

Meeting Report

5th EMSA/ Italy/ Norway meeting on AIS Regional servers

Online meeting

12 January 2021

Version: V.1.0

Date: 01 February 2021

Introduction

As a follow up to the 4th meeting on AIS Regional Servers (Oslo, 29 August 2019), the European Maritime Safety Agency (EMSA) invited representatives of the Norwegian Coastal Administration (NCA) and the Italian Coast Guard (ICG) to a technical (on-line) meeting to evaluate the performance of the three AIS Regional Servers (MAREΣ, HELCOM, North Sea/Atlantic) and discuss their further improvements. The meeting was handled, through MS Teams application, on 12 January 2021, according to the attached agenda (**Annex 1**). The list of participants is attached as **Annex 2**.

Meeting Programme

Agenda Items 1 and 2: Opening of meeting and approval of the agenda

Mr. Lazaros Aichmalotidis of EMSA opened the meeting and welcomed the participants. He remarked the importance of these meetings and introduced the main objectives of the meeting, including the status of the SLAs amendment, the assessment of the further operational and technical improvements and new possible services, such as the exchange of radar data.

The participants **approved** the agenda.

Agenda Item 3: Follow-up actions of the previous meetings

EMSA presented the updated status of actions agreed at the previous meetings noting that most of actions have been executed. EMSA reminded the open action points, as follows:

1st meeting (Lisbon, 07 February 2017)

- 1) Additional methods and procedures for the data retransmission/uploading (AP7):** EMSA proposed to maintain this action point as “ongoing”. A relevant requirement is also included in the SLAs.
- 2) Defining the standardised requirements for the RSs and further harmonisation (AP9):** EMSA proposed to maintain this action point as “ongoing”. EMSA, Italy and Norway will work further on the standardised requirements for the RSs allowing their further harmonisation. The agreed solutions will then be reflected in the future amendments of SLAs.
- 3) Data coverage maps service in MAREΣ (AP10):** EMSA proposed to consider this action point as “completed”. Italy presented the AIS coverage monitoring tool at the 17th MAREΣ EWG.
- 4) Quality indicator in the comment block (as well any other indicator) (AP11):** EMSA proposed to consider this action point as “closed”, as it is included in the list of actions of the 3rd meeting on regional AIS servers.

2nd meeting (Rome, 10 August 2017)

- 1) Working on the quality issues (AP1):** EMSA proposed to maintain this action point as “ongoing”.

3rd meeting (Venice, 28 November 2018)

- 1) Buffered data downsampling by NPRs and downsampling settings configuration capability (AP4):** EMSA proposed the status of this action point as “completed”. The agreed technical amendment to SLAs (2021) describes NPRs functionalities, stating that the buffered data down sampling (as a new functionality) can be agreed and implemented, if required.

- 2) Reception and forwarding of data from the Member States (i.e. also “old” data) (AP6):** EMSA proposed to maintain this action point as “ongoing”. The requirement is included in the amendment to SLAs (2021).
- 3) Further proposals of additional method and procedures for data retransmission/ uploading (AP9):** EMSA proposed to maintain action point as “ongoing”. Any additional methods can be proposed, when required.
- 4) ICG presentation on the data coverage maps service (AP10):** EMSA proposed to agree the status of this action point as “completed”. Italy presented the new service to the 17th MAREΣ EWG.
- 5) Making available a quality indicator in the comment block (as well any other indicator) (AP11):** EMSA proposed to maintain this action point as “ongoing”. Any additional proposals might be submitted, when required. A new requirement to include BSs identifiers in the AIS messages (if available) is included in the SLA amendment (2021).
- 6) Role of RS administrator description in IFCD (AP12):** EMSA proposed the status of action point as “open” until its execution.
- 7) New procedure for data retransmission by RSs (AP16):** EMSA proposed the status of action point as “completed”. The procedure was provided to RSs by EMSA 3.1 and is stated in the SLA technical amendment (2021).
- 8) Assessing the Polish experience in developing the data retransmission functionality in their national system (AP17):** EMSA proposed to consider the status of action point as “closed”. It may be re-opened when any additional information will be available.
- 9) Data buffering by the SSN proxy application (RH) tests (AP18):** EMSA informed that testing was postponed to 2021 and proposed to maintain the status of action point as “open” until its execution.
- 10) Creating the workspace on EMSA’s website for publishing the meetings minutes (AP23):** EMSA proposed to consider this action point as “completed”. Reports were published on the EMSA website, in section “Events - Workshop materials and reports”.

