

Workshop Report

15th Mediterranean AIS Expert Working Group

Held in Venice on

27 November 2018

Date: 20 March 2018

Introduction

As a follow up to the 14th meeting of the Mediterranean AIS Expert Working Group (Rome, 6 December 2017), the Italian Coast Guard (ICG) invited EMSA and experts designated by the Countries involved in MAREΣ to a technical meeting place in Venice on the 27th November 2018. The objective of the meeting was to evaluate the progress achieved since the last session and discuss about the further challenges and perspectives. The meeting documents 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 representatives of MAREΣ Members States: Malta, Croatia, Slovenia, Italy, Greece, Spain, Romania and Portugal as well as Montenegro as MAREΣ participant state. Representatives of Norway attended the meeting as observers as the country hosting the HELCOM and North Sea/Atlantic AIS Regional Servers. Representatives of Jordan, Morocco and Tunisia attended as beneficiaries in the SAFEMED IV project and Georgia and Ukraine as beneficiaries in the Black and Caspian Sea project (BCSEA). 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 Agenda is included as **Annex 2**.

Objectives

Mr Lazaros Aichmalotidis of EMSA chaired the meeting and highlighted the objectives as follow:

- Update the group on initiatives conducted by EMSA or other EU bodies;
- Present the general activities and the progress achieved by MAREΣ and other regional AIS servers;
- Acquire information on the participant Countries' AIS network status;
- Discuss the 2nd phase of the pilot project on T-AIS data sharing between individual MAREΣ Member State(s) and Observer State(s);
- Discuss about technical issues related to the AIS data buffering affecting the quality of AIS data.

Workshop Programme

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

Cap. Antonio Revedin, Strategic Planning and Development Director of the North Adriatic Sea Port Authority as the hosting body opened the meeting presenting the institutional greetings. He presented the CHARGE project (Interreg Italy-Croatia Programme) explaining how its scopes and objectives are currently being pursued in strong cooperation with the Italian Coast Guard with regards to the use and sharing of AIS data for the development of MoS services in the Adriatic area. During the development of the pilot activity of the CHARGE project, the North Adriatic Sea Port Authority will take into great consideration the directions given by the Mediterranean AIS Expert Working Group, involved in the MAREΣ initiative, through the support of the technical team in the Italian Coast Guard.

Italy, as the hosting country, opened the meeting. Rear Admiral Piero Pellizzari of the Italian Coast Guard welcomed the participants and congratulated the group for the achievements made and the level of cooperation achieved. On behalf of the Group Mr Lazaros Aichmalotidis thanked Italy for the hospitality and reviewed the meeting objectives.

Italy proposed including in the agenda their presentation regarding the evaluation of the VDL load associated to each AIS BS. 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 14th meeting of the Group (document MAREΣ 15/2/1), noting that no further comments had been received. The EWG **approved** the minutes of the 14th EWG meeting.

III. Agenda Item 3: Follow – up actions of the previous meeting

The status of the actions agreed at the previous meeting (document MAREΣ 15/3/1) was presented as follows:

a) Update the current procedure to inform the point of contact of the relevant Country as soon as a detected malfunction is resolved

Italy informed that the reporting procedures were updated. According to the updated procedure, Italy communicates via e-mail (in copy) the information to the related national POC information on the detected malfunction is resolved. Status of action: “Closed”.

b) Report on the actions taken regarding the delivery to Romania of the AIS full data rate

EMSA informed about the actions taken to deliver the AIS stream to Romania with 1 minute down sampling (all other Countries remain with 6 minutes down sampling). Since 11th September, the Romanian data are visible in the SEG pre-production with 1 minute down sampling. Preparations to switch to the SEG production started in November. Romania was advised to coordinate further activities with EMSA Unit C.4 (**Action point 1**). Status of action: “Ongoing”.

