EMSA

European Maritime Safety Agency

First semester 2010 SSN report

(January - June)

1. Introduction

In accordance with Directive 2002/59/EC, the SafeSeaNet System aims to give participating countries rapid access to all important information on the movements of ships, on the precise nature of the cargo on board if carrying dangerous or polluting materials and on those ships posing potential risks to the safety of shipping and the environment.

The purpose of this report is to present, to all participating countries, specific measurable elements and figures within a general overview of the current level of SafeSeaNet implementation for the first half of 2010. The main objective is to inform participating countries of their relative status, and to indicate the main areas where improvement is needed.

The report shows that there has been significant progress made during the 6 years since the initial implementation in 2004, but that the progress has been much slower than anticipated. Consequently, although in many areas, national SSN applications have been implemented satisfactorily at the technical level, both the quantity and quality of information in the system are still a long way from the levels required to give users the confidence to use it for day-to-day operational purposes.

The report is made available for further analysis by EMSA, the Commission and Member States.

2. Level of activity

Table 1 shows the number of notifications and requests sent to the SSN EIS by participating country and message type.

Participating Countries	NOTIFICATIONS Port	Hazmat	Ship	Incident	TOTAL	REQUESTS Port	Hazmat	Ship	Incident	TOTAL
Belgium	48,211	17,826	1,274,597	20	1,340,654		9	4,339	72	4,420
Bulgaria	1,564	513	169,648	1	171,726	9	11,721	26	117	11,873
Cyprus	2,100	159	1,074,831	2	1,077,092	30	24	10	112	176
Denmark	29,958	1,273	1,544,884	1	1,576,116	57	106		265	428
Estonia	37	106	161,644		161,787		141		10	
Finland	24,328	4,485	546,512		575,325	1,280,641	140	22	162	1,280,965
France	23,804	2,319	1,812,683	486	1,839,292	9	29	94	338	470
Germany	41,710	12,438	1,495,144		1,549,292		34	16	273	323
Greece	51,092	4,492	333,656	198	389,438		151	127	623	901
Iceland	1,007	158	134,923	5	136,093				34	34
Ireland	4,505	1,725	472,948	2	479,180	2	36	59	174	271
Italy	95,335	15,852	1,701,383	183	1,812,753	34	135	133	455	757
Latvia	3,920	749	431,760	15	436,444	14	85	25	434	558
Lithuania	3,533	1,359	110,745		115,637		102	12	285	399
Malta	7,595	3,218	626,396	7	637,216		51	20	380	451
Netherlands	64,695	11,425	1,836,348	105	1,912,573		320	142	309	771
Norway	36,774	6,763	2,956,887	4	3,000,428	789	457,617	31	227	458,664
Poland	11,296	3,941	849,110	6	864,353	94	76	54	194	418
Portugal	12,574	1,564	0	67	14,205		65	11	198	274
Romania	2,896	778	155,388	3	159,065	20	46,019	274	227,369	273,682
Slovenia	1,609	664	43,285	3	45,561	3	80	59	7	149
Spain	26,379	9,576	53,472	13	89,440		83	66	106	255
Sweden	75,896	6,852	1,601,841	2	1,684,591				175	175
United Kingdom	133,329	39,220	1,639,555	42	1,812,146	11	112	48	389	560
TOTAL	704,147	147,455	21,027,640	1,165	21,880,407	1,281,713	517,136	5,568	232,708	2,036,974

Table 1 – Number of SSN EIS notifications and requests

EMSA comments

- At present, while some countries provide most or all Incident reports on a regular basis, others do not. Consequently, relevant information on incidents may not be available on request. Participating countries are invited to provide **Incident reports** as stipulated in Art.16 of the Directive 2002/59/EC and in the Incident Report Messages Guidelines.

- The number of requests made by **Bulgaria** (Hazmat requests), **Finland** (Port requests), **Norway** (Hazmat requests) and **Romania** (Hazmat and Incident requests) is still very high. These countries are invited to deactivate their automatic request mechanism and to make use of the traffic picture provided by SSN to validate their requests.