4th meeting (Oslo, 29 August 2019)

EMSA introduced the status of actions agreed at the 4th meeting as follows:

AP1 – Completed. The summary of actions was attached to the report of 4th meeting. Updates (if any) will be presented at the next meetings. The list will be updated after each meeting.

AP2 - Completed. Video meetings were conducted with the ICG on 11.09.2029 and 16.12.2019. Meeting with the NCA took place at EMSA on 15.11.2019. STAR RH are installed and operated by RSs.

AP3 - Completed. The NCA plan to provide data to EMSA in two parallel streams (i.e. active – active mode) was discussed at the EMSA/NCA meeting (15.11.2019). It was concluded that EMSA cannot monitor this solution and the RS shall maintain the switch-over solution.

AP4 – Open.

Italy informed that they will not implement this functionality. The MAREΣ application includes a tool allowing the ICG personnel on duty to monitor the time synchronisation. In case of detected asynchronisation, the duty officer will contact MS. **Norway** informed that currently it is working on upgrading the monitoring tool. Implementation of a time synchronisation warning will be assessed in the framework of this upgrade. Currently all participating states can get this information on the NSATL and HELCOM RSs monitoring pages. Considering the above comments, the participants **agreed** the status of action point 4 as “closed”.

AP5 – Completed. The item was discussed at the EMSA/RSs video meetings on to the RH installation.

AP6 - Completed. Included in the agreed technical amendments to SLAs (2021).

AP7 – Open.

Italy informed that NPRs in MAREΣ are based on the “time window” solution and this solution should not be changed. Instead, it is possible to increase the time setting (i.e. more than the existing 12 hours), if required. The participants **agreed** that RSs will continue maintaining their existing solutions on the data buffering by NPRs (i.e. the “data amount calculation” solution in NSATL/HELCOM and the “time calculation” solution in MAREΣ) (**Action point 3**). The status of AP7 was agreed as “**completed**”.

AP8 – Completed. Requirements regarding the NPR capabilities are included in the SLA amendment 2021.

AP9 – Ongoing. A new solution on AIS data manual retransmission by MSs through the NPR was presented to the 31st HELCOM EWG, 6th NSATL EWG and 17th MAREΣ EWG. The MAREΣ 17th EWG agreed that EMSA, Norway and Italy will draft a paper to be presented to the MSs. In December 2020, Norway provided information for the joined paper and Italy assessed the proposed solution.

AP10 – Completed. Included in the SLA technical amendment 2021.

AP11 – Open.

The stored data retransmission functionality (manually, through the RH application) was implemented by EMSA in May 2020. The functionality was tested by RSs; it was concluded that MAREΣ needs some additional implementation related to the data storing format. Following the status confirmation by Italy, the status of action point was changed to “**ongoing**” until completing the agreed testing.

AP12 – Completed. The RS TMs are published on EMSA web (restricted). MSs not provided information to the Manuals (annexes) were reminded at the EWG meetings.

AP13 – Ongoing. EMSA is working on the draft Manual.

AP14 – Open. The planned activities were postponed and should be executed in 2021.

AP15 – Open. Due to the COVID-19 situation, the planned activities were postponed to 2021.

AP16 – Completed. EMSA concluded that introducing of 2 separate codes for data stream from Portugal is not required.

AP17 – Completed. The item was presented at the 16th MAREΣ EWG and 6th SSN/LRIT WS. The NSATL and HELCOM MSs already use several NPRs for their connections. Italy is assessing the possibility of introducing additional NPRs in MAREΣ. Italy shall present the results of the assessment e.g. at the next MAREΣ EWG (**Action point 2**).

