



Preparatory course for the SafeSeaNet V3 training

The SSN System in brief

Department C – Operations

Unit C.2 Information Services – User management

Unit C.3 Information Services – Technical management

SSN V3 training - Lisbon / 05 May 2015



- 1. How SSN works**
- 2. Introduction to SSN Version 3**
- 3. Information exchanged through SSN V3**
- 4. Users benefits**
- 5. MSS support**

Definitions and acronyms

AIS	Automatic Identification System
ATA	Actual Time of Arrival
ATD	Actual Time of Departure
CECIS	Common Emergency and Communication and Information System
CSN	CleanSeaNet
ETA	Estimated Time of Arrival
ETD	Estimated Time of Departure
Hazmat	Hazardous material (including dangerous and polluting goods)
IR	Incident Reports
LRIT	Long Range Identification and Tracking
MRCC	Maritime Rescue Co-ordination Centre
MRS	Mandatory Ship Reporting System
NIR	New Inspection Regime
NSW	National Single Window
PRF	Port Reception Facilities
PSC	Port State Control
RF	Reporting Formalities
VTMIS	Vessel Traffic Monitoring and Information System
VTs	Vessel Traffic Services
XML	Extensible Markup Language



How SSN works



SafeSeaNet (SSN)

- Annex III, paragraph 1 of Directive 2002/59/EC:

The Union maritime information and exchange system, SafeSeaNet, shall enable the receipt, storage, retrieval and exchange of information for the purpose of maritime safety, port and maritime security, marine environment protection and the efficiency of maritime traffic and maritime transport.

- SSN is a network of:
 - national SSN systems and
 - a central SSN system acting as a nodal point, interacting and linking the national systems.

How SSN works

SSN Participating countries

➤ **SSN enables 30 Countries (EU Member States, plus Iceland & Norway), to exchange information on:**

- vessel traffic (position/shipcalls/incidents etc.)
- dangerous and polluting goods carried on board ships

