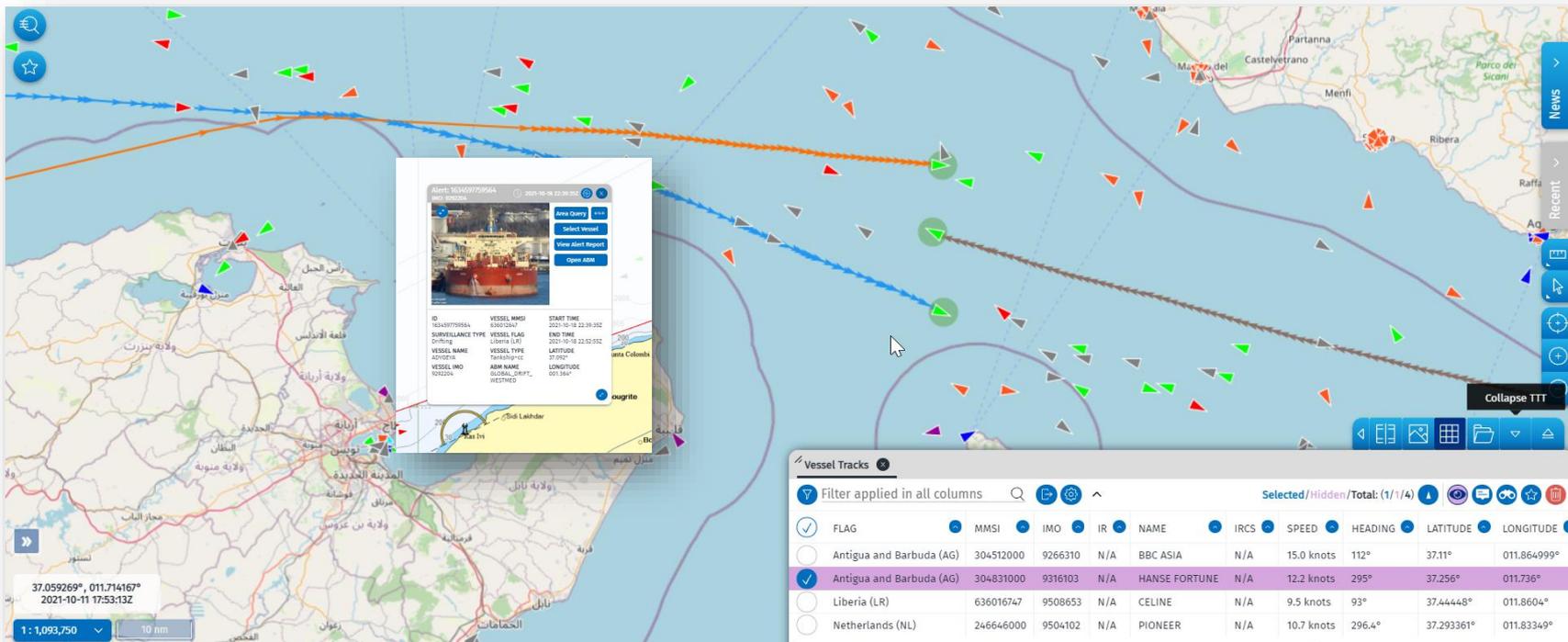


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# 'Lost signal' early warning and other ABMs



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## 2 webinar sessions during summer 2020

### ***Potential support to SAR or salvage activities***

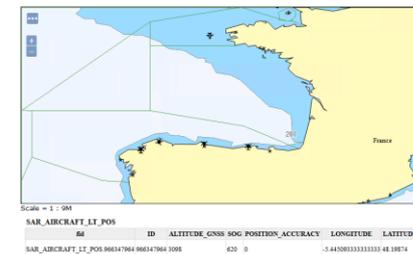
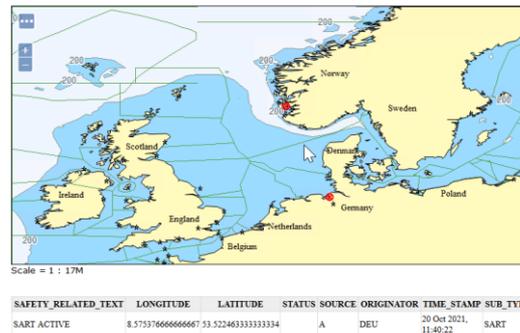
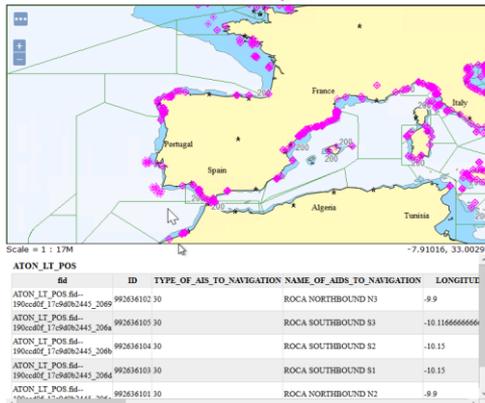
*How SEG/ABMs/SARSURPIC/ Mobile App could potentially support MRCC/JRCC/ Maritime Safety and Security centres for early warning and during accident/ incident response activities?*