Croatia expressed their interest in the same down-sampling rate within the IMS / SEG environment. **EMSA** and **Italy** agreed to assess the Croatian request (**Action point 2**).

c) Adopt the new SLAs

EMSA informed that the new SLAs are in force since 1 March 2018. Status of action: “Closed”.

d) Evaluate the feasibility for MAREΣ to provide the clock synchronization in the next proxy releases

Italy informed that the clock synchronization cannot be implemented because most of the national AIS networks do not yet fully in comply with the international standards in force, and the implementation of this functionality in the Regional server could cause the association of an incorrect time stamp to the AIS information. **EMSA** proposed to change the status of this action to “Closed”, until Member States will upgrade their national networks.

e) MAREΣ Member States to provide to Italy information about their respective AIS status at national level to edit the annexes to the MAREΣ Technical Manual”.

EMSA proposed to maintain the status of action point as “Ongoing”. **EMSA** explained that the Technical manual is part of SSN documentation and it shall be maintained updated. Partially pre-filled questionnaires will be sent to the MAREΣ participating Countries to be amended and returned (in January) (**Action point 3**).

The EWG **agreed** with the proposed status of actions (**Action point 4**).

IV. Agenda Item 4: MAREΣ network activity and monitoring

Italy as the hosting country of the MAREΣ server presented the general activities since the last EWG meeting (document MAREΣ 15.4.1) as follows:

a. Participating Countries

During the reporting period MAREΣ has been providing the central SafeSeaNet with AIS data gathered from Bulgaria, Croatia, Cyprus, France, Gibraltar/UK, Greece, Italy, Malta, Portugal (including Azores and Madeira), Romania, Slovenia and Spain. MAREΣ is also collecting AIS information from Montenegro in the Adriatic-Ionian Mediterranean sub-region as well as from Jordan and Morocco in the framework of the SAFEMED IV project. Ukraine as BCSEA participating Country is connected to MAREΣ to test the connectivity. **Italy** confirmed that the tests with Ukraine were run successfully and Ukraine is ready to provide data to MAREΣ.

b. Level of the activity

The average number of vessels monitored daily during the reference period (October 2017 - September 2018) was presented. The highest number of vessels was generally detected during the summer months. Comparing with the traffic during the two previous reporting periods (years 2016 and 2017), the traffic is much higher during the current period. The current MAREΣ release, running since October 2014, can handle the whole amount of information collected and provided by each participating Country, including all static, dynamic and voyage-related data.

c. Network malfunctions/incidents

During the observation period, MAREΣ detected 60 network malfunctions (incidents), involving national proxies and requiring a human intervention to restore operations. The reported incidents were mainly due to breakdowns in communications between the MAREΣ Core application and the national proxies. All these incidents influenced the information flow with the concerned participating countries and had an impact on the general functioning of MAREΣ. Incidents, affecting the national proxies, were detected by the “core user monitoring” page of MAREΣ application.

Whenever there were communication breakdowns, the correspondent national point of contact was contacted by the ICG and the re-establishment of the connection was requested. All the incidents were reported to the EMSA MSS including the related root cause (whenever they were provided by the national POC). In comparison with the last activity periods, the trend is rather positive, and the average number of incidents per month, observed during the last 6 years is decreasing.

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 elapsed time needed to restore all the failures registered during the reference period was 764.9 hours, varying from 3.6 to 241.2 hours per month. The average elapsed time needed to restore a failure was about 12 hours. For only 2 of the reported failures the registered incident processing time exceeded the maximum time for the restoring of the AIS data transfer from the national proxies to MAREΣ, as defined by the SLA established between ICG and EMSA.

d. MAREΣ upgrading

Since November 2017, MAREΣ GIS was enabled to consume Web Map Services installed on 2 cartographic servers hosted in the ICG HQs' server farm making available a set of CM-ENCs, including the upgrade service for the zones 1-9, to the MAREΣ GIS users. The users can switch on/off the WMSs by a checkbox hosted in the MAREΣ GIS Layers list. The WMSs can provide *ECDIS like* services for display of the ENC.

In addition, **Italy** informed the participants about activities Italy presented MAREΣ such as: the annual European Coast Guard Forum (12 April 2018), the IALA conference (held in Korea), the Awareness

Forum (held in France, in June 2018).