AP18 – Completed/Ongoing. The meetings minutes are published on the EMSA website. This action will be maintained as “ongoing”.

AP19 – Completed. Participation of Georgia, Ukraine and Jordan in MAREΣ (on the pilot basis) was agreed at HLSG 6 and the 16th MAREΣ EWG and was included in the SLA amendment (2021).

AP20 – Completed. The SLA proposed amendments were sent to the RSs in April 2020 and agreed between EMSA and RSs hosting authorities in September 2020. The draft SLAs amendment (as Amendment No1) will be proposed for approval to EMSA AB (March 2021).

AP21 – Completed. The report of the 4th meeting was drafted on 09.09.2019. Inputs proposed by the ICG (16.09.2019). The report was published at the EMSA website.

AP22 – Ongoing. Any relevant inputs can be provided. The status of this AP is maintained as “Ongoing”

Summarising the above actions, the meeting **agreed** to update the status of action points from the previous meetings, as follows (**Action point 1**):

- 1st meeting (Lisbon 07 February 2017): AP7 – Ongoing; AP9 – Ongoing; AP10 – Completed; AP11 – Closed.
- 2nd meeting (Rome, 10 August 2017): AP1 – Ongoing.
- 3rd meeting (Venice, 28 November 2018): AP4 – Completed; AP6 – Ongoing; AP9 – Ongoing; AP10 – Completed; AP11 – Ongoing; AP12 – Open; AP16 – Completed; AP17 – Closed; AP18 – Open; AP-23 – Completed.

- 4th meeting (Oslo, 29 August 2019): AP1-Completed; AP2 – Completed; AP3 – Completed; AP4 – Closed; AP5 – Completed; AP6 – Completed; AP7 – Completed; AP8 – Completed; AP9 – Ongoing; AP10 – Completed; AP11 – Ongoing; AP12 – Completed; AP13-Ongoing; AP14 – Open; AP15 – Open; AP16 – Completed; AP17 – Completed; AP18 – Ongoing; AP19 – Completed; AP20 – Completed; AP21 – Completed; AP22 – Ongoing.

The updates list of actions is attached as **Annex 3**.

Agenda Item 4: The RSs performance in 2020

EMSA introduced the main activities involving regional AIS servers in 2020.

Three AIS experts working groups (EWGs) meetings took place in 2020: 31st HELCOM EWG (9-10 June 2020), 5th NSATL EWG (06 October 2020) and 17th MAREΣ EWG (27 October 2020).

Development of the 2nd AIS datacentre in Norway was finalised and the datacentre was reported as operational since August 2020.

Migration from the SSN SI to the STAR RH solution was successfully concluded. The SSN SI solution to transmit data to the SSN production environment was phased out in September for NSATL/HELCOM, and in November for MAREΣ. The SSN SI is still maintained by NSATL (upon EMSA's request) to support the streaming of data to PL and PT.

A pilot project on the AIS data exchange between MAREΣ MSs and SAFEMED/BCSEA countries is ongoing. For the BCSEA users (Georgia and Ukraine) the access to SEG was opened in August-September. The access configuration for the MSs users of the MAREΣ region was started in September 2020.

New functionalities have been implemented in RSs: the AIS coverage monitoring functionality in MAREΣ and the status monitoring by MSs functionality in NSATL/HELCOM. In addition, EMSA has implemented the RS stored data retransmission to SSN solution.

Also, in 2020 EMSA and the RSs hosting authorities (NCA and ICG) agreed the SLAs amendments. It is planned that the amendments might come into force on 1 May 2021 (after EMSA AB approval).

EMSA presented statistics on the RSs downtimes in 2020 (11 months period). In total, 34 downtimes (30 incidents and 4 planned interventions) with a total duration of &7.5 hours have been recorded by the MSS.

The incidents reporting, delays in providing the agreed reports, reaction time on the requests were stated as issues to be improved. It was also noted that the use of SSN environments will require introducing a new procedure.

The participants **noted** the provided information.