***2 Member States – 12 participants***

DOMAIN(S) TOOLBOX	BUSINESS USE CASE SCENARIO	CURRENT IMS FEATURES/ DATA/ FUNCTIONALITIES	INTERFACE/ BACK-END COMPONENT
SAR/SALVAGE	<p>(SAR OR SALVAGE CROSS BORDER OPERATION/RESPONSE)</p> <p><b>A USER FROM AN EU MS JRCC/MRCC NEEDS TO OBTAIN CONTACTS OF OTHER SAR AND POR (PLACE OF REFUGE) AUTHORITIES IN EU.</b></p>	(COD) ORGANIZATIONS' LOCATIONS AND CONTACTS	SEG (GRAPHICAL INTERFACE)
SAR/SALVAGE	<p>(TRAFFIC PICTURE AND SARSURPIC)</p> <p><b>NATIONAL ADMINISTRATION WANTS TO GET THE TRAFFIC PICTURE AND</b></p> <p><b>E-SARSURPIC AND INTEGRATE THEM WITH THE NATIONAL APPLICATION IN THE MRCC TO GET THE LATEST POSITIONS OF THE VESSELS IN THE SRR AND IN ANOTHER AREA OF INTEREST.</b></p>	<p>S2S IMS</p> <p>WMS</p> <p>E-SARSURPIC</p> <p>STAR STREAMING</p>	<p>STAR TRACKING</p> <p>RTMPS</p> <p>STAR STREAMING</p>
SAR/SALVAGE	<p>(TRAFFIC PICTURE AND SARSURPIC)</p> <p><b>NATIONAL ADMINISTRATION WANTS TO GET THE TRAFFIC PICTURE AND</b></p> <p><b>E-SARSURPIC AVAILABLE TO THEIR MRCCS TO GET THE LATEST POSITIONS OF THE VESSELS IN THE SRR AND IN ANOTHER AREA OF INTEREST.</b></p>	<p>E-SARSURPIC</p> <p>STAR STREAMING</p>	SEG (GRAPHICAL INTERFACE)

## SART – AIS (MOB, SART); SAR Aircrafts etc.

No	Data type or specific function	Business rule	Presentation / display aspects
37	<b>AIS - Aids to Navigation (AtoNs), SAR Aircraft, SART</b>	Display of AIS AtoNs / Display of Standard Search And Rescue aircraft position reports and Display of AIS-SART.	Will be available once the data is available from the AIS regional servers and the relevant back-end services are implemented.



# Actions from previous IMS meetings

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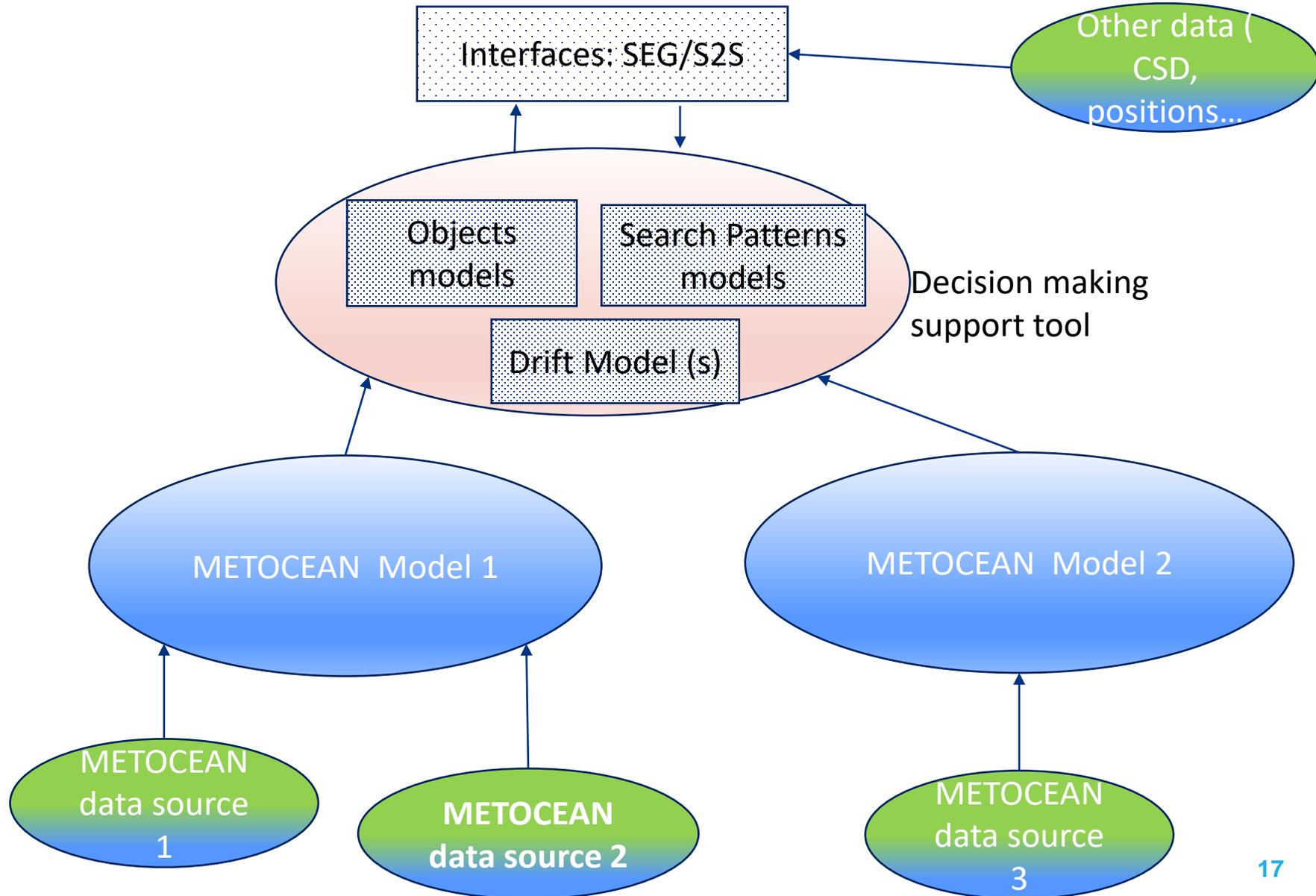
- **UCM 9/10: France and EMSA to analyse feasibility of integrating COSPAS-SARSAT data within IMS.**
  - Discussion on going with MS
  - plan: to draft bullets points and further investigate (e.g. with SARSAT COSPAS/FMCC) if and how the data can be accessed and come back to the IMS group.
- **General Arrangement Plans (Pilot Project)**
  - The GA plans (voluntary Cies) can be made available only to the registered IMS users with a Search & Rescue role.
- **AIS - Aids to Navigation (AtoNs), SAR Aircraft, SART**
  - see slide 11 ( new data set)