The EWG noted the provided information. **Greece** proposed Italy to amend the data tables in the MAREΣ statistics making them more comparable (**Action point 5**). **Greece** also informed that they are ready to provide data to MAREΣ without down sampling. **EMSA** remarked that the incidents analyses are essential for the system's performance and reminded participants that in the event of malfunction MSs should inform RS about the root cause of incident, and the actions taken (or planned) (**Action point 6**).

V. Agenda item 5: Status of AIS at the MAREΣ Member states

EMSA invited the participating Countries to present the status of their AIS national network, possibly following the topics proposed in the document MAREΣ 15/1/2.

Slovenia: the AIS network does not change since the last meeting. The Slovenia coast is fully covered by 4 shore-based stations (doubled). The coverage is very good. The national system has the data buffering capability. Slovenia plans to substitute their AIS network in 2019.

Malta: the AIS network is based on 4 shore-based stations. The installation of 2 new Base stations and upgrading of servers is in progress. The data buffering capability is not supported by the system.

Croatia: the AIS network consists of 26 shore-based stations allowing a high level of coverage of the coastline. Croatia has implemented 24/7 contingency plan. The data buffering is not supported by the system, and Croatia relies to the MAREΣ NPR capabilities.

Italy: the status of Italian AIS network has some changes since the previously EWG. A new BS is installed in the Venice lagoon, and the network consists of 64 shore-based stations. 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 also supports the war ship AIS functionality. The system is linked with the ICG patrol vessels AIS through SAT-COM, allowing to increase the monitoring capabilities. The system able to store the data up to 12 months. The data buffering capabilities are performed only by the MAREΣ NPR. If the connection with NPR is lost, the data are not retransmitted.

Greece: the AIS network is based on 82 shore-based stations (18 BSs and 64 receivers). Receivers were recently upgraded to improve the coverage. 19 new BSs are planned to be installed, in new locations or replacing the existing BSs. The existing BSs can handle all ITU messages. The system can store the data, but this functionality was not tested. 24/7 technical support is available. The system is stable, and only two incidents were recorded during 2018.

Spain: the status of network remains the same since last year. A new contract has been signed to rebuild the network. This task is planned for Q1 of 2019. During the planned upgrade, Spain is not expecting any interruptions in the service.

Romania: the AIS network does not change in respect to previously EWG. The central part of the system has been upgraded in terms of hardware and software allowing the creation of virtual ATONs. The data buffering is not supported by the system, but at the NPR level. The data are stored, but without automatic retransmission.

Portugal: the AIS network includes 19 BSs. 11 BSs (double) are located at the mainland, 3 BSs in Madeira and 5 BSs in Azores. AIS data are stored and can be retransmitted manually. Portugal plans to change the data provision from islands, by introducing a separate proxy for each network.

VI. Agenda item 6: Status of AIS at the MAREΣ Participants States and Observers States

Montenegro: the status of network remains the same. The existing network provides full coverage of the coastal area and internal waters. The data buffering capability is ensured. Each BS has redundant power supply, antennas and the communication links. The AIS system is interconnected with VTS system.

Ukraine: the 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 networks are connected to the AIS routing server which is managed by the “State Hydrographic Service of Ukraine”. The web-solution based software is installed. Ukraine is testing the data exchange with MAREΣ.

Jordan: the AIS network is based on a single shore-based station. Within 3 months the operations centre will be moved to a different location. Jordan requested to receive additional base stations under the SAFEMED IV project

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

Georgia: Currently there is no a national AIS network in Georgia. On March 2016, Georgia started its participation in EMSA’s project to develop their national AIS network and ensure its compatibility with MAREΣ (under the umbrella of the BCSEA project). In 2020, Georgia plans to update their VTS components.

Tunisia: In October 2018, Tunisia signed the SLA for the data sharing. The national AIS project has been started. Tunisia plans to develop the national AIS network under the umbrella of the SAFEMED IV project.

The future status for Observers States was discussed. **EMSA** stated that the issue of MSs cooperation with the SAFEMED and BCSEA countries will be discussed at the next HLSG (**Action point 7**).

