



10th SSN/LRIT Group Meeting

Interoperability project progress report

Agenda item 10.6.1



Funded by the
European Union –
European Maritime
and Fisheries Fund

Department 3: Simplification / Unit 3.3

Videoconference / 20 October 2021



Interoperability project



Promotion of interoperability between industry and competent authorities in the European Maritime Single Window environment (EMSWe) under the CISE Process

Action grant from DG MARE

Action 1.2.1.4 of European Maritime and Fisheries Fund's work programme for 2018 - Commission Implementing Decision C(2017)8146

Grant agreement signed 18 September 2018

Ends 18 January 2022

Budget: € 3.000.000



Funded by the
European Union –
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and Fisheries Fund

Pilot projects

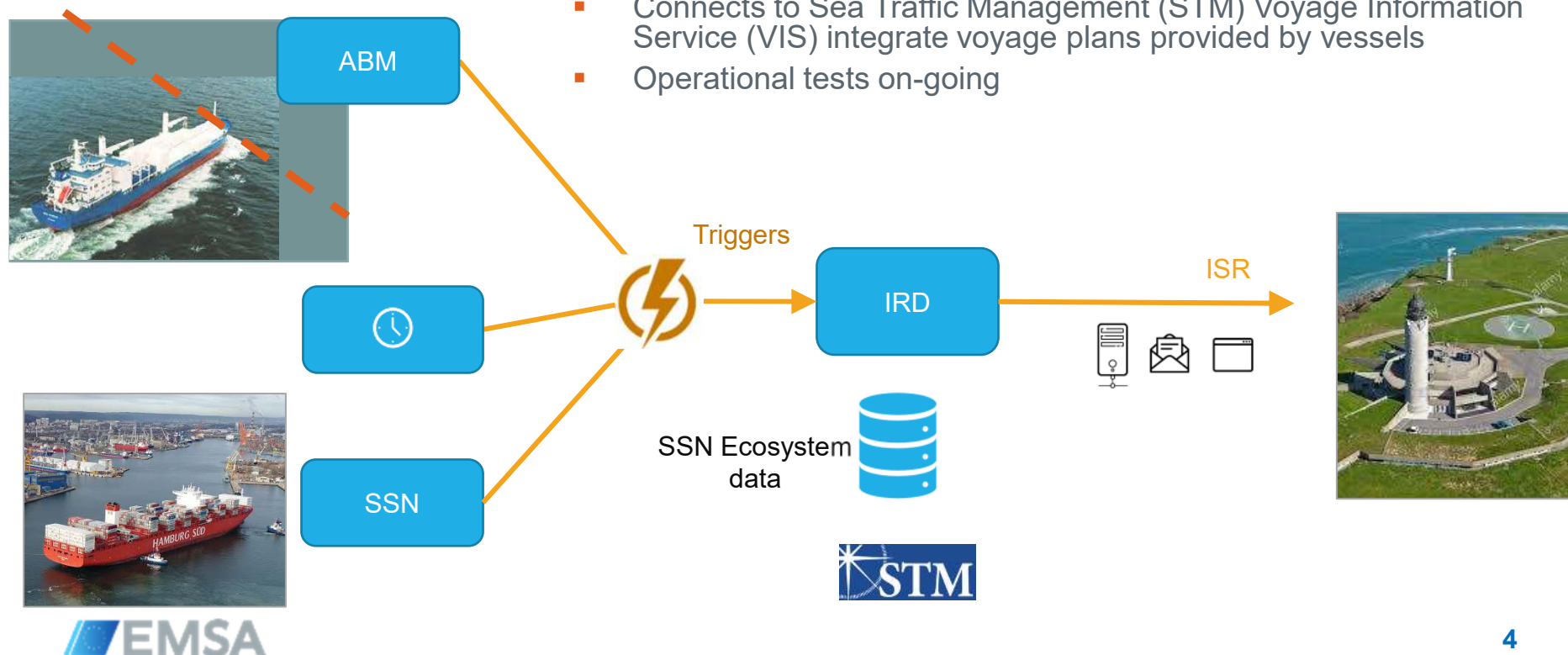


- **Facilitation of Ship to Shore Reporting**
- **Enhanced Central Ship Database**
- **Traffic Density Mapping service**
- **HAZMAT Data Validation service**
- **SSN distributed architecture study**