Figure 1 shows ships operating in and around EU waters, as presented by the geographical interface of SSN. Nautical data such as traffic separation schemes, the mandatory reporting system and many other elements, such as a full zooming capability (see zoom-in to the Dover Strait), are also available in the highly interactive display. Table 2 shows the average number of AIS messages exchanged with SSN per day in the first half of 2010 (by country). This information has been extracted from the SSN database.
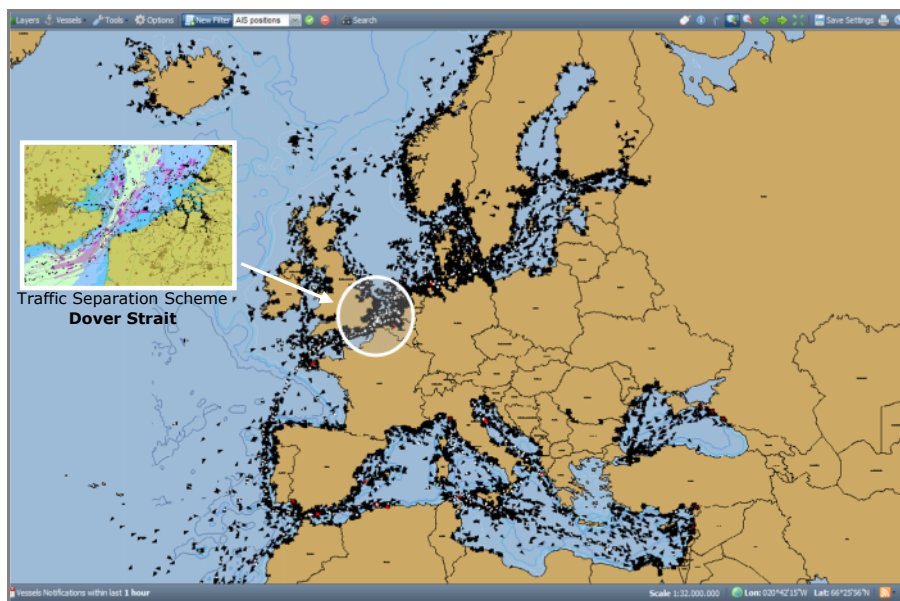

Figure 1 –Global overview of AIS positions in EU waters

Participating Countries	Average AIS messages exchanged per day (1S10)
Belgium	143,330
Bulgaria	56,907
Cyprus	126,243
Denmark	322,907
Estonia	40,910
Finland	128,540
France	66,490
France Med.	92,494
Germany	433,265
Greece	205,274
Iceland	39,381
Ireland	59,749
Italy	166,603
Latvia	36,254
Lithuania	12,871
Malta	53,619
Netherlands	435,766
Norway	377,742
Poland	69,206
Portugal	0
Romania	46,237
Slovenia	36,157
Spain	497,219
Sweden	248,535
United Kingdom	333,580
Total	4,029,278

Table 2 – Average number of AIS messages exchanged per day by country

EMSA comments: The total number of AIS messages transacted through SSN was, on average, **4 million** per day, and the number of AIS transmitting ships operating in and around EU waters in the reporting period was, on average, more than **16,800** per day.

Currently, there are only 2 SSN Geographical Interface (SSN GI) licences available per MS (70 licences available in total). As mentioned during SSN Workshop 13, this number will be increased to 1,000.

EMSA also began a pilot project to test the use of the **SSN Proxy application** with the objective of distributing streamed AIS enriched data to the participating countries (**Norway, Poland** and **the**

Netherlands). This pilot project is the result of an increasing desire, by some countries, to be able to receive real SSN data and integrate it into national applications.

