

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

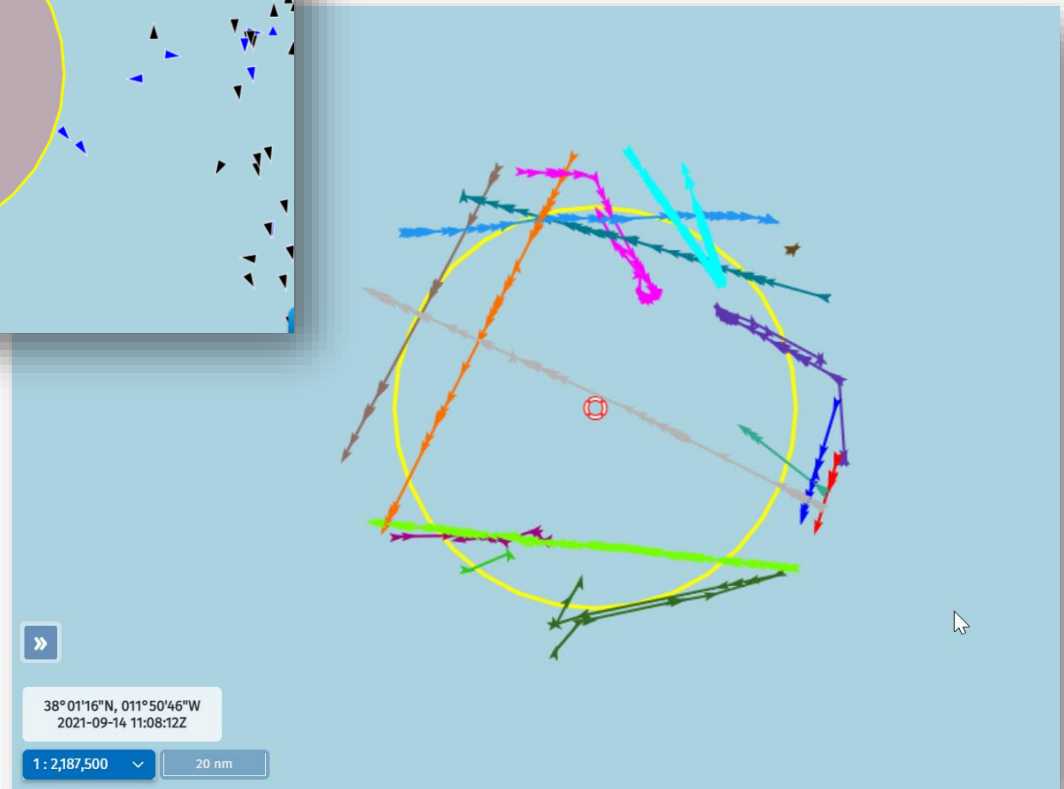
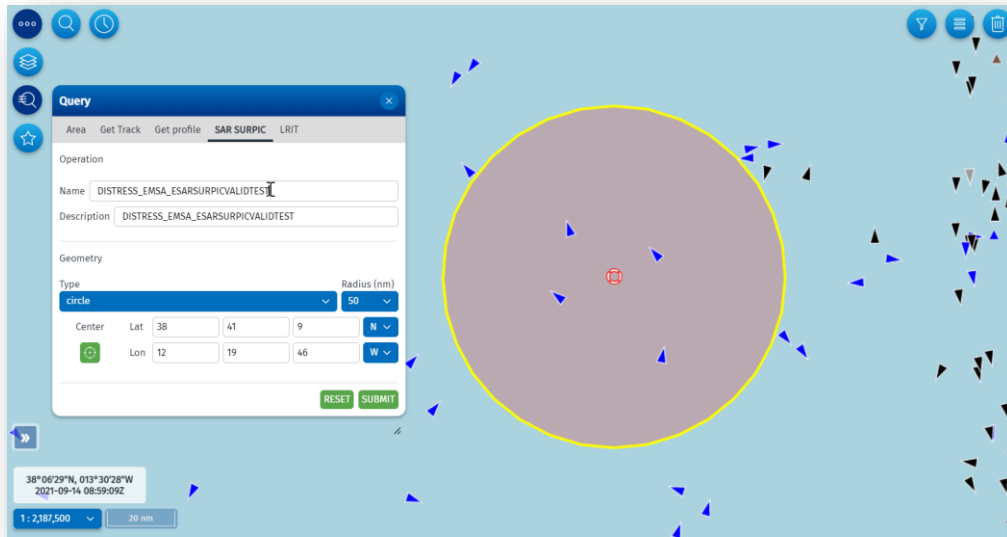
Lisbon, 21.10.2021