Agenda Item 5: The ongoing and planned activities

Norway briefly presented the implemented solution with two datacentres which allows MSs to stream their data to two AIS centres in parallel, by using the same NPR application. The MSs data delivery will not be interrupted in the cases when one of servers is malfunctioning.

Italy presented the AIS coverage monitoring tool, which recently was introduced in MAREΣ. The tool was uploaded on MAREΣ on 12 October 2020. The method applied in this tool, involves the creation of a grid which is composed by cells of the fixed size to determine, in a given time period, the following data: total number of AIS tracks received in the cell; the number of AIS track received for the first time in the cell (born in the cell); the number of AIS track last received in the cell (death in the cell). AIS coverage is estimated for the following three different time periods: 1 hour, 12 hours, 1 day, 1 week and 1 month.

The tool can estimate the AIS coverage assured by MAREΣ and by each participating Country. Potentially it may also calculate coverage by each AIS Base Station, whether this information is available in the comment

block associated to the VDM string delivered by the participating network. The calculated AIS coverage can be provided to users in three different ways: via the GIS, via the AIS stream, and via the Web Map Server.

Italy introduced also the second recent development in MAREΣ – the identification of the synchronization status. This development is based on the international requirement that the Class A AIS mobile station has to be fitted with an internal GNSS receiver providing the clock which is necessary to ensure the correct synchronization of its own transmissions. In order to provide users with information on the synchronization status of the mobile stations, the MAREΣ GIS has been integrated with the synchronization status information that indicates those targets that have a “sync state” other than “zero”. It is planned that this tool will be used also by the ICG PSC officers for their inspections. Also, coastal stations may warn ships (e.g. through radio communications) about their status.

EMSA **remarked** the importance of the presented implementations and noted that there are also some potentials for RSs to align these developments. Regarding the AIS coverage monitoring, EMSA noted that this tool could be introduced to the SSN users for the entire EU area. Italy **agreed** to present the tool to the SSN group (**Action point 4**).

Italy and Norway **agreed** to update the RS Technical Manuals by including information about the presented services. EMSA will provide RSs with the TM word versions to be updated (**Action point 5**).

Regarding the BREXIT status, EMSA **informed** that if it will be requested by the UK, the streaming of AIS data from the UK (NSATL region) and Gibraltar/UK (MAREΣ region) towards EMSA shall be closed.

EMSA briefly presented the planned implementation of the “back-up RH”. The planned application will monitor the RHs connections and, in the case of detecting unavailability of RH or the incoming stream, it will ensure automatic switch from the main RH to the defined back-up RH, and vice versus, in accordance with the defined rules.

Norway remarked that this would be a very good solution allowing an operative switching between the data streams. **EMSA** reminded that by implementing this solution, the selection of RH for data providing towards SSN will remain under the responsibility of the RSs.

Agenda Item 6: Status of the SLAs amendment

EMSA recalled the previous actions regarding the amendments of the SLAs. The SLAs amendment was first discussed at the 4th EMSA/ Italy/ Norway meeting (Oslo, 27.08.2019). Following that, the items to be amended were discussed and agreed through exchange of e-mails and during video meetings, e.g. EMSA/ICG/NCA video meetings of 03.09.2020. The agreed SLA amendments (drafts) were confirmed by the ICG on 30.09.2020 and the NCA on 15.09.2020. The status information was provided to the NCA on 9.11.2020 and the ICG on 18.11.2020. The latest inputs during the Amendments revision were communicated in December 2020. The amendments will be proposed for consideration to the next AB meeting (planned 17 March 2021).

The planned steps were introduced, as follows:

- Amendments revision by EMSA's services (January 2021);
- Pending the ED decision, the amendments will be proposed to the EMSA AB for approval (March 2021);
- Pending the AB decision, the amendments will be proposed for signing to the ICG and NCA (end-March – beginning of April 2021);
- The amendments will be signed by the relevant parties (mid-April 2021);
- The amended SLAs will enter into force (planned from 1 May 2021), for a period of one year (i.e. until 30 April 2022).