Facilitation of ship to shore reporting

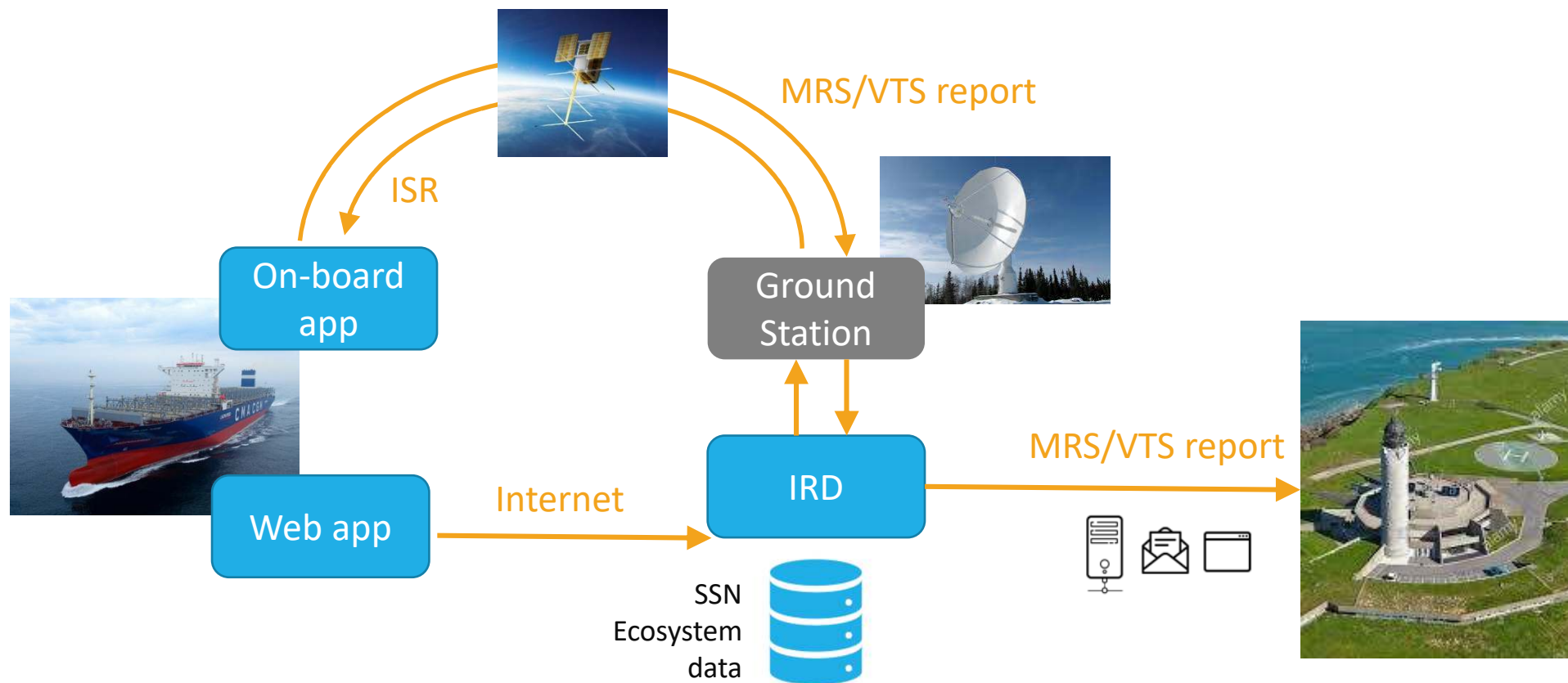
Facilitate MRS and VTS reporting from ship to shore and improve coastal stations' situation awareness by re-using and combining SSN information

- 14 Member States
- 7th project meeting held 14 October
- Technical solution: IRD – Integration Reports Distribution service
- Sends Integrated Ship Reports with consolidated SSN Ecosystem's data to authorities using triggers
- Connects to Sea Traffic Management (STM) Voyage Information Service (VIS) integrate voyage plans provided by vessels
- Operational tests on-going



Ship component and new technologies (VDES)

Testing of VDE-SAT solution in cooperation with Space Norway and ESA.