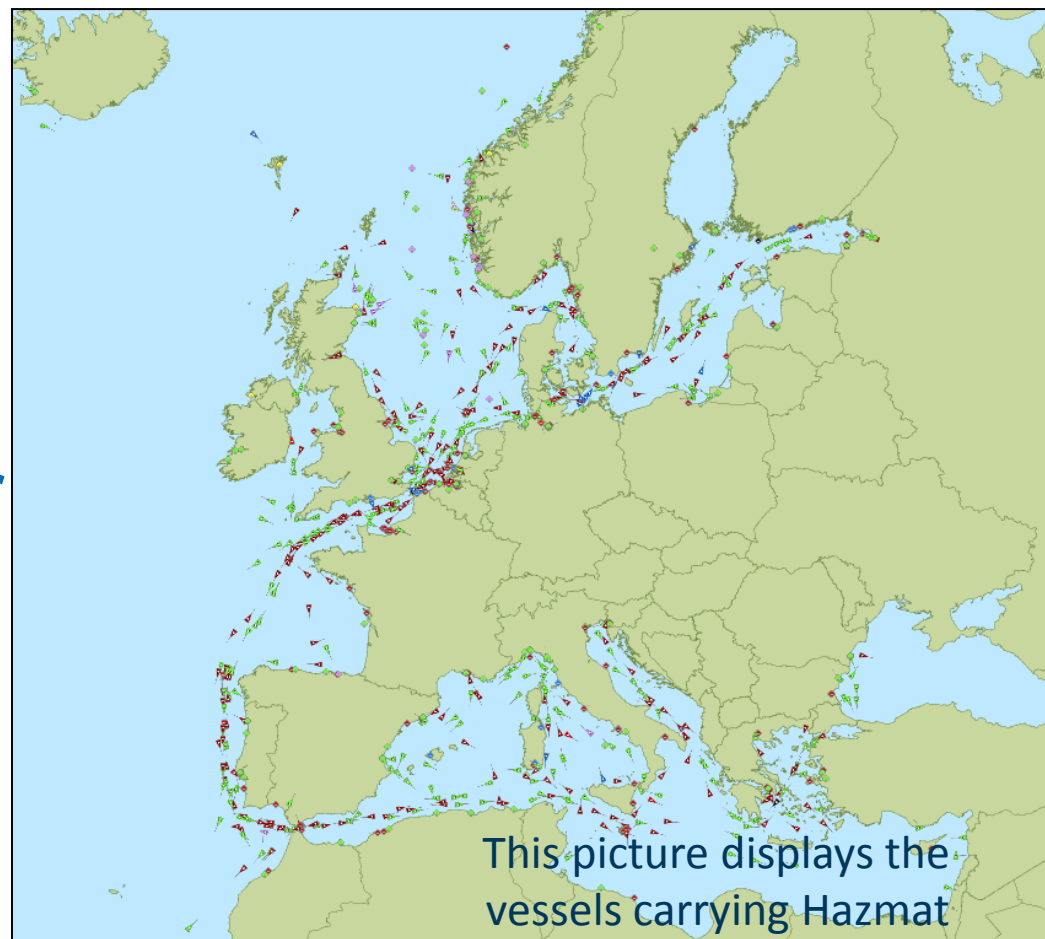


Countries Participating in SafeSeaNet (2014)

How SSN works

SafeSeaNet system in a few words

- Over 20,000 ships tracked in MSs area of responsibility every day
- > 100 million AIS positions recorded per month
- 160,000 messages received per month



How SSN works - Users of the system



- **National Competent Authorities:**

- overall responsibility of the National systems
- grant access rights to national users

- **Local Competent Authorities:**

authorities designated by MSs to receive/transmit information pursuant to the SSN legal framework (e.g. port authorities, VTSs, MRCCs etc.)

- **Other users:**

other EU bodies and MSs institutional users with an interest in maritime information may apply to become SSN users on a pilot project basis.

There are more than 2,300 users identified in SSN



SSN has been developed and implemented by the **EU Commission, EMSA** and the **Member States**

- **EU Commission:** retains overall responsibility (Management and Policy) for the central SSN system in cooperation with MSs.
- **EMSA:** is responsible for the Central SSN development, operation and maintenance in cooperation with MSs and Commission
- **Member States:** are responsible for their national SSN, act as data providers and are owners of their data.

How SSN works - Decision making



High Level Steering Group (HLSG):

- **Defined in Annex III of Directive 2002/59/EC (as amended)**
- **Comprises MS and Commission representatives**
- **Tasks defined in Commission decision 2009/584/EC of 31 July 2009, such as:**
 - To make recommendations to improve the effectiveness and security of SafeSeaNet;
 - To provide appropriate guidance for the development of SafeSeaNet;
 - To assist the Commission in reviewing the performance of SafeSeaNet, and;
 - To approve the IFCD document and any amendments thereto

SSN Group:

- **Comprises MS, Commission and EMSA**
- **Manages technical and operational issues related to SSN**



SSN supports different data exchange mechanisms:

1. Message-based mechanism

- allows individual messages to be exchanged between the national and central SSN applications (in XML format).
- supports the notification, request, response and distribution functions for all types of SSN information.

2. Streaming mechanism

- available for the provision/distribution of AIS information.
- enables the constant flow of data between the national systems and the central SSN system.

3. Central SSN Web browser-based mechanism

- available for requesting information, providing and distributing Incident Reports and providing MRSs
- may be used as a back-up solution in the case of failure of the national SSN systems.
- Provides system administration.
- Includes a textual and a graphical interface

How SSN works

Message-based mechanism



- On the technical side, the core of the Central SSN is the **EIS (European Index Server)**.
- EIS acts as a secure and reliable **index** system
- Users can **provide** and/or **request** for data.
- EIS is able to **locate** and **retrieve** information on vessels related to one MS in response to a query or request made by another.