Existing tools

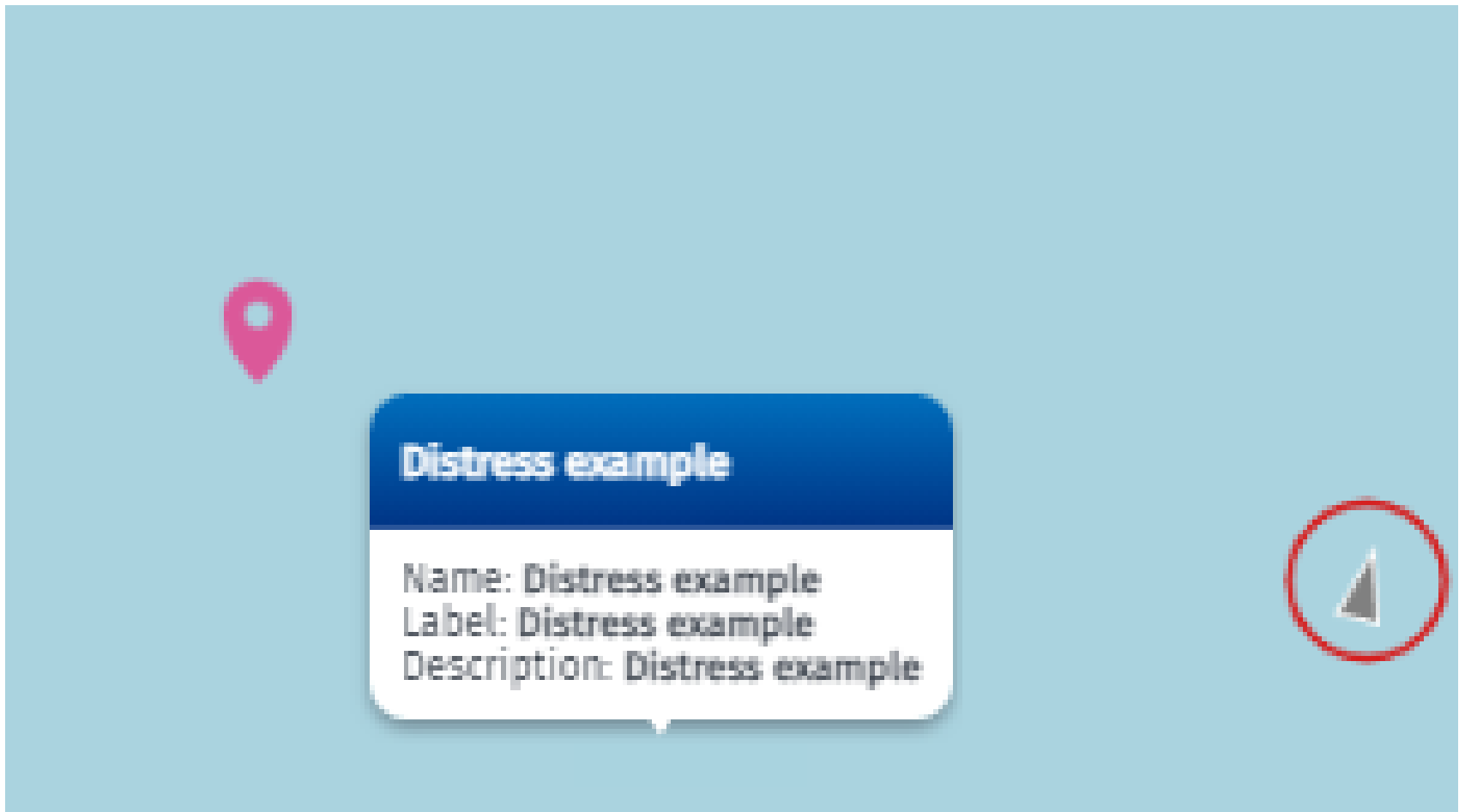
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- **Enhanced SAR SURPIC**
- **Distress location – placemarks**
- **Area of operations- areas**
- **SAR patterns - tracks**
- **Early warning – ABMs**
- **Trainings**
- **Use cases**
- **Future**