VII. Agenda Item 7: Status of other regional AIS servers

Norway as the hosting country of the North Sea/Atlantic and the HELCOM regional AIS servers presented the status of these servers and introduced the main outcomes of the recent North Sea/Atlantic EWG meeting.

Norway has implemented the automatic warning system which sends e-mails to the Member States’ PoCs in case the malfunctions are detected. Norway also maintains the historic AIS database accessible for Member States and allows the Member States to download the stored data. The North Sea/Atlantic regional AIS server collects both T-AIS and SAT-AIS. The new satellite will be launched in 2019, to support the VDES downlink system.

The 3rd North Sea/Atlantic EWG took place in the Netherlands, Den Helder, on 25 September 2018. The meeting agreed to exchange the statistics monthly and to implement (upon proposal from Belgium) the proxy monitoring solution for the Member States. The EWG has agreed that the North Sea/Atlantic EWG meetings will be hosted at the rotational bases, and the next meeting will be in Germany, in September/October 2019.

Norway also informed about the LRIT data exchange via the regional server. LRIT data are converted into AIS format and sent to recipients using ITU 1371 message standard. **Italy** informed that they are assessing the use of the NATO “war ship format” for the same purposes and expressed their interest in knowing more about the solution which is used by Norway.

VIII. Agenda Item 8: Status of the SAFEMED IV and the Black and Caspian Sea projects. Launching the 2nd phase of the pilot project on T-AIS data sharing

EMSA presented the status of the SAFEMED IV and the Black and Caspian Sea (BCSEA) projects and introduced the proposal for the 2nd phase of pilot project on T-AIS. **EMSA** recalled that the topic was introduced to the participants by the document MAREΣ 15/8/1.

The participants were invited to discuss on how individual Member State could agree with an individual third country to share their AIS data on a bilateral or multilateral basis and provide their feedback if they agree with launching of phase 2 of the pilot project and with the text of the draft bilateral/multilateral agreement. The MARES EWG members were also asked to provide their feedback if there is an interest from MSs to share AIS data with selective Beneficiaries.

EMSA asked MSs to provide their feedback regarding the data sharing. **Romania** expressed their interest to exchange data with the Black Sea Countries, **Spain** and **Portugal** - with Morocco and **Italy** - with Morocco and Tunisia. All of them highlighted that they do not commit their MS, but only expressed a technical opinion and they would expect to receive a formal letter and provide their formal reply (**Action point 8**).

Replying to **EMSA**'s question, **Italy** informed that this additional effort to the MAREΣ system could not cause any significant technical impact. **Italy** already have some ideas on how the data sharing could technically be organised, e.g. on bases of sub-regions.

EMSA reminded that the data sharing implies also requirements to the Beneficiary Countries, as they shall develop and maintain their AIS infrastructure in compliance with the international standards and the relevant EU procedures in force (e.g. the data availability standards) (**Action point 9**). **EMSA** also informed the participants that every effort will be made in order **EMSA** to continue the provision of the technical support to the beneficiaries.

EMSA informed the participants that the outcome of this discussion will be provided to the next HLSG (**Action point 10**). The EWG **approved** the text of the draft bilateral/multilateral agreement.

IX. Agenda Item 9: AIS data buffering

EMSA presented the AIS data buffering issues and the technical solutions implemented at the regional and central levels (document MAREΣ 15.9.1). The meeting participants were also introduced with the data buffering analyses made by **EMSA** in cooperation with regional AIS servers. **EMSA** informed about the SSN Group 4 decision to conduct systematic tests to verify whether data buffering and re-transmission is being carried out properly at all stages, and to draft and included in the Common Operational Procedures (COP) document the procedure for the buffering and re-transmission of AIS data.

EMSA introduced the planned tests scenarios and the indicative schedule, where testing with regional AIS servers will be conducted during January 2019, and with MSs - starting from February 2019. (**Action point 11**).

