

Meeting: 18th IMS Group User Consultation Meeting (UCM#18)

Place and date: Lisbon, 25 May 2022 (Hybrid)

Agenda item: 7 – IMS Correspondence Expert Group on “Drift Modelling” to support SAR and Maritime Safety

Document number: IMS 18.7

Submitted by EMSA

Summary	This paper summarise the work performed by the IMS correspondence expert group on “drift modelling” and introduce the two draft deliverables.
Action to be taken	As per Section 5.
Related documents	[1] HLSG DM08 – agenda item 7, paragraph 3.4 [2] Terms of reference of the IMS Correspondence Expert Group on “Drift Modelling”

1. Background

As validated during previous IMS Group User Consultation Meetings (UCM#12 and UCM#15), and approved 8th HLSG (15-16 December 2020) the IMS Correspondence Expert Group on “Drift Modelling” should propose Guidelines for developing an operational IMS Drift Modelling tool to be used for Search and Rescue and other Maritime Safety purposes. The objective of the Guidelines is to gather expert knowledge on the user needs and thus have a common understanding of the features and functionalities to be implemented in the IMS Drift Modelling Tool. The Guidelines will thus provide requirements on the drift parameters for connecting to existing models and on how to display results in the IMS graphical map interfaces (SEG and IMS Mobile App). The deliverables from the expert groups are:

Deliverable 1: a brief evaluation of the existing public and commercial Search & Rescue and other Maritime Safety purposes drift models.

Deliverable 2: requirements for the development of an operational IMS Drift Modelling tool

2. Work performed

The IMS correspondence expert group on drift modelling is composed of 11 Member States (Belgium, Croatia, Denmark, France, Iceland, Ireland, Portugal, Romania, Slovenia Spain and the Netherlands) with experts from MRCCS and experts of drift modelling tools.

The first meeting of the expert group was organised on 14 April 2021. The meeting was attended by 14 participants from 10 MSs, the EU commission and chaired by EMSA. The purpose was to introduce

the mandate to the group and to focus on deliverable 1 (listing the existing public and commercial drift models used for SAR and Maritime Safety).

A questionnaire was sent on 9 March 2022 to the expert group to support drafting the guidelines. Responses were provided by 7 Member States.

The second IMS correspondence expert group meeting was organised online on 22 March 2022 and was attended by 10 experts from 8 MSs. The main purpose was to review the work package 1 and to initiate the drafting of work package 2 (guidelines with requirements). The objectives of these guidelines are:

- To gather expert knowledge on the user needs (common understanding features and functionalities to be implemented).
- To provide requirements on the drift parameters for connecting to existing models and
- On how to display results in the IMS graphical map interfaces (SEG and IMS Mobile App).

Extensive discussion was made on general aspects of the “IMS drift modelling interface” and on each of the seven guidelines chapters. This work allowed to prepare the draft guidelines which were sent to the IMS expert group members on the 13 April.

3. Deliverables

3.1. Work package 1: a brief evaluation of the existing public and commercial Search & Rescue and other Maritime Safety purposes drift models.

A brief evaluation of 10 existing public and commercial Search & Rescue and other Maritime Safety purposes drift models was done. The identified models are listed in (**Annex 1**).

3.2. Work package 2: requirements for the development of an operational IMS Drift Modelling tool (guidelines)

The guidelines are provided in a separate document (**Annex 2**).

It is important to note that these guidelines are not aiming at developing a new drift model but to include the possibility to connect, via an IMS interface, to several existing state-of-the-art drift models to:

- Input the relevant parameters needed to run a drift simulation
- Display on a graphical interface (SEG and IMS Mobile App) the result of several drift simulation on top of the IMS maritime picture.

4. Next steps

- To collect IMS group feedback by 8th June
- Submit the final draft to the next HLSG for approval
- Summer 2022, EMSA to prepare, based on the approved guidelines, the contract requirements for implementing a pilot project

To be confirmed should the above steps are successful.

- Q2 2023: pilot project development phase
- Q3/Q4 2023; pilot project testing phase and presentation of the outcomes to the IMS and HLSG group.

5. Action required

IMS user group participants are requested to:

- Take note of the deliverables 1 and 2 and
- Provide feedback on those deliverables when needed by the 8th June the latest to IMS@emsa.europa.eu
- For those Member States not participating to the IMS Correspondence Expert Group on “Drift Modelling” to provide feedback on the drift model(s) used at national level for Search and Rescue and maritime safety.

Annex 1: brief evaluation of the existing public and commercial Search & Rescue and other Maritime Safety purposes drift models.

Model	Link	Who use it?	Public or Commercial?
MOTHY	http://www.meteorologie.eu.org/mothy/	FR 1 version for SAR 1 for CTR 24/24	Free for French national auth. Agreements with some countries.
SARMAP	http://asascience.com/software/sarmap/	Irish CG, Australian MSA, NL, New Zealand, HR, NL admin for maritime safety, SASEMAR for SAR and training for operator	Commercial
SARIS Search and Rescue Information System	https://www.bmt.org/bmt-saris/	BE MRCC, DK JRCC, NL CG for SAR.	Commercial
OCEAN-SAR	https://www.cmcc.it/data-services-and-products/data-visualization-systems/ocean-sar-search-and-rescue	Hellenic Coast Guards	Available for free on-line for registered users.
SARMASTER	https://www.honeywellaidc.com/products/workflow-solutions/search-	/	Commercial

	and-rescue/sarmaster600		
OSERIT	https://oserit.natural-sciences.be/	BE Navy, RBINS, Belgian DG-Environment. Back up SARIS for SAR. 50 users (BE, FR, UK, NL)	Inhouse (BE) system with restricted access. Not for Public but available to Maritime authorities.
NOOS DRIFT	https://odnature.natural-sciences.be/noos-drift/api/accounts/login/	A transnational multi-models ensemble system (CEMS demonstration project). End-users can activate several national model (currently MOTHY, OSERIT and OPENDRIFT) service providers in filing in a unique form and receive analysis results from these (3) models within 30 minutes	Not available to public. Access granted to users on request.
OVERSEE	https://criticalsoftware.com/en/industries/defence/product/maritime-security-operations https://www.criticalsoftware.com/downloads/resource/oversee-irish-coast-guard https://criticalsoftware.com/multimedia/critical/en/IJL2JryVD-CSW_-_Case_Study_-_Oversee_-_A_Sea-Change_in_UxD.pdf	Portuguese Navy – MRCC Delgada and MRCC Lisbon; Irish CG	Commercial

Open Drift	https://opendrift.github.io/	Norwegian Coastal Administration, Norwegian Clean Seas Association for Operating Companies (NOFO), Norwegian Joint Rescuing Centres, Norwegian Police, Spain (for test and training), Slovenia	Open source software
ProDeriva	Instituto Hidrográfico Portugal	PT (used by MRCCs in addition to Overseer)	/

Annex 2:

Guidelines for the development of an operational IMS Drift Modelling tool to be used for Search and Rescue and other Maritime Safety purposes.

(see attached document)