As the current SLAs terminate on 29 February 2021 and the EMSA AB meeting is planned for 17 March 2021 (i.e. after the SLAs end-date), EMSA, Italy and Norway **agreed** the following regarding renewal of the existing SLAs (**Action point 6**):

- a. The current SLAs (2018) will be renewed on 01.03.2021, automatically (as per Article 2.4), under the existing conditions;
- b. Italy and Norway will not request for the pre-financing payment following the SLAs renewal;
- c. The period between the SLAs renewal date (01.03.2021) and the date when the SLAs Amendments will come into force (planned 1 May 2021) will be paid as a balance payment, by the end of that

period. The price for that period will be based on the existing price of current SLAs 2018 (Art.4.1) and the number of days in that period, and calculated using the following formula:

*The SLA current price (SLA 2018, Art.4.1) / 365 (number of days in 2021) = DP (price per 1 day in 2021).
DP x ND (the number of days in the period) = PP (price per the period).*

EMSA **invited** Italy and Norway to coordinate this action with their financial services. The participants also **agreed** that after the meeting EMSA will provide the latest versions of amendments (drafts) and the SLAs consolidated versions (drafts) to Italy and Norway, for information (**Action point 7**).

Agenda Item 7: Open issues

EMSA presented the issues related to the AIS data exchange that were consulted with RSs.

Extended coverage in the MAREΣ area

A non-realistic coverage of Spanish AIS network was observed in the Atlantic region during the summer-autumn period. In some cases, the positions reported with the ESP origin were detected e.g. 300 and 600 NM from the nearest BS. Following the assessment by MAREΣ, it was concluded that this anomaly might be created by the “duct effect”.

EMSA invited the participants to discuss this issue, as it is important to understand if it relates to a technical problem, e.g. conversion of the data source by the data provider’s system (S-AIS to T-AIS). **Italy** stated that new technology BSs can detect very low signals (i.e. also signals from big distances), and this might be such a case. **Norway** asked if the detected positions were confirmed by other sources of data, i.e. LRIT. **EMSA** informed that SEG displays all AIS positions as received from the data providers. However, the SEG application does not sort the data visualisation per data origin.

Following the discussion, the participants **agreed** to conduct joined evaluations of the detected extended coverage, when required. A new MAREΣ tool on the AIS coverage monitoring could be used to support these tasks (**Action point 8**).

AIS positions downsampling by Norway

EMSA noted that in certain cases, the NSATL RS provided AIS positions in packets (2-3 positions in one packet), with the space of appr. 1 min. between the positions and with the space of appr. 6 minutes between the packets. The issue was communicated to Norway for their assessment. Following the assessment, the NCA informed that there is no downsampling at the RS level. As down sampling is done at the CSAP User Proxy before the data is sent to the Regional Server, in some cases when a vessel is being picked up by 2 or more Member States, it’s quite possible that SSN gets this data faster than the downsampling rate. The solution might be downsampling at the server’s level. However, any downsampling by the servers already was found as technically heavy and was replaced by downsampling at the NPRs.

EMSA stated that, in principle, this issue should not cause major impact to the systems except for storing the additional number of positions. **Norway** will evaluate if any additional downsampling might be implemented, e.g. on NPRs or the RS level (**Action point 9**). **EMSA** will assess if there is any significant impact to the systems when data are received from NSATL (**Action point 10**).

Fake ships positions reported

EMSA noted that a high number of ships records with only one position was detected in the OVR database (over 124 000 records in 2019). In most cases only the MMSI is available, which does not correspond to any active vessel. Italy, Norway and UK were asked to investigate the issue. It was found that such reports are provided by all networks. Since 25 September 2020, Norway provides their national AIS data to SSN with the “corrupted positions” filtering applied (for testing purposes). The issue was presented also to MAREΣ 17th EWG. MSs were asked to assess the quality of data received in their networks. The EWG agreed that EMSA/Italy/Norway will continue assessing the issue.

EMSA informed that there three opinions on possible solutions received so far:

- apply the data filtering;
- mark all doubtful positions;
- leave those positions “as they are”.

The third solution was not supported, as any new “fake” MMSI is considered as a new ship, and the system generates a new record in the OVR database.

