

## Meeting: 17<sup>th</sup> Mediterranean AIS Expert Working Group

**Place and date:** Online meeting, 27 October 2020

**Agenda item:** Status of AIS networks at the MAREΣ Participants States and Observers States

**Document number:** MAREΣ 17/7/1

**Submitted by EMSA**

Summary	This document presents the status of AIS networks at the MAREΣ Participants States and Observers States, as reported at the Mediterranean AIS Expert Working Group meetings.
Action to be taken	As per paragraph 3.
Related documents	16 <sup>th</sup> Mediterranean AIS Expert Working Group Workshop report (24 February 2020).

### 1. Introduction

The status of national AIS networks are regularly updated at the MAREΣ EWG meetings. The summary of information which was collected during the meetings and from the States replies to the questionnaires is presented in paragraph 2.

### 2. Status of AIS networks

#### Georgia:

The AIS network includes 2 BSs covering the area of appr.45 NM from the site location (theoretical calculation). The network can receive all messages (1-27). AIS messages are not transmitted. Since January 2019, Georgia provides data to MAREΣ, on a full data rate (without downsampling). 1. *Is the data downsampling capability supported? If yes, then what setting are/ can be applied?* The applied data throughput was assessed to appr. 65 msg/sec. 2. *Is this the rate for outgoing data (at the server node)? If not, then what is the throughput rate (msg/sec) for outgoing data (at the server node)?* 3. *Is the data filtering capability supported? If yes, then what setting are/ can be applied?* 4. *Is the data buffering and retransmission capability supported by the system (in addition to the MAREΣ NPR)?* Automatic data retransmission is configured on NPR software for the last 12 hours and with the downsampling rate of 360 sec. The assigned capacity of the NPR hosting environment is 12 hours. All AIS messages are stored in the PELAGUS DBMS database. Rough data are stored in DB in NMEA ITU 1371 format. 5. *What is the data storing policy applied?* An automatic provision of archived data is not supported by the system. Data can be retrieved from DB by the IT administrator manually. 6. *Is the installation of several NPRs supported?* 7. *Is the back-up server to ensure the continuation of the service available?* 8. *Is the 24/7 contingency plan maintained?* 9. *Is the 24/7 technical support available?* 10. *Is the status of AIS BSs, communication links and NPR connections monitored? If yes, then how?* In March 2019, a Donation Agreement for delivery of 2 AIS Base Stations and 1 Central Nod was

concluded between the Maritime Transport Agency of Georgia and EMSA. The AIS equipment was received in November 2019. One AIS BS has already been installed at a remote site at 275 meters above the sea level and is operational, the second AIS Base Station will be installed in 2020.

#### **Ukraine:**

The national AIS system consists of three AIS networks: the MSRS maintained network (4 BSs), the Ukrainian Sea and Port Authority maintained network (10 BSs) and the State Hydrographic Service of Ukraine maintained network (15 BSs). *1. What AIS messages (types) are/can be received and transmitted by the system? 2. Is the data filtering capability supported? If yes, then what setting are/ can be applied?* The data downsampling capability is supported. *3. What settings are/ can be applied?* The AIS data to MAREΣ are provided without downsampling (on a full rate). The applied data throughput was assessed to appr. 65 msg/sec. *4. Is this the rate for outgoing data (at the server node)? If not, then what is the throughput rate (msg/sec) for outgoing data (at the server node)? 5. Is the data buffering and retransmission capability supported by the system (in addition to the MAREΣ NPR)?* The assigned space for the buffered data storing (i.e. the NPR hosting environment) is set to 12 hours. A cold stand-by dual NPR configuration is maintained. Automatic retransmission is configured on NPR software for the last 12 hours and with a downsampling of 360 sec. The AIS data of all providers are collected in the main AIS server managed by MSRS. All data is stored in database (PELAGUS DBMS) in the decoded way. Rough AIS data are stored in DB in NMEA ITU 1371 format. The data that have been gathered since the establishment of the system (2010-2012) is currently available. Data is also made available on-line (for one month). The provision of archived/stored data from the DB is available, but only manually (by the IT administrator). The formats used to collect/provide data follow the IEC 61162 and IEC 61993-2 standards. *6. How the stored/archived data are retrieved from the DB?* The installation of several NPRs is supported. The status of AIS BSs, communications and NPR connections can be monitored using the web solution provided by the contractor. Back-up server to ensure the continuation of the service is available. The technical support service (24/7) is available. *7. Is the 24/7 contingency plan available?* The network enhancement is planned in some areas of the Black Sea (5 BSs) and the Azov Sea (3 BSs).