- **UCM-13/08: EMSA to inform IMS Group Member State representatives on development of the SAR training course.**
  - Dedicated correspondence group for Learning activities related to SAR
  - Purpose: develop a common core curriculum and online part time course.
- **Drift modelling:**
  - See next slides

- **Chat box**
  - Pending
  
- **UCM-16/09: EMSA will analyse the uses cases for SART-AIS, MOB-AIS and EPIRB-AIS functionalities and will present the outcomes at the next IMS UCM.**
  - on-going, see slide 11

# IMS correspondence expert group on drift modelling

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## Work package 1: Brief evaluation of existing public and commercial models:

- Done, 10 models identified, fiches filled in.
- The fiches will be made available to the IMS group.

## Work package 2: Requirements

- A second meeting will be organised (date TBC) to discuss and organise the WP2 work: to produce an agreed set of requirements
- Target: draft requirements to be presented at IMS 18 and then to HLSG

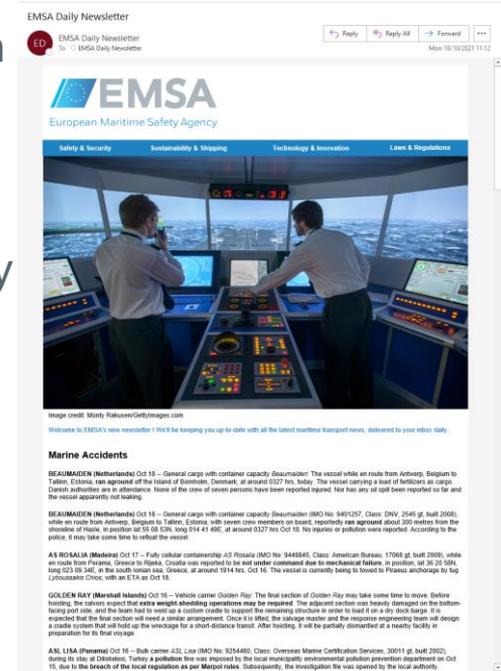
# Use of machine learning

- **MSS news monitoring service** for supporting the decision for activating the emergency phase of **EMSA's Contingency Plan**
- **EMSA daily newsletter** on Safety & Security, Sustainability & Shipping, Technology & Innovation, Laws & Regulations

## Information sources

- **Incident Reports** distributed through SafeSeaNet system
- **Europe Media Monitor (EMM)**
- **External news service** providing information on maritime casualties
- **EMSA's stakeholders reports** and requests for assistance

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## Use of machine learning:

- Integration of social intelligence tools for monitoring Social Media platforms (e.g.: Reddit, Twitter, Facebook, Instagram)
- Automatic variable analysis (e.g.: counts of Retweets, Likes, Comments)
- Use of Artificial Intelligence (AI) for news content analysis vs. keyword occurrence



## Possible uses cases

- Early detection and warning of maritime emergencies (accidents and incidents at sea)
- Assist in identifying a crisis as it starts in order to take appropriate actions at a early stage

- ...





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