X. Any Other Business

Italy presented the feasibility study on the VDL load and introduced the idea to design a new version of NAISP software providing the participant countries with a tool to evaluate the VDL load associated to each AIS Base Station. It would be possible only with an AIS sharing at full data rate, e.g. as already happening in Adriatic Sea region.

At the end of the meeting, the participants were asked to check and update the lists of contact persons and technical representatives for the AIS EWG. **EMSA** summarized the list of actions agreed and thanked the participants for their fruitful work. The list of actions is presented in **Annex 3**.












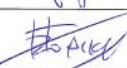



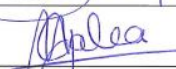
The provisional date of the next EWG meeting is November 2019. **Georgia** proposed to host the meeting of 2020 (**Action point 12**).

Annexes

- Annex 1 – List of participants
- Annex 2 – Workshop Agenda
- Annex 3 – List of actions

Annex 1 – List of participants

The administrations represented at the meeting are listed below:

  			
CHARGE Project - 27th November 2018 Agenda: 15 th Mediterranean AIS Expert Working Group meeting North Adriatic Sea Port Authority, Santa Marta, Fabbricato 13 – Venice (ITALY)			
Surname	Name	Organization	Signature
1	HATEM	BOE SI HARBOUR MASTER OF LA GOULETTE PORT (TUNISIA)	
2	Hakim IBRAHIM	FEKI DEPUTY DIRECTOR FOR MARINE TRAFFIC (TUNISIA)	
3	EHAB EHAB IBRAHIM	JORDAN MARITIME COMMISSION	
4	Mohammed suphi Ahmed		
5	Ahmed Ahmed	Mohammed Jordan Maritime Commission	
6	Abdelmajid ANTONIO	ATIBI MOROCCO MARITIME COMMISSION SASP SPS	
Surname	Name	Organization	Signature
7	Mehdi	LOUTFI Morocco Maritime Commission	
8	Tavares	Rui DGRH - Portuguese Administration	
9	MARTINEZ MARTINEZ	JORGE SPANISH SAR AGENCY (SASEMAR)	
10	SOFIKITIS	ILIAS Hellenic Coast Guard	
11	MAESTIC	SIME Ministry of the Sea (Croatia)	
12	SANTIC	IVO MINISTRY OF SEA CROATIA	
13	CAJUMA ARENA	MARK TRANSPORT MALTA	
14	GALEA	NOEL TRANSPORT MALTA	

15	SPUŽA	AGIJA	MARITIME SAFETY DEPARTMENT MONTENEGRO	<i>[Signature]</i>
16	BAJEC	PRIMOŽ	SLOVENIAN MARITIME ADMINISTRATION	<i>[Signature]</i>
17	BORDON	MIRAN	SLOVENIAN MARITIME ADMINISTRATION	<i>[Signature]</i>
18	VOLLARO	ANTONIO	ITALIAN COAST GUARD	<i>[Signature]</i>
19	ICHIM	IULIAN	ROMANIAN NAVAL AUTHORITY	<i>[Signature]</i>
20	Dreijer	Malin	Norwegian Coastal Admin.	<i>[Signature]</i>
21	Åshheim	Harald	— " —	<i>[Signature]</i>
22	AULICINO	GIUSEPPE	ITALIAN COAST GUARD	<i>[Signature]</i>
23	FORTE	COSSU	ITALIAN COAST GUARD	<i>[Signature]</i>


24	ERVIK	JON LEON	NORWEGIAN COASTAL ADMINISTRATION	<i>[Signature]</i>
25	Uzari	Armelindhi	EMSA	<i>[Signature]</i>
26	Edmunds	Bellušis	EMSA	<i>[Signature]</i>
27	GIUSEPPE	RUSO	EMSA	<i>[Signature]</i>
28	FABRIZIO	PIRELLI	EMSA	<i>[Signature]</i>
28	Tormosen	IOSELIAMI	GEORGIA	<i>[Signature]</i>
30	Antandil	Begenave	GEORGIA	<i>[Signature]</i>
31	Sergiy	Dubin	UKRAINE	<i>[Signature]</i>
32	Volodymyr	Provenko	UKRAINE	<i>[Signature]</i>