How SSN works

Message-based mechanism

Notification, Request and Response process:

NOTIFICATION

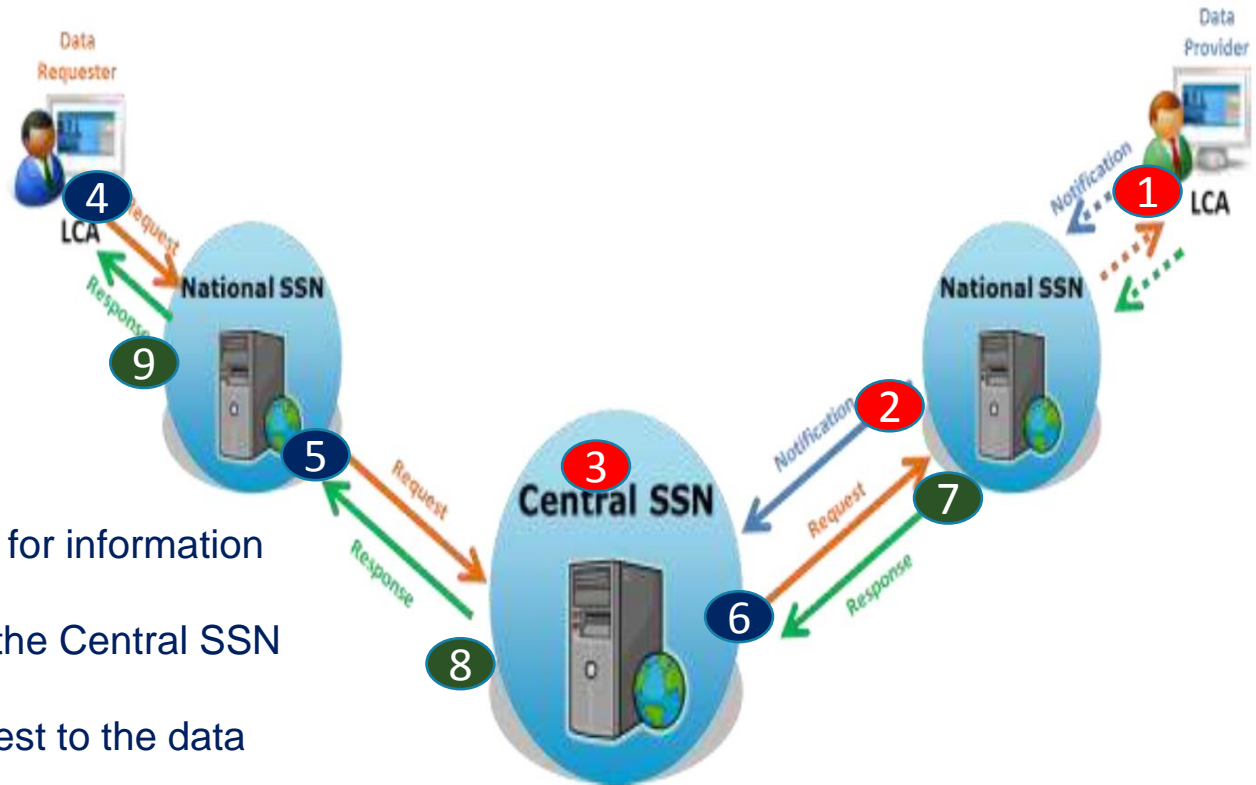
1. The data provider notifies the information to the National SSN
2. The National SSN sends the notification to the Central SSN
3. The Central SSN stores and indexes the notification

REQUEST

4. The data requestor requests for information the National SSN
5. The request is forwarded to the Central SSN by the National SSN
6. Central SSN sends the request to the data provider

RESPONSE

7. The data provider forwards the response to the Central SSN via the National SSN
8. The Central SSN sends the response to the National SSN
9. The response is finally delivered to the data requestor





Introduction to SSN Version 3



Existing legal framework

- Directive 2002/59/EC as amended (VTMIS Directive)
- Directive 2009/16/EC (PSC Directive)
- Interface and Functionality Control Document (IFCD)

