

P1 - Automated Behaviour Monitoring (ABM)

Parallel session

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- **New ABMs – users’ feedback – some operational best practices (admin users, new ABMs)**
- **Proposals for the harmonization of the terminology – ABM user manual review**
- **New requirements for the ABMs – analysis of the scenarios from the end- user perspective**
- **ABM admin – interface options (IMS WUP, SEG, S2S)**
- **Further developments in the ABM area – operational scenarios and requirements, training needs**
- **Workshop data and input - AOB**

6 MS and 3 EU Bodies

26 Admins at MS level and EU Bodies

Over **121** Running - Active ABMs

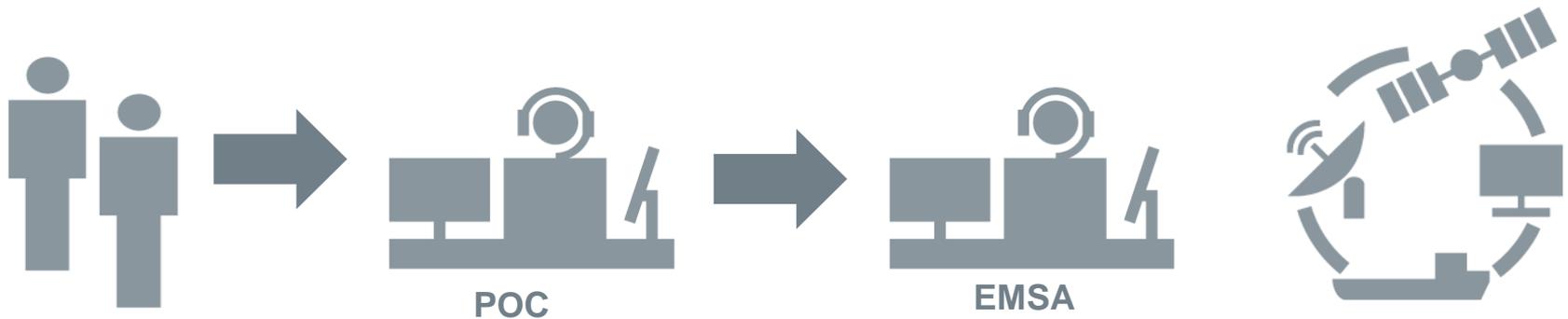
59 Others used during last year terminated now

Multiple distribution lists with emails

24 ABM algorithms



At EMSA level



At National level or at EU Body



ABM types, (1) – new ones in red

| ABM Type – description which events are automatically detected | ABM name |
|---|------------------------------------|
| Presence of a particular vessel(s) in an area of interest | <i>InArea</i> |
| Passage of a vessel close to the shore | <i>DistanceToShore</i> |
| Vessels entering or leaving ports | <i>AtPortAtSea</i> |
| Anchored vessels | <i>Anchorage</i> |
| Anchored vessels outside port | <i>AnchorageOutsidePort</i> |
| Vessels approaching one another closer than an indicated distance, with a speed below defined threshold | <i>AtSeaEncounter</i> |
| Change of heading higher than a threshold (e.g. more than 20 deg.) | <i>SuddenChangeOfHeading</i> |
| Sudden change of speed | <i>SuddenChangeOfSpeed</i> |

| ABM Type – description which events are automatically detected | ABM name |
|---|---|
| Passage of a vessel close to an area of interest | <i>DistancetoArea</i> |
| Vessels entering a closed area at a specific time | <i>TimeAndPeriodOfDay</i> |
| Vessel leaves Area of interest X and enters Area of Interest Y | <i>FromAreaToArea</i> |
| Vessel reports position outside an Area X | <i>OutArea</i> |
| Vessel is switching off transponder | <i>NotReporting</i> |
| Change of speed above or below a limit set | <i>SpeedAnomallyOverPeriod</i> |
| Change of speed above or below a limit set outside port | <i>SpeedAnomallyOverPeriod Outside Port</i> |

| ABM Type – description which events are automatically detected | ABM name |
|--|----------------------------------|
| Port of Departure is X | <i>DesignatedPortofDeparture</i> |
| Port of Arrival is X | <i>DesignatedPortofArrival</i> |
| Vessel is probably drifting | <i>Drifting</i> |
| Vessel departs from coastline | <i>HeadingOffShore</i> |
| Vessel heads towards coastline | <i>HeadingtoShore</i> |
| Change of position | <i>SpoofingPositonInError</i> |
| Frequency of vessels' position reports lower than expected | <i>UnderReporting</i> |
| Frequency of vessels' position reports higher than expected | <i>OverReporting</i> |