3. Operational Status

Since January 2009, all coastal countries have been sending Port, Hazmat, and Ship (AIS/MRS) notifications and Incident reports to SSN. Table 3 shows the situation for each country:

Participating Countries		SSN Notifications					SSN GI (AIS)	Comments regarding specific issues
		Port	Hazmat	Ship		Incident		
				AIS	MRS			
AT	Austria	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Landlocked country
BE	Belgium	yes	yes	yes	no	no	yes	Missing MRS: Wetrep; Incidents only for test ship "9999999"
BU	Bulgaria	yes	yes	yes	n.a.	no	yes	
CY	Cyprus	yes	yes	yes	n.a.	no	yes	
CZ	Czech Republic	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Landlocked country
DK	Denmark	yes	yes	yes	no	yes	yes	Incidents sent through Alert distribution tool; Missing MRS: Great Belt
EE	Estonia	yes	yes	yes	yes	no	yes	Intermittent reporting of Port and Hazmat notifications
FI	Finland	yes	yes	yes	no	no	yes	Missing MRS: Golfrep;
FR	France	yes	yes	yes	yes	yes	yes	Missing MRS: Wetrep
DE	Germany	yes	yes	yes	n.a.	no	yes	
GR	Greece	yes	yes	yes	n.a.	yes	yes	Incidents sent through Alert distribution tool; Intermittent reporting of AIS notifications in SSN
HU	Hungary	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Landlocked country
IC	Iceland	yes	yes	yes	yes	yes	yes	
IE	Ireland	yes	yes	yes	no	yes	yes	Missing MRS: Wetrep;
IT	Italy	yes	yes	yes	yes	yes	yes	
LV	Latvia	yes	yes	yes	n.a.	yes	yes	
LT	Lithuania	yes	yes	yes	n.a.	no	yes	
LX	Luxemburg	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Landlocked country
MT	Malta	yes	yes	yes	n.a.	yes	yes	
NL	Netherlands	yes	yes	yes	n.a.	yes	yes	Incidents sent through Alert distribution tool
NO	Norway	yes	yes	yes	n.a.	yes	yes	Incidents sent through Alert distribution tool
PL	Poland	yes	yes	yes	yes	yes	yes	Incidents sent through Alert distribution tool
PT	Portugal	yes	yes	no	no	yes	no	Incidents sent through Alert distribution tool; Missing AIS and MRS (Coprep, Wetrep)
RO	Romania	yes	yes	yes	n.a.	yes	yes	
SI	Slovenia	yes	yes	yes	yes	yes	yes	
SL	Slovak Republic	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	Landlocked country
ES	Spain	yes	yes	no	yes	yes	yes	Missing MRS: Canrep, Wetrep
SE	Sweden	yes	yes	yes	n.a.	no	yes	
GB	United Kingdom	yes	yes	yes	no	yes	yes	Missing MRS: Caldovrep, Wetrep

Notes: Updated: 30 June 2010

Yes	Participating, sending notifications
No	No connection to SSN
n.a	Not applicable

Table 3 –SSN operational status by participating country

EMSA comments

- **Estonia** began providing Port and Hazmat notifications in June 2010, but submissions have been inconsistent.

- **Portugal** has said that it will begin to provide AIS data at the beginning of the third quarter of 2010. In the case of **France,** all AIS data is available via XML, but the coastline of the Biscay Gulf is still missing in SSN GI.

- Only **Estonia**, **Iceland**, **Italy**, **Poland** and **Slovenia** provide MRS notifications for all their declared systems, while **France** and **Spain** provide partial information (France does not provide WETREP and Spain sends neither WETREP nor CANREP). **Belgium**, **Denmark**, **Finland**, **Ireland**, **Portugal** and the **United Kingdom** do not provide MRS notifications. Participating countries are reminded that the exchange of MRS information has a solid legal basis in Directive 2002/59/EC, and that there is a clear obligation to exchange this information through SSN without delay.

4. Data Availability and Quality

EMSA constantly monitors the performance of participating countries and reports regularly detected issues to each country. The MSS has procedures in place for checking data availability and the reliability of SSN notifications, including those rejected by the SSN EIS. More detailed information on the most relevant issues can be seen below.

4.1. Missing notifications

Port notifications

EMSA has carried out sample checks, using SSN and external sources (Port web pages, SeaWeb, etc), in order to verify whether the required Port notifications are being provided. Table 4 shows the results of the checks by comparing the percentage figures from June-August 2009[1] with the overall figures for the first half of 2010. Countries with 10% or more missing notifications are highlighted in red.