IRD web user interface – Authority interface

IRD Integrated Reports Distribution

[<BAREP Distribution Service Details](#)

Report Content

Header	
Sent At	2021-07-15T14:45:26Z
Report ID	149975
Vessel Identification	
CSDID	97243
IMO	9341184
MMSI	236313000
Call Sign	ZDHG3
Ship Name	STEN MOSTER
Position report	
Source	MRS
Originator	BAREP
Date and time	2021-07-06T12:48:00Z
Latitude	067° 20' 21"
Longitude	009° 03' 20"
Length	144.0
Breadth	23.0

- Web user interface for authorities is available via EMSA's portal.
- Authorities can display reports generated automatically (based on ABM, based on ship report, etc.) or trigger request for a report manually.
- The report is made of blocks of data which can be configured by the end user allowing the creation of tailor-made reports for different costal stations.

IRD web user interface – Ship interface

[< MRS / VTS Reports Options](#)

MRS / VTS Report

MRS system	BELTREP
Authority	BELTREP

[Reuse available data](#) [Upload Spreadsheet](#) [Clear Form](#) [Help](#)

[Download spreadsheet template](#)

A - Ship

Ship Name	STEN MOSTER
IMO	9341184
MMSI	236313000
Call Sign	ZDHG3
Flag	
Comment	

B - Date and time of event

Sent At	2021-07-15 14:33:00
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C - Reporting Position