- **Introduction new policy ‘at end’- when last event is detected + grouping of all the alerts**
- **User shall be able to select if he want’s to be alerted on the filtered vessel types or flags when position reports does not provide the selected data**
- **Upload a list of Vessels Of Interest (VOI)**
- **Negative selection criteria**

WS 2 – actions – state-of-play

| No | Action | Responsible | Status |
|----|---|--------------------|---|
| 1 | There is a need for the common dictionary and harmonized terminology in the ABM context (ABM naming convention, parameters etc.). | ABM users and EMSA | <p>On-going</p> <p>The first action will be to review and harmonize alert reports and configuration tools (units, layout).</p> |
| 2 | ABM operational user manual to be drafted | EMSA and IE | <p>Completed</p> <p>The document will be updated for the new ABMs after the IMDatE 2.1 deployment.</p> |
| 3 | Include the best practices and parameters setting | ABM users and EMSA | <p>Completed</p> <p>The document will be updated for the new ABMs after the IMDatE 2.1 deployment.</p> |

| No | Action | Responsible | Status |
|----|---|--------------------|---|
| 4 | Confirm how the MS data is protected | EMSA | Completed Document sent to ABM admins. |
| 5 | Continue with the ABM capacities definition | ABM users and EMSA | On-going Consultation with active ABM users is completed and outcome will be used in the future ABM developments. |
| 6 | Send the list of action points and requirements following ABM WS1 | EMSA | Completed |

| No | Action | Responsible | Status |
|----|--|-------------|--|
| 7 | Improve the quality of the IMDatE OVR by synchronizing it with the CSD | EMSA | On-going Possible solutions analysed - MID-flag association, cleaning ship types, removing duplicates. |
| 8 | Prepare the ABM WS” MoM (report) and distribute to MS and publish together with the WS presentations | EMSA | Completed |

- *ABM WS3 – 28.09.2017 ?*

- **Status - ABM admin Current ABMs – 21 ABMs**
- ***Other developments***
 - Ignore position when ship detail is missing
 - “At End” alerting policy
 - Vessel Of Interest – Upload vessel list
 - Negative criteria Option
- ***Old ABMs not available – on request may be available***
- ***Email notification for the ABM admin setting the ABM is by default***
- ***LOCODE reference***
- **ABM workshops 2 and 3 – follow-up actions**
- ***OVR improvements***
- **Future plans – Validation of the requirements**
- ***Interfaces for the ABMs – admin and M2M***
- ***ABM WS3 – 28.09.2017 ?***

- **New types of ABMs**
- **ABMs and the EO data**
- **ABMs based on the EO imagery and products**
- **ABM based on statistical data**
- **SSN EIS data related ABMs**
- **ABMs using the AIS static data – changes in the identifiers and basic particulars of a ship (ships)**
- **ABM based on the expanded use of the AIS data**

- **ABM based on the Satellite AIS (S-AIS) validation**
- **ABM based on ship reference database (CSD) changes**
- **ABM based on the regional servers transmitted data**
- **Additional 'Event based' ABMs - line crossing**
- **ABMs - other data - Reported piracy attack/ incidents**
- **Detect interlinked situations**
- **Combining multiple algorithms for the same area of interest and the same vessels of interest**
- **Combining multiple algorithms via the Administrator console**

- **ABM with historical positions data**
- **Situations to be detected after analyzing historical data**
 - stopping or drifting while underway;
 - abnormal route between ports;
 - missing position reports – potential switching off of the device by the vessel;
 - Port of departure and port of arrival, including the date and hour of departure and arrival.

Objective – discuss the scenarios with the actual end-users



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