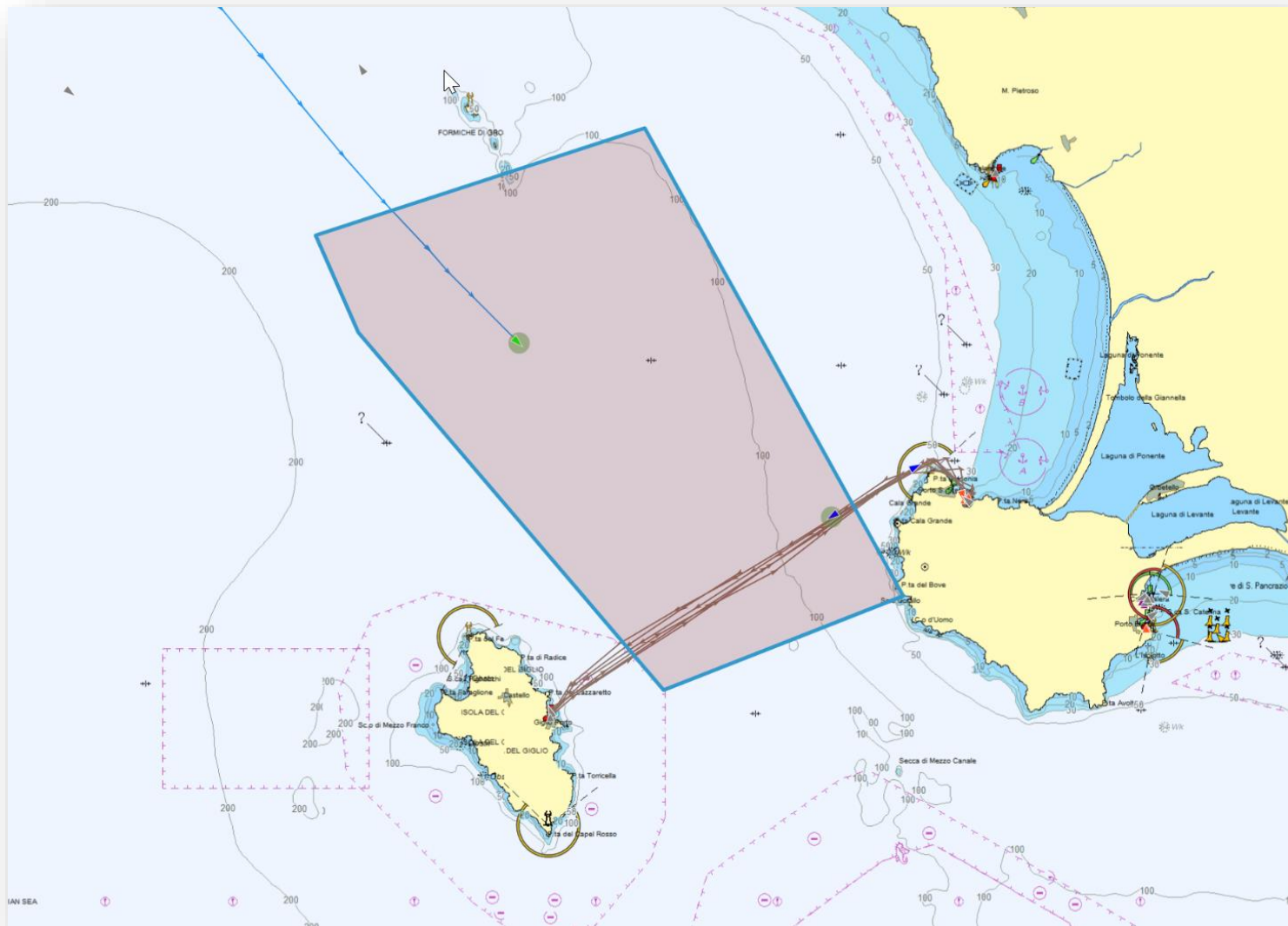
Enhanced SARSURPIC