SSN V3 additional legal framework

- Directive 2010/65/EU (RF Directive)
- Directive 2000/59/EC as amended (PRF Directive)
- Regulation EC 725/2004 (Security Regulation)

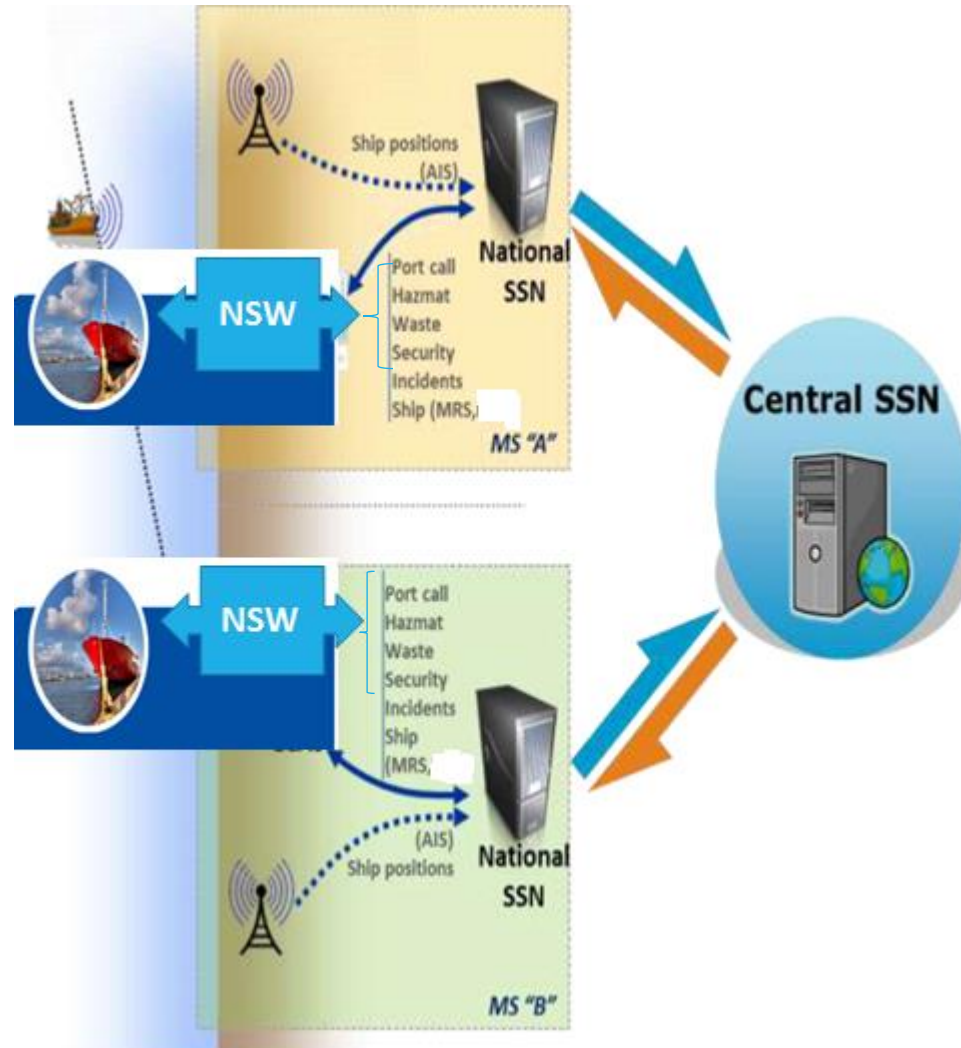
Information exchanged through SSN

SafeSeaNet

- Comprises a network of national SSN systems and a central SSN system acting as a nodal point, which interacts with the national systems.