Latitude	DDD.DDDDD	9.05567
Longitude	DDD.DDDDD	67.33939

E - True Course

Course	DD.DD	200
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F - Speed

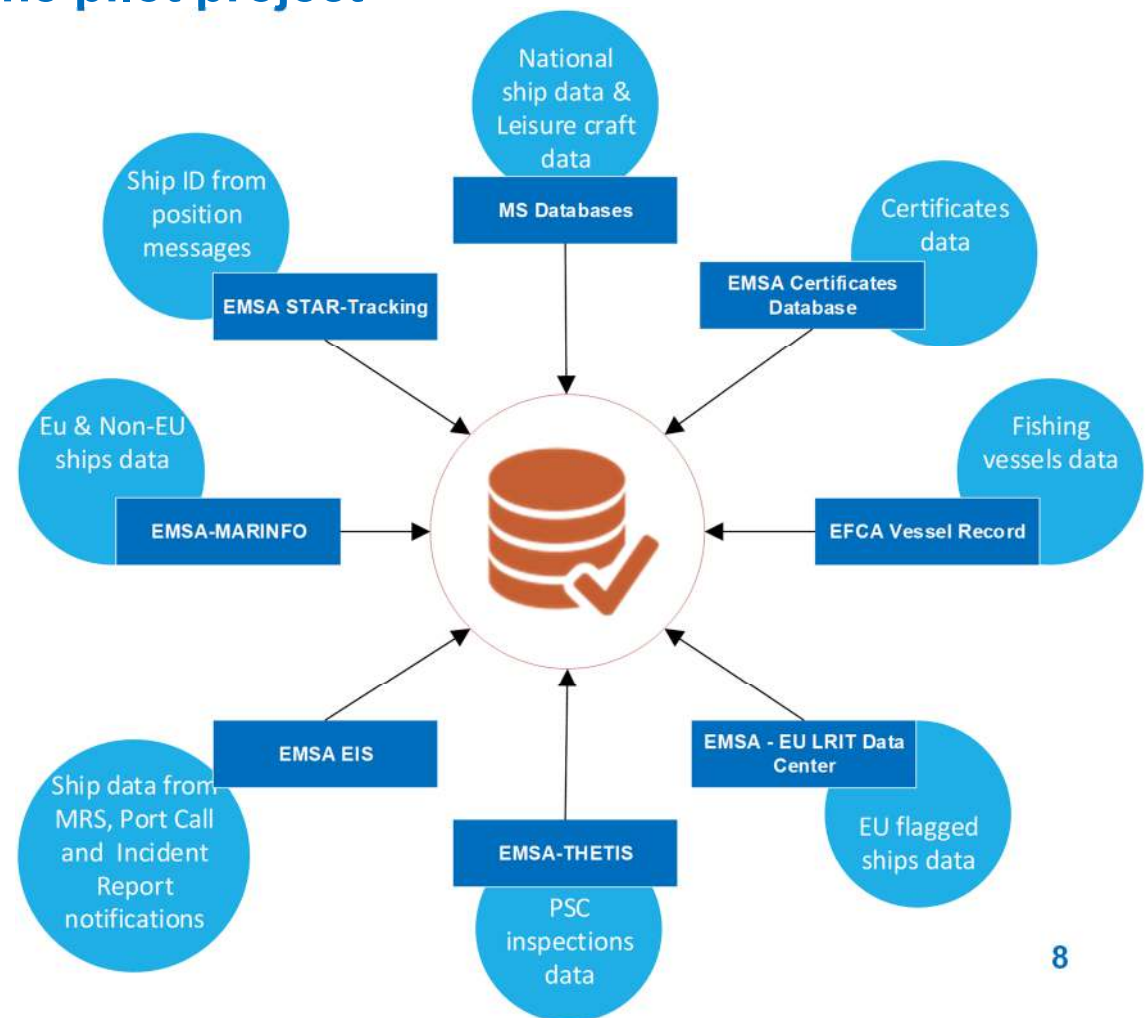
- Web user interface with MRS/VTS report is available for the ships to submit this data electronically.
- Ship can benefit from information already available in EMSA's system and re-use it.
- Possibility to fill-in the report off-line (spreadsheet) and upload it to the system.

Enhanced Central Ship Database

Collects ship information from SSN Ecosystem, EU databases, National databases, ROs, commercial data providers

11 Member States involved in the pilot project

- Uses Master Data Management platform Tibco EBX
- Dynamic management of data model and processes
- To be connected with all EMSA sources, MS databases and Certificates database
- Will serve as reference for all EMSA maritime applications



Enhanced Central Ship Database



First release under development

Data sources:

- Ship data from **IHS**
- Ship data from **SSN** - PortPlus notifications, MRS notifications, Incident Reports
- **THETIS** ship database
- Data on EU flagged ships from **EU LRIT Data Centre**
- Fishing vessels data from **EU Fleet Register**
- Ship updates by **EMSA** data stewards

To be deployed in November and tested by participating MS



Future developments

➤ Integration with participating MS systems

MS systems to receive CSD data

➤ Integration with SSN

SSN to use CSD as reference

➤ Additional data sources

- Ship data from **ship certificates** issued by EU ROs
- Data from **national databases**: national flags, leisure crafts
- Ship identification data from **AIS messages**

Traffic density maps



This service shows vessel movement patterns within pre-defined areas and time periods, and for the predefined ship types ranges.

- Introduced in September 2019
- Maps calculated starting from January 2019
- Is available to the Member States via SEG and to the public via the EMODnet portal
- Developed gradually