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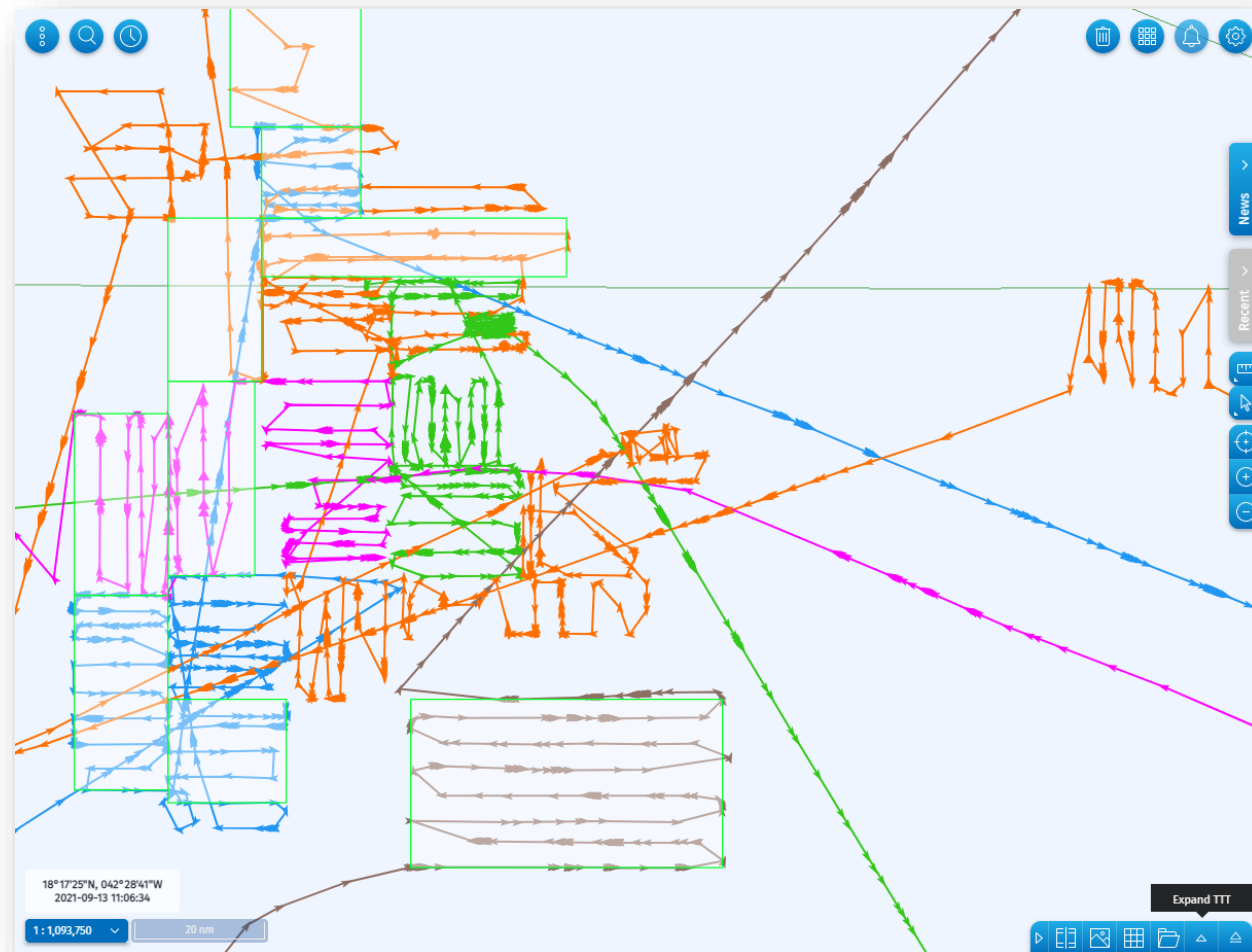