Norway confirmed that they are filtering national AIS data for the VTS purposes. If required, Norway can apply the same filtering also to the regional servers. **EMSA** stated that any filtering of data should be decided by the data owners – Member States. **Italy** stated that it is important to understand what is the “fake data” and to invite participating States to assess the technical limitations of their networks. **Italy** also informed about their position not to apply any filtering of data, as these data can be used to evaluate the network’s performance.

Following the discussion, the participants **agreed** to work further to find the best solution and **agreed** the principle of data integrity needs to be respected and the data will not be filtered by RSs or EMSA. EMSA, Italy and Norway will continue evaluating how to improve “fake” data detection and presentation, without polluting databases (**Action point 11**). **Italy** proposed to ask the participating States if their networks discard non-correct information. **EMSA** will present the issue to the SSN Group (**Action point 12**).

Stored data retransmission by Member States

EMSA reminded that in 2019, the solution on the data retransmission was tested by Norway and Belgium, and the solution was complicated. On 04.05.2020 EMSA, ICG and NCA agreed that Norway will work on an alternative data retransmission solution, in cooperation with their contractor. The solution would then be proposed to the MSs, and Italy would assess if the solution could be implemented in MAREΣ. Italy started assessing the NPRs hosting conditions in the MAREΣ region. The new solutions on AIS data manual retransmission was presented by Norway to the 31st HELCOM EWG; 5th NSATL EWG and 17th MAREΣ EWG. It was also agreed that EMSA, Norway and Italy will draft a paper to present to the MSs.

EMSA informed that Norway already provided their inputs for the joined paper. **Italy** informed that the implementation of the “Norwegian solution” could be possible also in MAREΣ, however it would require upgrading NPRs in MAREΣ. Currently, the basic solution in MAREΣ is the data files transfer by MS and the data manual uploading by the ICG personnel, and this solution would be maintained. The issue is with the data storing format in MSs, as not all MSs replied correctly to the ICG questionnaire.

The meeting **agreed** that EMSA, Italy and Norway will continue working on the data retransmission by MSs proposals. Italy will provide inputs regarding the required data format to the joined EMSA/ Italy/Norway paper to be presented to SSN group (**Action point 13**).

Stored data retransmission by RSs

In May 2020, EMSA introduced solution for the stored data manual retransmission by RSs, through the RH application. The data shall be prepared in the agreed format and uploaded manually to the RH “deposit box”. The RH then will manage the data retransmission and injection. The solution was tested by RSs and it came out that MAREΣ needs some additional implementation related to the data storing format. In September 2020, the ICG informed that the script was created and will be uploaded to prepare the system.

Italy confirmed that the required script was created and implemented and the ICG is ready to start testing. EMSA and Italy **agreed** to coordinate and execute tests on the MAREΣ capability to retransmit data through the RH application (**Action point 14**). **Italy** proposed to continue working also on defining the data automatic retransmission solution.

Any other business

Radar data exchange

EMSA invited participants to discuss an additional topic related to the radar data exchange and recalled the pilot project on VTS-radar data exchange conducted by EMSA and Italy in 2009-2011. At that time Italy developed a software for providing radar data to SSN using the IEC format. Outcomes of the pilot project

could be a good starting point to reactivate the project. The service could include a new layer in e.g. SEG, presenting ships positions from radars. This layer could be used by the services for “non-cooperative targets” monitoring. Some institutions already have a great interest in exchanging the radar data.

Italy informed that the exchange of radar information is technically possible by using binary messages or through the “inter-VTS” messages. An international standard is described in the IMO Circular 289. To reactivate the project, Italy would firstly need to assess if the tool which was created for the pilot project is still available.

Norway informed that since April 2020 they are running the project on monitoring the radar’s signals. Radar data are available in the GEOJSON format, allowing to provide this picture in an easier way. Data are stored in DB and then merged with AIS data. Norway will provide to EMSA and Italy information on this solution (**Action point 15**).

The participants **agreed** to organise a separate meeting to discuss the radar data exchange project (**Action point 16**).