612 maps are currently calculated per year

432 monthly maps

144 seasonal maps

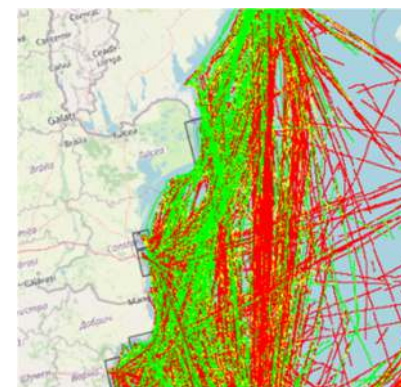
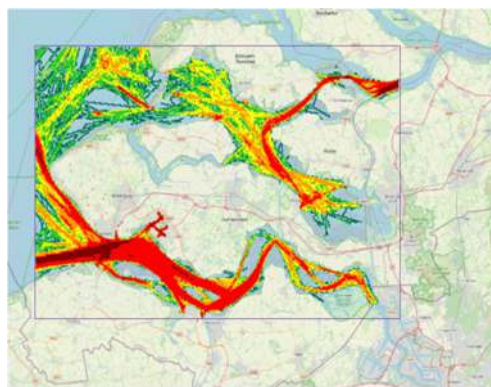
36 yearly maps

Traffic density maps - Phase 2



Phase 2 is on-going

- Additional types of maps:
 - Detailed maps** - for specific areas with 200x200 m cells
 - Vector maps** - displaying individual ship tracks
 - Comparative maps** - allowing to compare values in two selected TDMs
- Download map files from SEG



Was presented at the previous SSN/LRIT Group meeting

Will be made available by end 2021 / beginning 2022

Traffic density maps – Phase 3



Phase 3 was presented at SSN/LRIT 9

1) New types of Traffic Density Maps:

- **Customised maps** - user's selected ship type range, area and time period (from 2 to 36 months)
- **Ships particulars maps** - showing traffic density per ranges of:
 - Gross Tonnage
 - Keel Date
 - Fuel Type
 - Engine speed (RPM)

Expected to be available by mid-2022

Traffic density maps – Phase 3



2) Statistics based on data from traffic density maps

- **Shipping density statistics** - numbers of unique ships (MMSIs) counted in traffic density maps
- **Lines crossings statistics** - numbers of ships routes and unique ships (MMSIs) recorded when crossing pre-defined passage lines
- **Sectors crossings statistics** - numbers of ships routes that crossed pre-defined sectors of predefined passage line

3) TDMS repository allowing end-users to download traffic density maps files and statistics data files

Expected to be available by end 2022

➤ **Member States to propose passage lines for the statistics**

Name and coordinates of two endpoints for each line

By the end of February 2022

HAZMAT Data Validation service



Purpose

A service that can be used by the SSN Community (EMSA MSS and MS authorities) to control that ship's dangerous and polluting goods declarations are consistent with the relevant IMO Codes and Conventions

Features

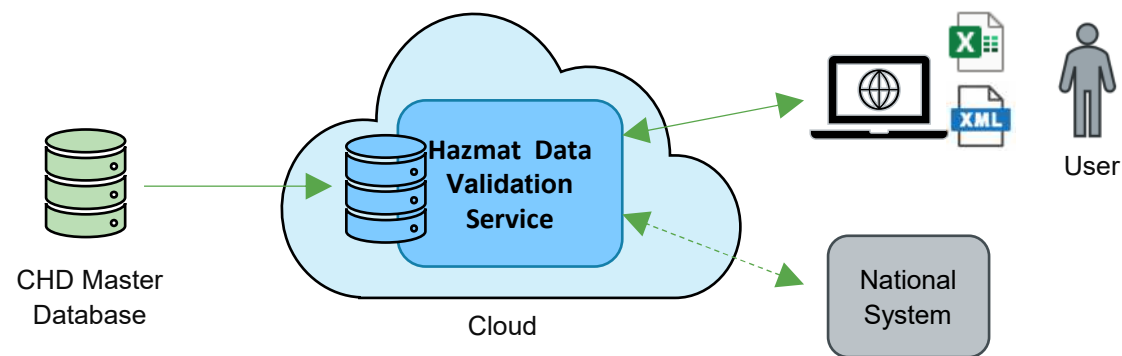
- Web user interface where user can upload DPG lists in XLSX and SSN XML format
- Generates a validation report that identifies each non-consistency

Contract signed end September

First release expected for January 2022

HAZMAT Data Validation service

- Independent service hosted in Cloud
- Synchronises with EMSA's Central Hazmat Database (CHD)
- User authentication with EMSA's IdM
- System interface with national system will be assessed depending on need
- Extension to other user communities will be investigated (e.g. MNSW)