Area of operations



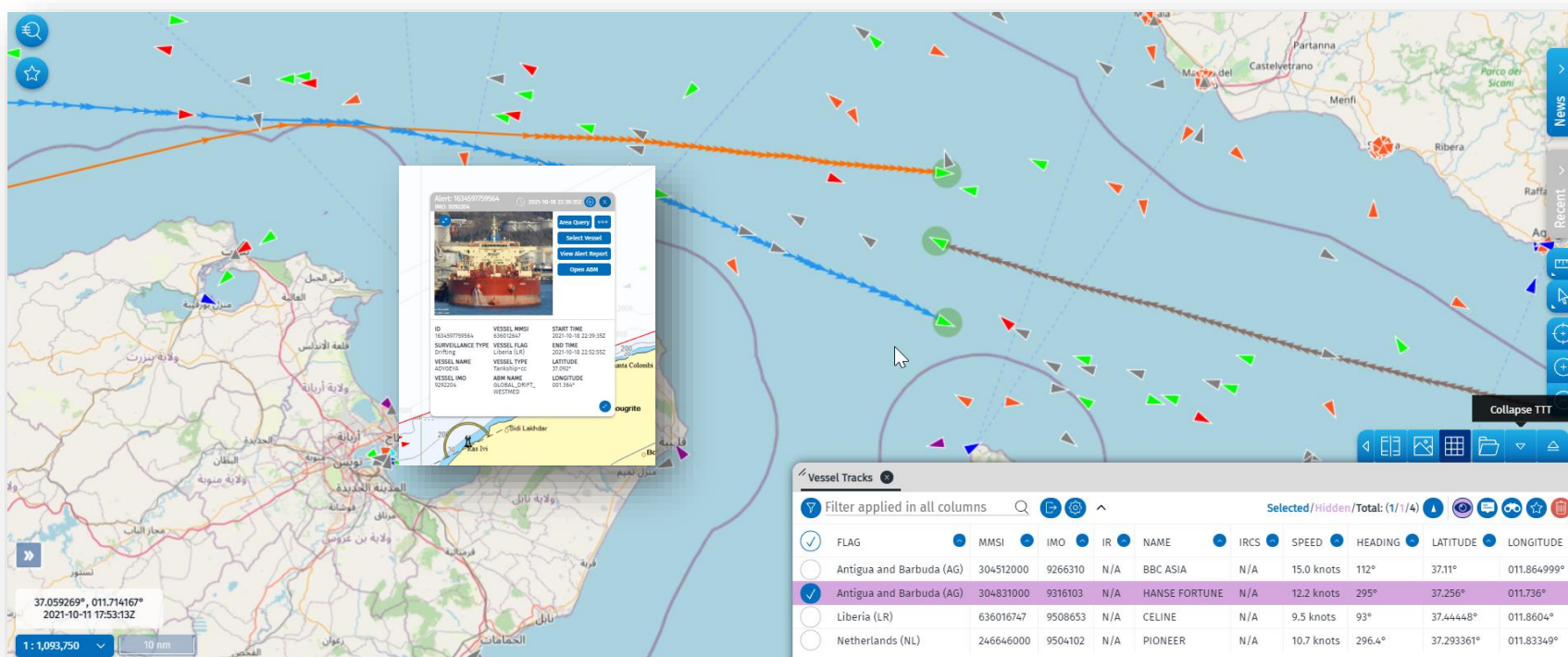
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SAR patterns



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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?

