

**11<sup>th</sup> Mediterranean AIS Expert Working Group**  
**Rome, October 1<sup>th</sup> 2013**

**MAREΣ 11/4/2**  
**November 12<sup>th</sup>, 2013**

## **MAREΣ network activity and monitoring report**

### **AIS data quality**

#### **Submitted by EMSA and Italy**

<i>Executive summary</i>	The document presents the MAREΣ monitoring activities carried out from August 2012 to September 2013.
<i>Action to be taken</i>	As per paragraph 3.
<i>Related documents</i>	10 <sup>th</sup> Mediterranean AIS Expert Working Group Workshop report

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## **1. Background information**

This AIS data quality report presents the following statistical information about the AIS messages sent by ships:

- Number of ships
- Invalid IMO
- Invalid MMSI
- Invalid IMO and MMSI (both)

To assess the AIS data quality, only the tankers transmitted AIS data were analysed as all of them are fitted with on-board AIS equipment. The analysis covers the period from August 2012 to July 2013 and reflects the situation within the Mediterranean AIS regional server area.

The quality of the data was checked against the data stored in the SSN reference database.

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## **2. Data quality statistics**

The monitoring was done on a daily basis and the average number of tankers monitored was 376.717 during the reporting period. The Figure 1 below shows the number of tankers monitored monthly:

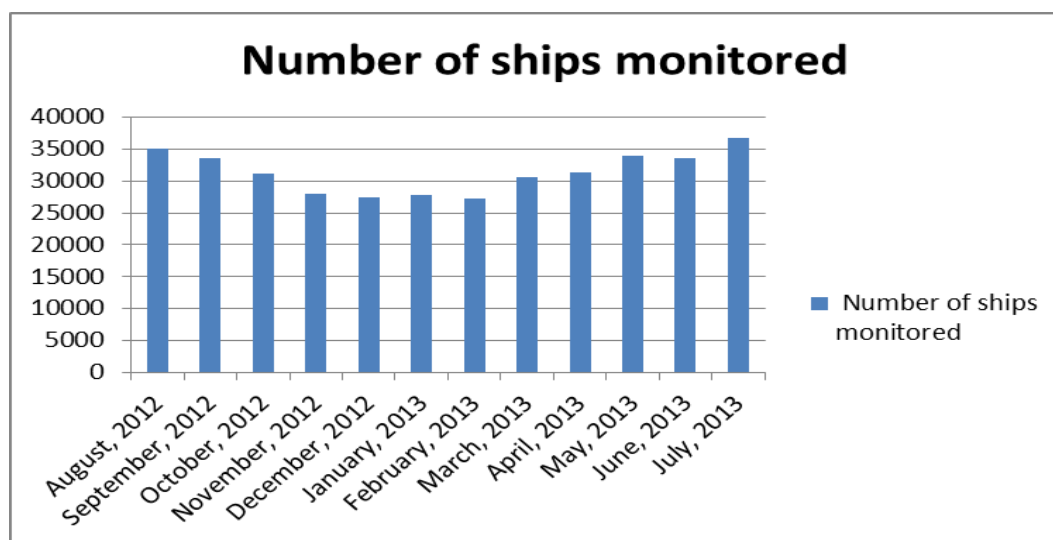


Figure 1: The number of tankers monitored per month (August 2012 – July 2013)

The highest number of vessels was detected during the summer period.

The invalid data were sorted by the following categories: invalid MMSI, invalid IMO number, and invalid both IMO and MMSI. A relatively low number of monitored tankers (2.996 or 0.80%) of the monitored (376.717) were transmitting invalid data.

The analysis indicated that:

- 2,747 tankers (or 0,73% of type) were transmitting invalid IMO numbers
- 249 tankers (0.07% of type) were transmitting invalid MMSI numbers
- 6637 tankers (1.76% of type) were transmitting MMSI numbers only

The summary of analysed data is provided Table 1:

Type: Tanker															
Period	Number of ships monitored	Ship detected transmitting false ship particulars (invalid IMO and MMSI)								Ships detected transmitting a correct ship particulars					
		Invalid IMO		Invalid MMSI		Invalid both (IMO and MMSI)		Reporting MMSI only		Valid IMO		Valid MMSI		Reporting both IMO&MMSI	
		No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
August, 2012	35035	298	0.85	36	0.10	1	0.00	634	1.81	34737	99.15	34999	99.90	34401	98.19
September, 2012	33601	207	0.62	26	0.08	1	0.00	620	1.85	33394	99.38	33575	99.92	32981	98.15
October, 2012	31190	252	0.81	33	0.11	1	0.00	574	1.84	30938	99.19	31157	99.89	30616	98.16
November, 2012	27935	200	0.72	13	0.05	4	0.01	564	2.02	27735	99.28	27922	99.95	27931	99.99
December, 2012	27539	134	0.49	6	0.02	1	0.00	468	1.70	27405	99.51	27533	99.98	27071	98.30
January, 2013	27901	116	0.42	3	0.01	1	0.00	476	1.71	27785	99.58	27898	99.99	27425	98.29
February, 2013	27192	218	0.80	1	0.00	1	0.00	462	1.70	26974	99.20	27191	100.00	26730	98.30
March, 2013	30678	282	0.92	6	0.02	6	0.02	474	1.55	30396	99.08	30672	99.98	30204	98.45
April, 2013	31327	279	0.89	8	0.03	3	0.01	535	1.71	31048	99.11	31319	99.97	30792	98.29
May, 2013	33989	270	0.79	38	0.11	8	0.02	587	1.73	33719	99.21	33951	99.89	33402	98.27
June, 2013	33583	264	0.79	45	0.13	13	0.04	557	1.66	33319	99.21	33538	99.87	33026	98.34
July, 2013	36747	227	0.62	34	0.09	2	0.01	686	1.87	36520	99.38	36713	99.91	36061	98.13
Per 1 year period	376717	2747	0.73	249	0.07	42	0.01	6637	1.76	373970	99.27	376468	99.93	370640	98.39

Table 1: Summary of data

Figure 2 below presents the trends in relation to the invalid data transmissions over the time:

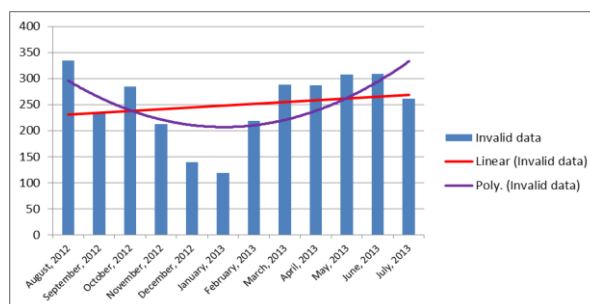


Figure 2: Trends of invalid transmissions

The number of invalid AIS data transmissions from ships is relatively low. However there was no improvement in data quality over the time.

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### **3. Action required**

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Participating States are invited to note the information and to take the necessary measures for monitoring and reducing the numbers of invalid/inaccurate data.