Foreseen extension of SSN required by EMSWe Regulation (EU) 2019/1239, article 8

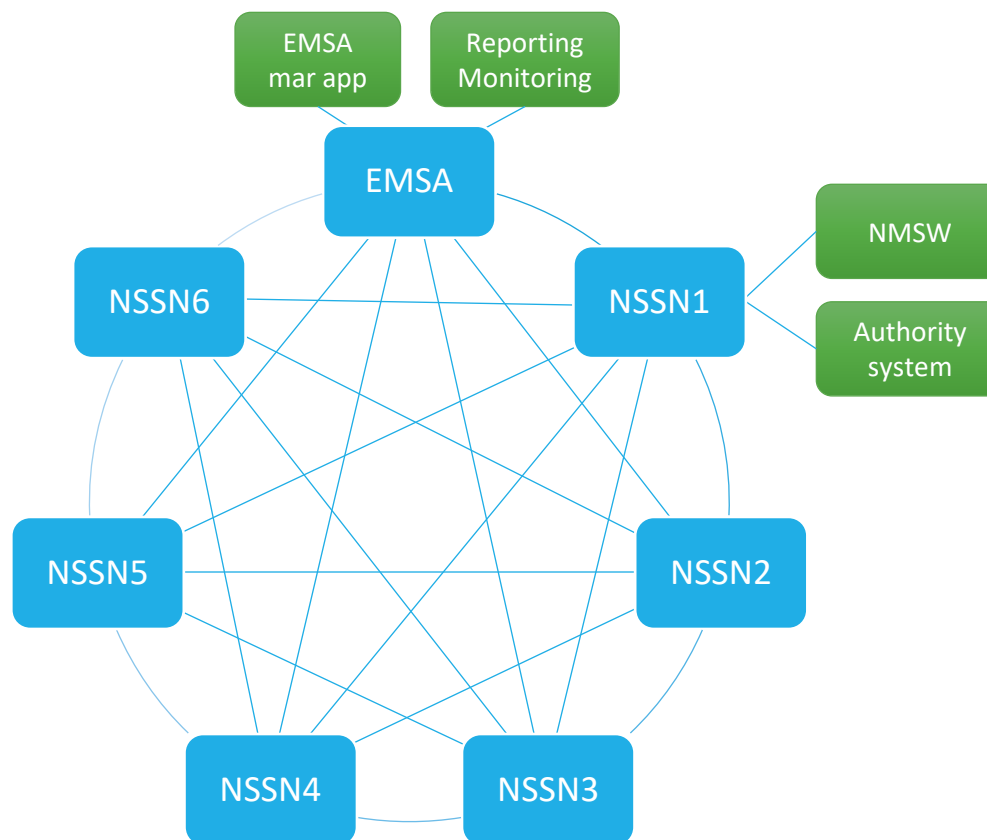
“Any relevant data elements of the EMSWe data set received in accordance with this Regulation shall be made available to other maritime National Single Windows via the SafeSeaNet”

- Potentially exposes SSN to significant data transactions increase
- Some information may have a certain degree of sensitivity e.g. commercial data, personal data, security information
- Current architecture of SSN which relies on a central node may represent a single point of failure for the exchange network

SSN Distributed Architecture Study

Study objective:

Assess different technological options for addressing the sharing and exchange of information between parties of the SSN network in a hybrid manner (partially in centralised and partially in decentralised mode)



SSN Distributed Architecture Study

Kick-off meeting: 28 Sept

Delivery: mid-January 2022

Consultant: Deloitte



01

Explore existing solutions for distributed systems deriving business and technical requirements applicable for the SSN cases.



02

Provide technological options which would fulfil the identified business and technical requirements.



03

Suggest up to 3 target high-level architecture scenarios, including draft of technical specifications.



04

Assess the proposed solutions focusing on SWOT and cost-benefit analysis.



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