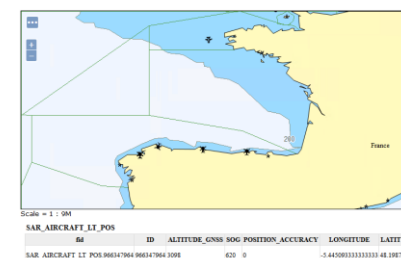
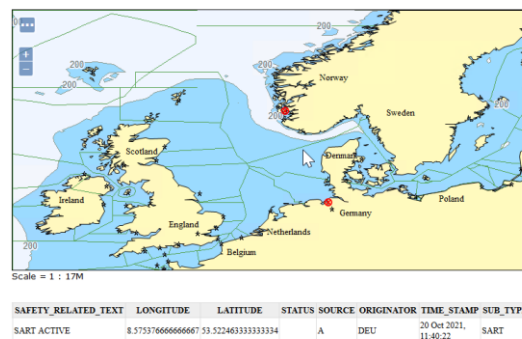
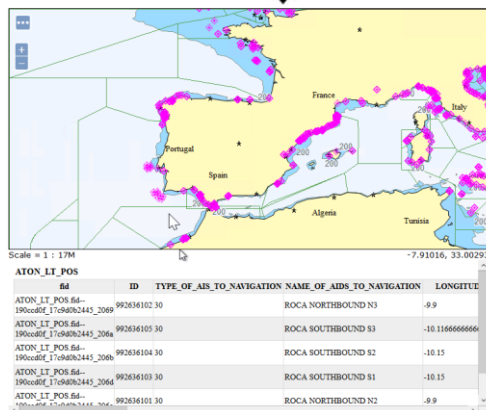
2 Member States – 12 participants