Participating Countries	1st Semester 2010 (Jan 2010 - Jun 2010)			Previous Period (Jun 2009 - Aug 2009)
	Nr. Checks	Missing Notifications	Missing Notifications (%)	Missing Notifications (%)
Belgium	154	3	2%	0%
Bulgaria	153	13	8%	0%
Cyprus	169	1	1%	40%
Denmark	170	7	4%	0%
Estonia	*	*	*	*
Finland	170	7	4%	28%
France	170	45	26%	38%
Germany	162	4	2%	0%
Greece	140	29	21%	67%
Iceland	68	2	3%	7%
Ireland	158	59	37%	43%
Italy	139	9	6%	23%
Latvia	140	0	0%	0%
Lithuania	130	3	2%	3%
Malta	135	28	21%	77%
Netherlands	149	4	3%	6%
Norway	151	3	2%	5%
Poland	160	3	2%	0%
Portugal	148	21	14%	16%
Romania	147	0	0%	0%
Slovenia	145	1	1%	0%
Spain	170	60	35%	5%
Sweden	150	9	6%	18%
United Kingdom	168	24	14%	25%
Total EU	**3446**	**335**	**10%**	**17%**

* - notifications not provided

Table 4 – Availability of Port notifications

Hazmat notifications

Since July 2009, the MSS has carried out sample checks using SSN and external sources to verify whether the required Hazmat notifications are being provided. Table 5 shows the results[2] of the checks carried out in the first half of 2010, and compares them with the percentage figures for July - August 2009.[3]

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[1] Figures reported to participating countries in the second SSN quarterly report (October 2009).

[2] The number of checks per country is unbalanced due to the lack of reference data on ships coming from a participating country with dangerous and polluting goods (DPG) on board and passing off the Spanish or Polish coasts.

[3] Figures reported to participating countries in the second SSN quarterly report (October 2009).

Member State	1st Semester 2010 (Jan 2010 - Jun 2010)			Previous Period (Jul 09 - Aug 09)
	Nr. Checks	Missing Notifications	Missing Notifications (%)	Missing Notifications (%)
Belgium	49	1	2%	5%
Bulgaria	13	4	31%	n.a.
Cyprus	3	3	100%	100%
Denmark	24	21	88%	50%
Estonia	7	7	100%	100%
Finland	47	21	45%	n.a.
France	64	33	52%	61%
Germany	61	11	18%	16%
Greece	25	15	60%	67%
Iceland	n.a.	n.a.	n.a.	n.a.
Ireland	4	4	100%	n.a.
Italy	57	22	39%	40%
Latvia	46	12	26%	17%
Lithuania	28	10	36%	0%
Malta	58	9	16%	100%
Netherlands	64	7	11%	6%
Norway	30	2	7%	67%
Poland	31	3	10%	100%
Portugal	58	11	19%	25%
Romania	10	1	10%	25%
Slovenia	1	0	0%	n.a.
Spain	61	24	39%	100%
Sweden	45	12	27%	75%
United Kingdom	64	16	25%	n.a.
Total EU	**850**	**249**	**29%**	**53%**

n.a. - samples not available

Table 5 – Availability of Hazmat notifications

Port and Hazmat notifications are absent for reasons such as the following:

- Masters, Agents and Operators do not always fully comply with their reporting obligations. In Hazmat notifications this may indicate non-compliance with Art.12 of the Directive 2002/59/EC and parallel SOLAS and MARPOL requirements.

- Port and Hazmat notifications are sometimes provided to the National SSN System, but not forwarded to the SSN EIS.

- Port and Hazmat notifications are sometimes rejected by the SSN EIS (not passed against the XSD, invalid IMO number, etc.) after being forwarded to the system, but are not subsequently re-sent with corrected data.

- Ports are sometimes not connected to the National SSN System (only France and Portugal have informed EMSA that some ports are not yet connected).

- There are frequent misinterpretations of the requirement of the Directive regarding Hazmat notifications. Some countries send reports for some dangerous and polluting goods (DPG), but not for all (as defined in Art.3 of Directive 2002/59/EC). Participating countries should properly inform all masters, agents or operators to report DPG and apply sanctions to those failing to comply.

EMSA comments

- Missing Spanish Port notifications increased from **5%** to **35%** (60 out of 170 checks).

- Latvia and Romania continue to show 100% availability (Port notifications).

