

# **Draft Workshop Report**

## **14<sup>th</sup> Mediterranean AIS Expert Working Group**

**Held in Rome on**

**6 December 2017**

Draft version

**Date: 26 February 2018**



## Introduction

The 14<sup>th</sup> Workshop for Mediterranean Member States, Experts Working Group (EWG) on the Mediterranean AIS Regional Exchange System (MAREΣ), took place in Rome on December 6<sup>th</sup> 2017. All the documents for the meeting had been circulated prior to the meeting and made available through the **EMSA** website at: <http://emsa.europa.eu/workshops-a-events/188-workshops.html>.

The meeting was attended by delegations from: Malta, Croatia, Slovenia, Romania, Greece and Italy; apologies were received from the other participant Countries for not being able to take part. Representative from Norway attended the meeting as observer in their capacity as the country hosting the HELCOM, North Sea/North Atlantic Regional AIS servers. Representatives of Jordan and Morocco attended the meeting as observers as participants in the SAFEMED IV project and of Georgia and Ukraine as participants in the Black and Caspian Sea Regions project. Representatives of Elman, the contractor who developed the Italian AIS network on behalf of the Italian Coast Guard have also attended the meeting.

The list of participants is attached as **Annex 1**. A copy of the proposed Agenda is included as **Annex 2**. Mr Lazaros Aichmalotidis of EMSA chaired the meeting.

## Objectives

The Chairman introduced the main objectives of the meeting as follows:

- update the group on other initiatives of interest conducted by EMSA or other EU bodies;
- update the group on the general activities and the progress achieved by MAREΣ;
- acquire information on the actual participant Countries' AIS network current status;
- discuss about technical issues related to the AIS time stamp and the systems' time synchronization issues affecting the quality of AIS data.

## Workshop Programme

### I. Agenda Item 1: Opening of the meeting and approval of the agenda

Rear Admiral Piero Pellizzari, Head of the ICT and Vessel Traffic Monitoring Department of the Italian Coast Guard HQs, welcomed the participants and congratulated the group for the remarkable achievements made and the level of cooperation implemented among Member States. He wished to continue the improvement of the system to provide new services not only related to the vessel monitoring but also to the pollution prevention. He stressed the need to open the system to other countries and increase the amount of information to be shared.

Mr Lazaros Aichmalotidis thanked **Italy** on behalf of the Group for the hospitality; then he started reviewing the objectives referred to above.

**Italy** proposed including in the agenda the document titled "The Mediterranean AIS Regional Server (MAREΣ) – Technical Manual" that was distributed to the participants during the meeting.

The Group **approved** the agenda as amended.

### II. Agenda Item 2: Wrap up of previous meeting - approval of the minutes

EMSA introduced the report/minutes of the previous meeting of the Group, noting that no further comments had been received. The EWG **approved** the minutes.

### III. Agenda Item 3: MAREΣ network activity and monitoring

**Italy** illustrated the general activities carried out by MAREΣ over the period from October 2015 to September 2017 in terms of amount of vessels monitored per month as well as the overall AIS information collected and delivered to MAREΣ by each participating Country as follows:

#### a. Information collected

The average daily amount of monitored vessels over the reference period was compared to the information collected on the previous period (Oct 2014 – Sept 2015). The highest number of vessels was generally detected during the summer months. The increased traffic density was due to the duct effect which enlarged the AIS radio coverage as well as due to the high number of pleasure crafts.

The data collected by MAREΣ during the period October 2016-September 2017 also increased due to the AIS information collected by some participating Countries with a full data rate (Italy since February 2016, Bulgaria and Romania since December 2016). Also, Jordan and Morocco were delivering AIS information with a full a data rate. The other participant Countries were delivering their information sampled on 1 minute or on 6 minutes.

#### b. Network malfunctions/incidents

During the referred period MAREΣ detected 178 network malfunctions (incidents), involving national AIS proxies and requiring a human intervention in order to restore normal operations. The reported incidents were mainly due to breakdowns in communications between the MAREΣ Core application and the national proxies. All these incidents had an effect on the information flow with the concerned participating countries and also had an impact on the general functioning of MAREΣ.