National Single Window

- Directive 2010/65/EU provides for the development of NSWs in MS to simplify the administrative procedures in maritime transport
- The NSWs will allow the shipping industry to submit reporting formalities: electronically, only once, and in a harmonised manner
- Information is made available in SafeSeaNet for exchange between Member States





- Inclusion of **Waste** and **Security** pre-arrival information in PortPlus
- Support the provision of **exemptions** on Port call, Hazmat, Waste and Security information
- Enhanced **MRS** framework for data providing and retrieving (e.g. new queries)
- Other **improved functionalities** (e.g. improved IR distribution via email etc)



Information exchanged through SSN V3

- PortPlus
- Exemptions
- Ship Positions
- Incident reports



- **Port call information:**
 - 24 hours prior the ship arrival
 - 72 hours pre-arrival information for ships eligible for expanded PSC inspection
 - Arrivals (ATA) and Departures (ATD) as per Art 9 and 24 of PSC Directive
- **Hazmat information:**
 - Information on the carriage of dangerous and marine polluting goods as per Articles 4, 13 and 14 of VTMIS Directive (at arrival to and departure from EU ports)
- **Security information * :**
 - Security pre-arrival information (Art 6 of Security Regulation)
- **Waste and cargo residues information * :**
 - Ship-generated waste and cargo residues (Art 6 of PRF Directive).

*** New SSN V3 information**



Reporting requirements

- **Before the ship's arrival:** port call, hazmat non-EU departure, waste and security);
- **Upon arrival:** ATA
- **Upon departure:** Hazmat EU departure + ATD

Data flow

- PortPlus information is **provided to the NSW** and then **to the National SSN system**
- Relevant notifications should then be **transferred from the National SSN system** to the **Central SSN system**
- The relevant PortPlus information can then be exchanged between Member States through **the Central SSN system**

PortPlus message (3/3)

- SSN** consolidates and links the whole information flow related to a single ship call (e.g. Voyage from New York to Liverpool)



Exemptions

- **Exemption information *** :
Apply to **pre-arrival 24 hours** and **Hazmat** (Article 15 of VTMIS Directive), **Security *** (Article 7 of Security Regulation) and **Waste *** (Article 9 of PRF Directive)
- An **exemption notification** should be submitted to Central SSN each time an exemption is granted to a ship and each time changes are applied to an exemption.
- For **exempted vessel**, the response will only include the ship identifiers, the type of exemption granted, the time of validity of the exemption, the company name, the route, the authority granting exemption and the 24/7 point of contact for requesting more detailed information
- An **exemption** applies to a single ship

*SSN V3 new feature



- **AIS:**

- Can be provided to the Central SSN via the streaming interface (either directly or through an AIS regional server) or via the message-based mechanism

- **MRS * :**

- Can be provided to the Central SSN via the message-based mechanism or via the Central SSN web interface
- Includes static data (IMO Number, MMSI, ship name etc), dynamic data (speed, course etc) and voyage-related data (hazmat on board, port of call, number of persons on board etc)
- More information in the “Guidelines to exchange MRS notifications through SSN” at <http://www.emsa.europa.eu/ssn-main/documents.html>

*** Message improved with SSN V3**



Legal background:

- Articles 16 and 17 of Directive 2002/59 list the types of IR to be sent to SSN
- Coastal Stations / Authorities shall inform other MS if the incident has an potential/actual effect on shipping safety or the environment in the waters of those MSs (art. 21.3 and 16.2).

SSN contains a repository of IRs:

- All the messages notified by MSs are indexed and made available upon request up to 5 years

The enhanced IR protocol allows:

- Updating previously sent IRs
- Distributing them
- Providing feedback

IR distribution

- **SSN supports IR distribution** to the MSs concerned and to the Flag State (if EU Country) if **some conditions are met**:
 - the information is **relevant** to other MSs
 - the incident could have an **effect on shipping safety or the environment** in the waters of other MSs
 - The concerned ship is **underway or authorised to sail**
 - The **destination is known**
- More information are provided in the “Incident Report Guidelines” at <http://www.emsa.europa.eu/ssn-main/documents.html>