- In one year, the overall lack of availability of Port notifications reduced from **17%** to **10%.**

- Cyprus, Estonia and Ireland originally all showed 100% lack of availability for Hazmat notifications. In the case of Cyprus, the reason was investigated and solved in May, while Estonia began sending notifications in June.

- In one year, the overall lack of availability of Hazmat notifications reduced from **53%** to **30%**, although this is still too high to give users the necessary level of confidence when submitting queries to the system.

4.2. Rejected notifications

EMSA analysed the most common causes for the rejection of Port and Hazmat notifications, and these fall under the category of '*InvalidFormat*'. Notifications are rejected due to '*InvalidFormat*' if:

- they cannot be validated against the XML Schema definition (XSD);

- they do not comply with the XML syntax rules[4], or;

- they do not comply with agreed checking rules.

Tables 6 and 7 show the proportion of Port and Hazmat notifications rejected during the first half of 2010. Countries which had 1% or more of their notifications rejected are highlighted in red.

Participating Countries	Rejected notifications at country level (%)	Most common error for rejection of Port notifications
Belgium	0.00%	-
Bulgaria	0.00%	-
Cyprus	0.38%	Invalid IMO number
Denmark	0.12%	Invalid IMO number
Estonia	**6.06%**	**ETA to port after ETD from port (ETA > ETD)**
Finland	0.01%	Invalid MMSI number (unknown MID)
France	0.44%	ETA to port after ETD from port (ETA > ETD)
Germany	0.00%	-
Greece	0.32%	Invalid IMO number
Iceland	0.10%	LOCODE not registered
Ireland	0.04%	Invalid MMSI number (unknown MID)
Italy	0.03%	Invalid number of POB
Latvia	0.56%	Invalid MMSI number (unknown MID) | Invalid LOCODE
Lithuania	**2.69%**	**Invalid number of POB**
Malta	**1.68%**	**Invalid number of POB**
Netherlands	0.34%	ETA to port after ETD from port (ETA > ETD)
Norway	0.04%	LOCODE not registered
Poland	0.32%	Invalid IMO number
Portugal	**3.90%**	**Invalid number of POB**
Romania	0.00%	-
Slovenia	0.00%	-
Spain	0.07%	Invalid IMO number
Sweden	0.03%	Duplicated MsRefID
United Kingdom	0.87%	Missing ETD from port

Table 6 – –Rejected Port notifications

Error for rejection of Port notifications	Rejected notifications at EU level (%)
Missing ETD from port	0.60%
Invalid IMO number	0.42%
Invalid number of POB	0.33%
ETA to port after ETD from port (ETA > ETD)	0.15%
Invalid LOCODE	0.10%

Table 8 – Most common errors for rejection of Port notifications at EU level

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[4] Notifications not complying with the XML syntax rules cannot be accepted by SSN, and therefore are not taken into account.

Participating Countries	Rejected notifications at country level (%)	Most common error for rejection of Hazmat notifications
Belgium	0.00%	-
Bulgaria	1.96%	**Missing Hazmat details URL**
Cyprus	0.38%	ETD from port after ETA to port (ETD > ETA)
Denmark	0.02%	Invalid IMO number
Estonia	66.67%	**Invalid LOCODE**
Finland	0.01%	Missing next port of call
France	6.59%	**ETD from port after ETA to port (ETD > ETA)**
Germany	0.08%	Duplicated MsRefID
Greece	0.03%	Invalid IMO number
Iceland	0.00%	-
Ireland	0.00%	-
Italy	0.03%	Invalid LOCODE
Latvia	0.71%	Missing ETD from port
Lithuania	6.58%	**ETD from port after ETA to port (ETD > ETA)**
Malta	0.95%	**Missing Hazmat details URL**
Netherlands	0.26%	ETD from port after ETA to port (ETD > ETA)
Norway	0.00%	-
Poland	0.01%	Missing ETD from port
Portugal	0.70%	ETD from port after ETA to port (ETD > ETA)
Romania	0.00%	-
Slovenia	0.80%	ETD from port after ETA to port (ETD > ETA)
Spain	0.02%	Invalid IMO number	Duplicated MsRefID
Sweden	0.02%	Invalid email
United Kingdom	6.20%	ETD from port after ETA to port (ETD > ETA)