Whenever there were communication breakdowns, the ICG contacted the national points of contact and requested the re-establishment of the connection. All cases were also reported to EMSA. The total number of incidents analysed during the last 24 months is decreased when compared with the number of incident occurred during the period October 2013 - September 2015.

#### c. Incidents processing time

MAREΣ monitored the availability of the links, including the connection between the national proxies and MAREΣ, as well as between MAREΣ and the SSN central application. The total duration of unavailability (downtime) during the observed period was 1,532.58 hours in the first period (2015-2016) and 787.33 hours in the second (2016-2017), while malfunctions processing time varied from 11.34 to 322.28 hours per month in the first period and from 9.47 to 228.12 in the second. The average time to restore an incident in the first period was about 15.8 h. while in the second was 9.7 h.

These results represent an improvement of the performance when compared with those analysed during the 13<sup>th</sup> EWG (related to the period from October 2014 to September 2015 when the total duration of unavailability was 2,059.53 hours and the average time to restore the incident 20.5 hours).

**Jordan** asked for receiving feedback (an e-mail to be sent to the point of contact of the Country) when the malfunction is resolved and the service is back again. **Italy agreed** to update the current procedure to include dispatching an e-mail to the point of contact.

**Romania** and **Bulgaria** asked to share their AIS information at full data rate. Particularly, **Romania** asked to evaluate the feasibility to deliver to EMSA the AIS information provided by its network at full data rate in order to enhance the ABM capability of SEG in their area of responsibility. **Italy agreed** to explore this possibility together with **EMSA**.

**EMSA** invited the participating Countries to strengthen their efforts to guarantee the communication links (as required by the Directive 2002/59/CE) as well as to resolve any incident as soon as possible.

## IV. Agenda item 4: MAREΣ AIS status

**EMSA** invited the participating Countries to present the status of their AIS national network, possibly following the questionnaire proposed by EMSA in the document MAREΣ 14/4/1.

**Italy:** the status of Italian AIS network did not change in respect to the previously EWG; 63 shore-based stations, fitted with a crypto capability complying with the STANAG, had been implemented in configuration 1+1 (primary + secondary). The network is fully compliant with all ITU&IEC technical standards and achieves a good overlapping in coverage as well as a high availability. The network is also able to support some new services defined by IMO in the Circular 289 on Safety of Navigation.

The Coast Guard received funds to support services for the fishing control activities, considering that according to the EU Regulation 1224/2009 the AIS information have to be delivered to the national fisheries control authorities.

**Slovenia:** the Slovenia coast is fully covered by 4 shore-based stations (doubled). The AIS information are shared with others Authorities. The base stations provide dGPS and AtoN services to the mariners. The Slovenia has a 24/7 technical support.

**Croatia:** the Croatian AIS network consists of 21 shore-based stations allowing the full coverage of the coastline while 6 additional stations are planned to be implemented in 2018. All the BSs are centralized in a national system which provides all data to MAREΣ. The implementation of a new central system is in progress and it is estimated to complete in 3 months.

**Romania:** the AIS network does not change in respect to previously EWG. There are 6 sites covering the Romanian coastline able to transmit and receive all ITU messages. There is no contingency plan yet in place but it is planned in 2018 when the Core AIS system will be upgraded. The data throughput depends on the availability bandwidth.

**Malta:** the AIS network is based on 4 shore-based stations. A new virtualized servers environment is planned to be implemented by June 2018. Malta is no longer sending AIS information in XML format to SSN.

**Greece:** the AIS network is based on 82 shore-based stations, 64 of them are only functioning as receivers while 3 new receivers were installed recently. The BSs can handle all ITU messages. The AIS information collected are managed and shared with the Navy. The data throughput applied is 35-60 msg/sec. Greece plans to install 60 more receivers and 10 AIS base stations in 2018.

**Jordan:** the AIS network is based on a single shore-based station and the server is provided by the Lloyds. Jordan requested to receive some base stations under the SAFEMED programme.