Types of IRs

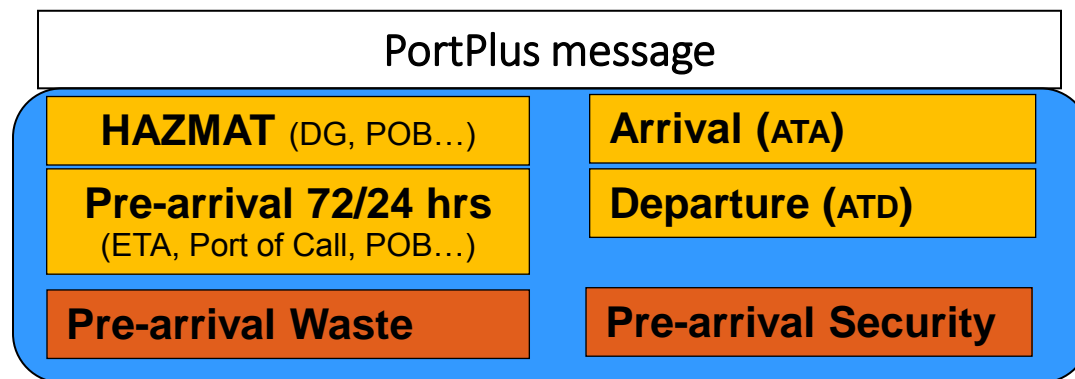
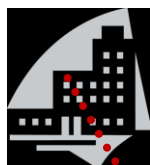


IR type	Domain
SITREP	Ship's safety and seaworthiness
POLREP	Environment (e.g. following a pollution)
Waste	Environment (Waste or residues that can be deliberately discharged at sea)
Lost and found objects	Shipping safety / Environment (e.g. lost containers)
Failed notification	Ships which have failed to comply with the reporting requirements of Directive 2002/59/EC
VTS rules infringement	ships which have failed to comply with the applicable rules in ships' routing systems and VTS
Banned ship	ships which have been refused access to ports of the Member States or which have been the subject of a report or notification
Insurance failure	ships which have failed to notify, or do not have, insurance certificates or financial guarantees
Pilot or Port report	Ships reported by pilots or port authorities as having apparent anomalies which may prejudice their safe navigation or create a risk for the environment
Others	Other incidents

Information exchanged through SSN after June 2015

SSN V3 new info

Port A
(Non EU)



Exemptions for
24h Pre-arrival
Hazmat
Pre-arrival Waste
Pre-arrival Security

Ship report

AIS/MRS

ID, POB, Position...

MRS type etc.

Incident/accident

POLREP

SITREP

Lost&Found Objects

Waste

Other ...

Port B (EU)





Users' benefits

Users benefits – Available data

- Vessel posing a risk (e.g. SHT, Banned)
- Exchange of relevant Incident Report
- Incident history
- Number of persons on board (PoB)
- Current ship positions and historical tracks
- Ships currently in an area (based on AIS, LRIT etc...)
- Hazmat information
- Security information
- Waste information

Users benefits – Use of data



- **Risk assessment**

- Incident history
- Vessels posing a risk (e.g. incident, SHT...)

- **Support the port & emergency management**

- Last position
- Port call information
- Hazmat information
- Waste information
- Security information
- Nearby vessels
- Persons on board

- **Post incident**

- Evaluation
- Investigation (backtrack)



MSS Support

MSS Support



1. **MS Commissioning tests on SSN v3**
2. **Helpdesk to SSN Users – new v3 XML and Web**
3. **Configuration of access rights – Hazmat, Waste, Security, Exemptions**
4. **Policy related questions on SSN v3**

New data quality checks:

- PortPlus notifications including Waste, Security (SSN v3 format)
- Availability of details (Hazmat, Waste, Security)

New SSN version 3 demo:

<http://tportal.emsa.local/web/ssn>

-- Example with IMO 8800298



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