SAR use cases

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

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

No	Data type or specific function	Business rule	Presentation / display aspects
37	AIS - Aids to Navigation (AtoNs), SAR Aircraft, SART	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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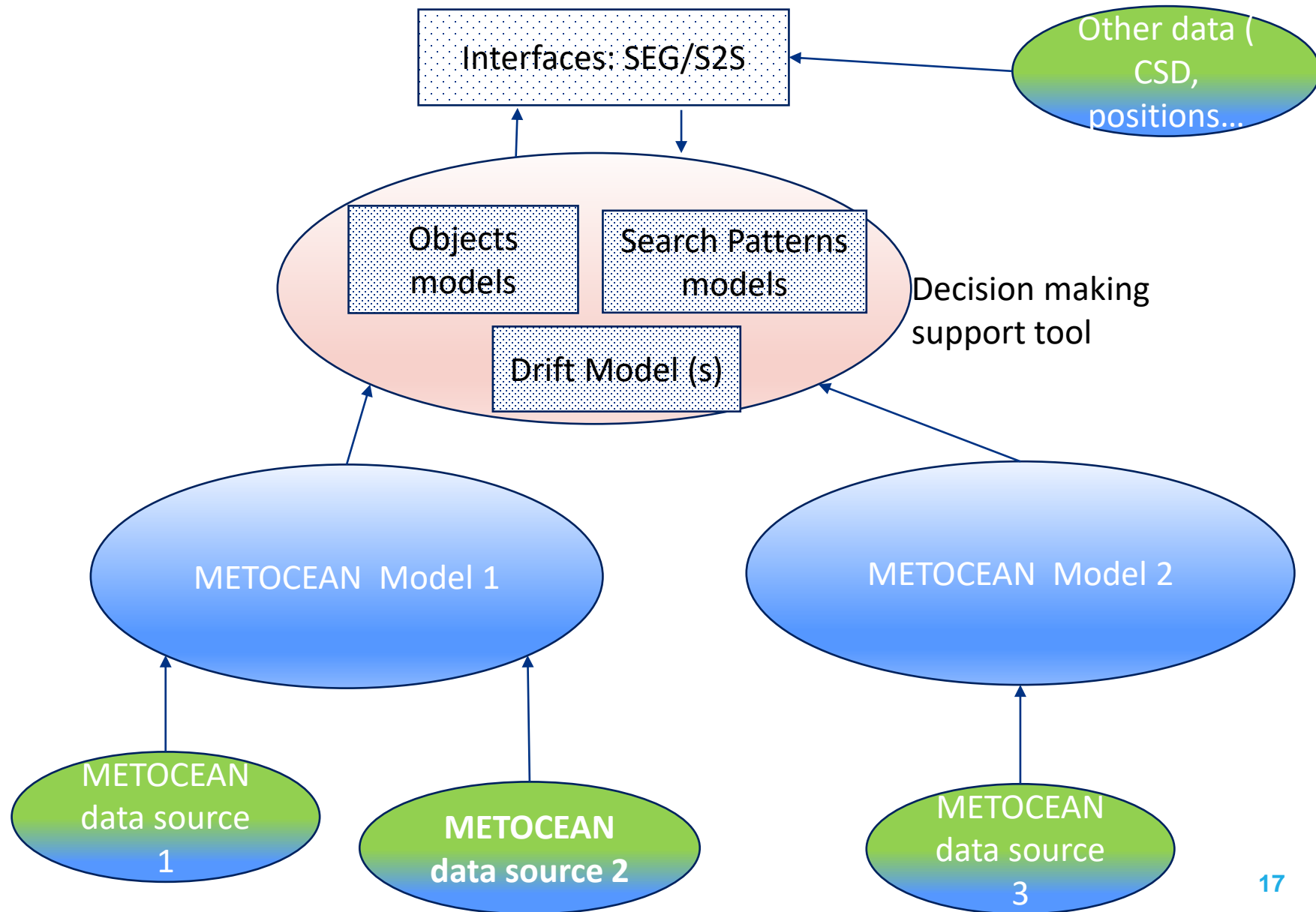
- **UCM 9/10: France and EMSA to analyse feasibility of integrating COSPAS-SARSAT data within IMS.**
 - Discussion on going with MS
 - plan: to draft bullets points and further investigate (e.g. with SARSAT COSPAS/FMCC) if and how the data can be accessed and come back to the IMS group.
- **General Arrangement 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

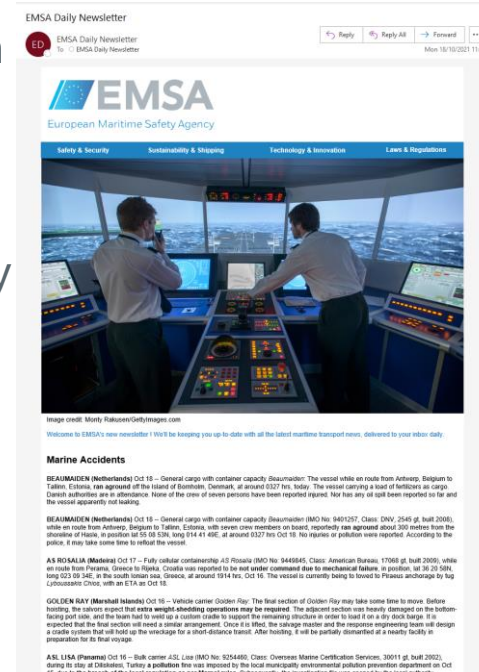
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- **MSS news monitoring service** for supporting the decision for activating the emergency phase of **EMSA's Contingency Plan**
- **EMSA daily newsletter** on Safety & Security, Sustainability & Shipping, Technology & Innovation, Laws & Regulations

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

- ...





Integrated Maritime Services

Showing the bigger picture

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European Maritime Safety Agency