**Morocco:** the AIS network has not changed since the last EWG meeting and consists of 14 shore-based stations.

**Ukraine:** the Ukrainian National AIS network consists of 28 AIS Physical Shore Station (PSS) divided into three sub-networks, managed by the following authorities:

- "Marine Search and Rescue Service" (3 AIS PSSs)
- "Ukrainian Sea Port Authority" (10 AIS PSSs)
- "State Hydrographic Service of Ukraine" (15 AIS PSSs)

All AIS PSSs send data information to AIS routing server using NMEA protocol. The server is managed by the "State Hydrographic Service of Ukraine". The Ukrainian AIS network is already well developed with an almost complete coverage of the territorial waters but there is a lack of AIS coverage in some places. The technology used in Ukraine is often quite outdated and AIS PSSs renovation is needed. Since 18<sup>th</sup> August 2017 the Ministry of Infrastructure of Ukraine mandated the "Marine search and rescue" Service to organize, operate and develop the AIS monitoring system in the Black Sea and Sea of Azov.

It is estimated that, by March 2018 the Ministry of Infrastructure of Ukraine would be able to share AIS information through MAREΣ. By that date, the Service Level Agreement will be signed; the National AIS server will be installed and tested together with the MAREΣ proxy.

**Georgia:** the Maritime Transport Agency (MTA) of Georgia is the National Maritime Authority on behalf of the Ministry of Economy and Sustainable Development (MESD).

Georgia made a short presentation of the MTA responsibilities (among them MRCC, Vessel Traffic Monitoring in Territorial Sea and the maintenance of national maritime legal framework). 3 VTSS located in the Batumi, Poti and Kulevi ports are able to provide information service, traffic organization and navigational assistance. Georgia plans to implement a central control room to acquire the information provided by the VTSSs.

The Georgian Ships Reporting System (GEOREP) was updated in 2003 and became mandatory since March 1<sup>st</sup> 2003 according to the IMO Circular SN/Circ. 230. GEOREP is operated by MRCC-Georgia, which also assists the search and rescue operations.

Currently there is no a national AIS network in Georgia. On March 2016, Georgia started its participation in the EMSA project to develop the national AIS network and ensure its compatibility with MAREΣ (probably implemented under the umbrella of the BCSEA project). Since 10<sup>th</sup> March, 2015 Georgia became participant of the CleanSeaNet service.

## V. Agenda item 5: SAFEMED and the Maritime Safety, Security and Environmental Protection in the Black and Caspian Sea Regions projects

**EMSA** presented the status of the EU funded projects implemented by the Agency to provide technical assistance to southern and Eastern ENP countries. SAFEMED IV is an initiative intended to achieve the greatest possible degree of economic integration and the related plans reflect the country's need and capacities as well as the EU interest. SAFEMED IV involves 9 Countries: Algeria, Egypt, Israel, Jordan, Lebanon, Libya, Morocco, Palestine and Tunisia.

**EMSA** presented the Black and Caspian Sea Regions Project, noting that the maritime safety and security and protection of the marine environment is a common concerns of the EU MS and of the no-EU countries bordering the Black and Caspian Sea. For this reason, EMSA is implementing a project to provide technical assistance bringing together national, European and international stakeholders with the aim to raise the safety, security and protection of marine environment standards. The BCSEA Region project involves 8 Countries: Azerbaijan, Georgia, Iran, Kazakhstan, Moldova, Ukraine, Turkey and Turkmenistan.

The objective of both projects is to further improve maritime safety and security and to increase the levels of marine pollution prevention preparedness and response in the interest regions by providing beneficiaries with technical assistance under the 7 technical components of the project: Flag State Implementation, Port State Control, VTMIS, Protection of the Marine environment, Human element, Security of ships and port facilities and Bilateral activities.

Both projects consist of three different phases:

- the inception phase, for defining the overall strategy, refining the technical areas of project intervention and developing a work plan;
- the implementation phase, during which the planned activities will be carried out and monitored in order to evaluate their effectiveness. During this phase communication with the project's steering committee will be maintained;
- the closing phase, comprising of the phasing out activities, the recommendations for a possible continuation of the project and preparation of the final report.

## VI. Agenda Item 6: Status and development of other regional AIS servers

**Norway** presented the current status of the North Sea AIS, HELCOM and North Atlantic Regional Servers. The participating Countries to those regional servers are Netherlands, UK, Belgium, Sweden, Denmark, France, Iceland, Finland, Russia, Poland, Ireland, Estonia, Latvia, Lithuania and Faroe Islands.