Interreg
Italy - Croatia
CHARGE
European Regional Development Fund



EUROPEAN UNION



NORTH ADRIATIC SEA
PORT AUTHORITY

33	PITACCOLO	NARA	NASPA	<i>[Signature]</i>
34	PELLIZZARI	PIERO	ITALIAN COAST GUARD	<i>[Signature]</i>
35	VOLPATO	CECILIA	NASPA	<i>[Signature]</i>
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Annex 2 – Workshop Agenda



Agenda: 15th Mediterranean AIS Expert Working Group meeting

NASPA premises, building 12, Committee Room – Venice, Italy, 27 November 2018

Tuesday, 27 November 2018

Time	Agenda Item	Speakers
MAREΣ EWG meeting		
09:00	Registration and coffee	
09:15	Greetings and Charge Project presentation	
09:30	Agenda Item 1: Opening of meeting and approval of agenda	EMSA/Italy
09:45	Agenda Item 2: Wrap up of previous meeting/approval of minutes	EMSA
10:00	Agenda Item 3: Follow – up actions of the previous meeting	EMSA
10:20	Agenda Item 4: MAREΣ network activity and monitoring	Italy
11:00	Coffee break	
11:20	Agenda Item 5: Status of AIS at the MAREΣ Member states	MAREΣ Member states
12:20	Agenda Item 6: Status of AIS at the MAREΣ Participants States and Observers States	MAREΣ Participant States / Observer States
13:00	Lunch break	
14:30	Agenda Item 7: Status and developments of other regional AIS servers	Norway
14:45	Agenda Item 8: <ul style="list-style-type: none"> • Status of the SAFEMED and the Maritime Safety, Security and Environmental Protection in the Black and Caspian Sea Regions projects • Launching the 2nd phase of the pilot project on T-AIS sharing T-AIS data between individual MAREΣ Member, State(s) and Observer State(s) 	EMSA MAREΣ Member States / Observer States
16:00	Coffee break	
16:20	Agenda Item 9: AIS data buffering	EMSA
16:30	Agenda Item 10: Any other business	All
17:00	End of meeting	



Annex 3 – List of actions

The agreed actions of the meeting are listed below:

Action point 1: Romania will coordinate their activities with EMSA Unit C.4 for the data visualisation in SEG.

Action point 2: EMSA and Italy will assess the request of Croatia to decrease the AIS down-sampling frequency rate from 6 to 1 minute within the IMS/ SEG environment.

Action point 3: Partially pre-filled questionnaires (annexes to MAREΣ Technical manual) will be sent to the MAREΣ participating Countries to update (in January).

Action point 4: The status of actions regarding(a) the delivery to Romania of the AIS data with 1 minute down-sampling, and (b) submission of the information about the AIS status at national level to be annexed to the MAREΣ Technical Manual” will be maintained as “Ongoing” until their execution will be finished. Other actions are considered as “Closed”.

Action point 5: Italy will amend the data tables in the MAREΣ statistics making them more comparable.

Action point 6: MSs will inform RS about the root cause of incidents, and the actions taken (or planned).

Action point 7: The status of the Observers States which started exchanging data with MARES will be discussed at the HLSG.

Action point 8: Subject to the decision of the HLSG, a formal letter inviting to exchange data with Beneficiaries will be sent to Member States. Following that, Member States will provide a formal reply.

Action point 9: The Beneficiary Countries will develop and maintain their AIS infrastructure in compliance with the relevant EU procedures in force (e.g. the data availability standards).

Action point 10: EMSA will present the outcome of the discussion related to Agenda item 8 to the next HLSG.

Action point 11: Testing of the AIS data buffering capabilities will start in February 2019.

Action point 12: The meeting of 2020 may take place in Georgia (indicatively in September).

European Maritime Safety Agency

Praça Europa 4
1249-206 Lisbon, Portugal
Tel +351 21 1209 200
Fax +351 21 1209 210
emsa.europa.eu