#### **Tunisia:**

The AIS network is based on two base stations installed in harbours of La Goelette and Bizerte. *1. What is the coverage? 2. What AIS messages (types) are/can be received and transmitted by the system?* Since May 2019, the national system provides AIS data to MAREΣ on a full rate (without downsampling). *3. Is the data downsampling capability supported? If yes, then what setting are/ can be applied? 4. Is the data filtering capability supported? If yes, then what setting are/ can be applied?* The applied data throughput was assessed to appr. 65 msg/sec. *5. Is this the rate for outgoing data (at the server node)? If not, then what is the throughput rate (msg/sec) for outgoing data (at the server node)? 6. Is the data buffering and retransmission capability supported by the system (in addition to the MAREΣ NPR)?* A Base Station Controller (ELMAN BCS-1135) is used instead of an NPR. The BCS-1135 includes 4 GB memory for local AIS data storage. The supported data format follows IEC 62320-1 standard. No classic DB is used. However, SQLite DB is used on the Base Station Controller. Messages are automatically retransmitted once the connection is resumed after a connection gap. *7. What is the data storing policy applied?* Standard IEC/NMEA sentences are stored together with extended info used to generate Comment Blocks as per IEC 62320-1 standard. *8. Is the provision of archived data supported by the system? In which format? 9. How the stored/archived data are retrieved from the DB? 10. Is the installation of several NPRs supported?* Back-up servers to ensure the continuation of the service are unavailable yet. A redundant hardware donated by EMSA is going to replace current installation. *11. Is the 24/7 contingency plan available? 12. Is the 24/7 technical support available? 13.*

*Is the status of AIS BSs, communication links and NPR connections monitored? If yes, then how?* Additional 4 BSs are planned, allowing to increase the coastline coverage from 29% to 69%.

#### **Montenegro:**

The existing network of 3 BSs provides full coverage of the coastal area. The AIS system provides information to the VTS, SAR and ADRIREP systems. *1. What AIS messages (types) are/can be received and transmitted by the system?* The data throughput for national server has been assessed to appr. 65 msg/sec. *2. Is this the rate for outgoing data (at the server node)? If not, then what is the throughput rate (msg/sec) for outgoing data (at the server node)?* Montenegro exchanges data with MAREΣ on a full rate (without downsampling). *3. Is the data downsampling capability supported? If yes, then what setting are/ can be applied?* *4. Is the data filtering capability supported? If yes, then what setting are/ can be applied?* The data buffering capability is ensured by the MAREΣ NPR. The assigned capacity of the NPR hosting environment relates to 12 hours of buffering. Automatic retransmission is configured on NPR software for the last 12 hours of data with a downsampling of 360 sec. Raw AIS data is stored daily in IEC 62320 format, on file system for the last 60 days. In the DB, all data is stored in NMEA ITU 1317 format. The data retransmission is unsupported. Data from DB can be retrieved and resend by IT administrator. *5. Is the installation of several NPRs supported?* *6. Is the back-up server to ensure the continuation of the service available?* *7. Is the 24/7 contingency plan maintained?* *8. Is the 24/7 technical support available?* *9. Is the status of AIS BSs, communication links and NPR connections monitored? If yes, then how?* Projects related to the VTMISS and maritime surveillance improvements are ongoing.

#### **Morocco:**

The AIS network is based on 14 shore-based stations (3 along the Mediterranean coast and 11 along the Atlantic coast). The coverage is considered as good, but only for the covered areas. The entire coastline is not covered. *1. What AIS messages (types) are/can be received and transmitted by the system?* By the actual downsampling policy adopted, the national system is delivering AIS data to MAREΣ with 6 minutes downsampling. *2. Is the data filtering capability supported? If yes, then what setting are/ can be applied?* The applied data throughput was assessed to appr. 65 msg/sec. *3. Is this the rate for outgoing data (at the server node)? If not, then what is the throughput rate (msg/sec) for outgoing data (at the server node)?* *4. Is the data buffering and retransmission capability supported by the system (in addition to the MAREΣ NPR)?* *5. What is the assigned space for the buffered data storing (i.e. the NPR hosting environment)?* The supported format of data: IEC 62320-1. *6. What is the data storing policy applied? What is the data storing format?* *7. Is the provision of archived data supported by the system? In which format?* *8. How the stored/archived data are retrieved from the DB?* *9. Is the installation of several NPRs supported?* *10. Is the back-up server to ensure the continuation of the service available?* *11. Is the 24/7 contingency plan maintained?* *12. Is the 24/7 technical support available?* *13. Is the status of AIS BSs, communication links and NPR connections monitored? If yes, then how?* Relocation of the AIS server to Casablanca is planned for 2020.

#### **Jordan:**

The AIS network includes 1 shore-based station providing coverage in the Gulf of Aqaba. *1. What AIS messages (types) are/can be received and transmitted by the system?* By the downsampling policy adopted in MAREΣ, the national system was delivering AIS data to MAREΣ without downsampling (at a full rate). *2. Is the data downsampling capability supported? If yes, then what setting are/ can be applied?* *3. Is the data filtering capability supported? If yes, then what setting are/ can be applied?* *4. Is the data buffering and retransmission capability supported by the system (in addition to the MAREΣ NPR)?* *5. What is the assigned space for the buffered data storing (i.e. the NPR hosting environment)?* The data throughput is assessed to

appr. 60 msgs/sec. 6. *Is this the rate for outgoing data (at the server node)? If not, what is the throughput rate (msg/sec) for outgoing data (at the server node)?* The supported format of data is IEC 62320-1. 7. *What is the data storing policy applied? What is the data storing format?* 8. *Is the provision of archived data supported by the system? In which format?* 9. *How the stored/archived data are retrieved from the DB?* 10. *Is the installation of several NPRs supported?* 11. *Is the back-up server to ensure the continuation of the service available?* 12. *Is the 24/7 contingency plan maintained?* 13. *Is the 24/7 technical support available?* 14. *Is the status of AIS BSs, communication links and NPR connections monitored? If yes, then how?*

### 3. Action required

MAREΣ Participants States and Observer States are invited to **update** the collected information on the status of their national AIS networks.