The AIS Regional Server collects both T-AIS and SAT-AIS. Norway implemented 50 AIS ground based stations to cover coastal areas and 4 satellites (AISSat-1, AISSat-2 and NORSAT 1 and 2) with global coverage. AISSat-3 will be launched in 2018.



The purpose of NORSAT-1 is to validate scientific instruments and provide scientific data to users and of NORSAT-2 to support the VDES services. NORSAT-2 carries a VHF Data Exchange payload enabling two-way communication at higher data rates.

**Norway** informed the participants about a pilot project they will launch together with EMSA to test how the EMSA's Reporting gateway will receive data from a ship VDES transceiver (or simulated) via the Norwegian VDE-SAT component. The VDE-SAT Demo should also simulate transmission of data from ships transiting in remote areas outside terrestrial coverage.

## VII. Agenda item 7: New Service Level Agreements

**EMSA** provided comprehensive information about the new SLA signed with the Norwegian Coastal Administration and the Italian Coast Guard for the hosting, maintenance and operation of the respective regional servers and their connection with SSN.

The new SLA is the outcome of two technical meetings among representatives of EMSA, NCA and IGC held in Lisbon on February 7<sup>th</sup> 2017 and in Rome on August 10<sup>th</sup> 2017.

The new SLA will enter in force on next March 1<sup>st</sup> 2018.

## VIII. Agenda item 8: The “AIS time stamp” issue

**Italy** presented information related to the timestamp issue contained in the comment block associated to the AIS information delivered by the participating Countries according to the IEC 62320-1 standard. Italy mentioned that if the timestamp is not provided by the national network, it is added by the MAREΣ proxy using the clock of the hosting environment. In this case, if the clock is not correct (i.e. during the disconnection from the NTP server) the proxy will add a wrong timestamp. Italy illustrated a few real cases of wrong timestamps provided by participating Countries and their impact on the traffic image.

**EMSA** and **Italy** recommended the participating Countries to pay attention to this important matter and maintain synchronized the proxy hosting environment through NTP (Network Time Protocol) server or other mechanisms. **Italy** will evaluate the feasibility for MAREΣ to provide the clock synchronization in the next proxy releases.

## IX. Any Other Business

**Italy** presented the document “The Mediterranean AIS Regional Server (MAREΣ) – Technical Manual”, which is part of the SSN technical documentation. The purpose of the document is to provide the MAREΣ participating Countries information on the regional server architecture and capabilities. It has to be considered as a living manual updated according to the MAREΣ developments. The document should contain as Annexes information about the MAREΣ Member States AIS status at national level which Member States were invited to provide as in the form of questionnaire (see Annex of MAREΣ 14/4/1 document).

The group **agreed** that the requested information will be provided by the MAREΣ Member States to **Italy** by the end of February 2018.

The provisional date of the next EWG meeting is November 2018.

## Annexes

Annex 1 – List of participants

Annex 2 – Workshop Agenda

## Annex 1 – List of participants

MAREΣ 14<sup>TH</sup> EXPERT WORKING GROUP MEETING

ROMA 6 DICEMBRE 2017

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## Annex 2 – Workshop Agenda



### Agenda: 14<sup>th</sup> Mediterranean AIS Expert Working Group meeting

Coast Guard Headquarters, Viale dell' Arte 16 – Rome, Italy, 06 December 2017

**Wednesday, 06 December 2017**

Time	Agenda Item	Speakers
<b>MAREΣ EWG meeting</b>		
09:00	Registration and coffee	
09:30	Opening of meeting and approval of agenda	EMSA/Italy
09:45	Wrap up of previous meeting/approval of minutes	EMSA
10:00	MAREΣ network activity and monitoring	Italy
11:00	Coffee break	
11:20	MAREΣ AIS status	MAREΣ Member states
12:30	SAFEMED and the Maritime Safety, Security and Environmental Protection in the Black and Caspian Sea Regions projects	EMSA
13:00	Lunch break	
14:30	Status and developments of other regional AIS servers	Norway / EMSA
15:00	New Service Level Agreements	EMSA
15:30	The "AIS time stamp" issue	Italy/ All
16:15	Coffee break	
16:30	Any other business	All
17:00	End of meeting	

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