Table 7 – Rejected Hazmat notifications

Error for rejection of Hazmat notifications	Rejected notifications at EU level (%)
ETD from port after ETA to port (ETD > ETA)	6.34%
Unknown next port of call or waypoint with ETA	0.43%
Missing Fax number	0.23%
Invalid LOCODE	0.15%
Invalid Fax number	0.11%
Invalid Phone number	0.11%
Missing Phone number	0.08%
Missing LOCODE	0.08%
Invalid Email	0.05%

Table 9 – Most common errors for rejection of Hazmat notifications at EU level

Tables 8 and 9, show the most common reasons for the rejection of Port and Hazmat notifications.

The most **common errors that lead to rejection** are as follows:

- Notifications do not always comply with the XML Schema definition (e.g. missing ETD attribute in Port notifications).

- Data provided do not always comply with the agreed checking rules (e.g. ETA > ETD in Port notifications; ETD > ETA in Hazmat notifications; invalid IMO number).

EMSA comments

- The proportion of rejected notifications is not acceptable, bearing in mind that all rules were agreed in 2008, and that since January 2009, the MSS has been reporting problems to all participating countries on a regularly basis.

- Once corrected, rejected messages must be re-sent to SSN as soon as possible. The MSS records show that only Ireland, Latvia and Poland have established the required operating procedures to do so.

- Some countries have begun to correct problems associated with systematic errors (e.g. The introduction of the ETA-ETD checking rule last year resulted in the rejection of all Hazmat notifications provided by Malta. However, following checks undertaken by the MSS, the issue was resolved).

5. System Availability

EMSA continuously monitors the connection status of SSN national systems and the exchange of notifications between these systems and the SSN EIS. When EMSA detects a connection failure, or that a country is not providing the required notifications, the situation is recorded and reported to the respective country. All downtimes reported by participating countries are recorded by EMSA.

Table 10 shows all reported downtimes for the first half of 2010 (NB participating countries with permanently available systems are not listed).

The following should be noted:

- The data does not take into account partial downtimes (e.g. ports not providing data, temporary failures in the request/response, lack of specific notification types, etc).

- AIS data provided through the SSN GI was not taken into account for availability purposes.

- The target availability is 99% for a complete year (see the Interface Control Document). Therefore, the maximum amount of downtime is 87,6 hours for a 365 day period.

- The system availability in Table 10 was calculated over the period of 6 months from 1st January 2010.

Participating Countries	Total recorded downtime (hh:mm)	Availability (over 6 months period)
Bulgaria	05:55	99.9%
Cyprus	42:32	99.0%
Estonia	464:07	89.3%
Finland	30:57	99.3%
France	10:05	99.8%
Greece	78:50	98.2%
Ireland	05:43	99.9%
Italy	41:10	99.1%
Latvia	01:14	100.0%
Lithuania	72:57	98.3%
Norway	08:58	99.8%
Poland	22:00	99.5%
Romania	28:36	99.3%
Spain	09:03	99.8%
Sweden	19:20	99.6%
United Kingdom	37:05	99.1%

Table 10 – Recorded Downtimes (1st Half 2010)

EMSA comments

- Downtimes for the **Estonian**, **Greek** and **Lithuanian** national systems were below the minimum operational SSN system requirements (99%), so this situation needs to be rectified.

- Only **France**, **Ireland** and **Romania** provided the required advance notifications for all planned (e.g. for maintenance, upgrades, etc.) and unplanned downtimes.

- Participating countries still do not meet the requirements for actively monitoring their system availability. EMSA initiated 60% of the issues related to downtime in SSN national systems.

6. Other issues

XML interface for EU LRIT DC - During the last LRIT/SSN meeting in June 2010, it was announced that the LRIT XML interface development had been completed and was ready for use. However, it was also noted that the upgrade to the SSN XML interface was planned to be available to participating countries by March 2011. Therefore, for LRIT information, participating countries will have the choice of connecting via either system.

It should also be noted that the development work on the EMSA integrated operational platform will begin later this year with the aim of integrating all EMSA applications by end of 2011 (i.e SSN, EU LRIT CDC, etc).