

Potential business scenarios for Artificial Intelligence (AI) and Machine Learning (ML)

IMS UCM15.4.3

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- **Background**
- **Objective**
- **Potential business scenarios**
- **Next steps**

EMSA's single programming document 2020-2022 and EMSA's 5-years strategy

*'[...] further development of the ABM tools and the analysis of which “**big-data**” analytics techniques and products can support the IMS community [...]'*; and

*'[...] development of **machine learning and artificial intelligence applications** in order to **improve risk assessment, vessel position predictability, statistics and innovation**'*.

*[...] using the potential of **automation** or Artificial Intelligence*

*[...] **intelligent tools** and service*

Overall objective of the Artificial Intelligence (AI)

Support, reduce workload, find the right information for decision-making, automatize labour-intensive processes, predict developing or dangerous situations

Involve stakeholders in the discussion on the business scenarios and potential developments

Validate scenarios

Confirm the scenarios or identify new ones

Do they add value? Are they realistic? What data (other data) sets could be used? Where EMSA could support?

Objective of the scenario is to provide a reference service that would serve many domains by calculating and aggregating distances travelled by ships over long periods of time.

Data that could be potentially used, would cover:

- **historical position reports,**
- **Central Ship Database (CSD)/Operational Vessel Registry (OVR) identifiers and attributes,**
- **results of ship positions' calculation, port calls information (SSN, Cloud-based service, MARINFO).**

Objective of the scenario is to allow users to quickly search for vessels with behaviour (trading pattern) similar to another example/real case provided.

Data that could be potentially used, would cover:

- **ships' position reports, TDMS,**
- **areas of interest (EEZ, TTW), port calls information (SSN, Cloud-based service, MARINFO),**
- **ABM alerts generated for the previous cases, Central Ship Database (CSD)/Operational Vessel Registry (OVR) identifiers and attributes,**
- **results of ship positions' calculation such as distance travelled and speed profiles.**

Objective of the scenario is to provide an early warning on a potentially developing dangerous or distress situation that follows a pattern like a historically recorded accidents or incidents.

Data that could be potentially used, would cover:

- **historical tracks of the vessels involved in similar accidents/incidents,**
- **enrichment data from SSN (Incident reporting), EMCIP relevant data sets, open-source data (information on the accidents from the news-wires or social networks,**
- **Central Ship Database (CSD)/Operational Vessel Registry (OVR) identifiers and attributes, results of ship positions' calculation such as distance travelled and speed profiles.**

- **Feedback of the users**

For fine tuning scenarios and the logic

Data sets and calculations that can be reused

- **Experience sharing/ operational validation**

Once the tools/prototypes/services are in place



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