Exchange of AIS data from patrol boats

Italy informed that their national network is linked with the ICG patrol vessels, allowing to increase the monitoring capabilities and enriching the coastal AIS data with data from patrol vessels. Italy proposed to start testing providing of this data to SSN, e.g. as a second stream.

EMSA and Italy **agreed** to work further on this proposal (**Action point 17**).

Summary of actions agreed

Lazaros Aichmalotidis thanked the participants for attending the meeting and presented the summary of discussions. EMSA will prepare a draft report which will be shared with the ICG and NCA for their comments and inputs (**Action point 18**).

The list of actions agreed at the meeting is presented in **Annex 3**.

Annexes

- Annex 1 – Agenda
- Annex 2 – List of participants
- Annex 3 – List of agreed actions
- Annex 4 - Summary of actions

Annex 1: Agenda¹

5th EMSA/Italy/Norway meeting on Regional AIS servers


Draft agenda

On-line (*Microsoft Teams application*) meeting

Thursday, 17 December 2020

Time	Agenda Item	Speakers
09:30	Agenda Item 1: Opening of meeting and approval of agenda	EMSA
09:35	Agenda Item 3: Follow – up actions of the previous meetings	EMSA
09:50	Agenda Item 4: The RSs performance in 2020	EMSA
10:00	Agenda Item 5: The ongoing and planned activities: <ul style="list-style-type: none"> - 2nd data centre in Norway; - New functionalities of MAREΣ; - EMSA's planned implementations; - BREXIT. 	EMSA/Italy/Norway
10:30	Agenda Item 6: Status of the SLAs amendment. Further steps.	EMSA/Italy/Norway
10:45	Agenda Item 7: Open issues: <ul style="list-style-type: none"> - Solution to support the data retransmission by MSs; - Data retransmission by RSs; - Increasing the data buffering capacity for MAREΣ MSs; - "Fake ships positions". 	EMSA/Italy/Norway
11:15	Any other business	EMSA/Italy/Norway
11:25	Summary of actions agreed	EMSA
11:30	End of meeting	

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 Electronically signed on 26/11/2020 14:21 (UTC+01)

¹ Note: EMSA, Italy and Norway agreed to change the meeting date to 12 January 2021.
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Annex 2: List of participants

1. Giuseppe Aulicino (ICG)
2. Marco G.P. Tomaino (ICG)
3. Massimo Marrazzo (ICG)
3. Jon Leon Ervik (NCA)
7. Harald Åsheim (NCA)
8. Malin Dreijer (NCA)
9. Lazaros Aichmalotidis (EMSA)
10. Edmunds Belinskis (EMSA)

Annex 3: List of actions

The agreed actions of the meeting are listed below:

AP1. The status of action points from the previous meetings is updated, as follows:

- 1st meeting (Lisbon 07 February 2017): AP7 – Ongoing; AP9 – Ongoing; AP10 – Completed; AP11 – Closed.
- 2nd meeting (Rome, 10 August 2017): AP1 – Ongoing.
- 3rd meeting (Venice, 28 November 2018): AP4 – Completed; AP6 – Ongoing; AP9 – Ongoing; AP10 – Completed; AP11 – Ongoing; AP12 – Open; AP16 – Completed; AP17 – Closed; AP18 – Open; AP23 – Completed.
- 4th meeting (Oslo, 29 August 2019): AP1-Completed; AP2 – Completed; AP3 – Completed; AP4 – Closed; AP5 – Completed; AP6 – Completed; AP7 – Completed; AP8 – Completed; AP9 – Ongoing; AP10 – Completed; AP11 – Ongoing; AP12 – Completed; AP13-Ongoing; AP14 – Open; AP15 – Open; AP16 – Completed; AP17 – Completed; AP18 – Ongoing; AP19 – Completed; AP20 – Completed; AP21 – Completed; AP22 – Ongoing.

AP2. Italy will present the results of assessment on introducing additional NPRs in the MAREΣ at the next MAREΣ EWG.

AP3. RSs will continue maintain their existing solutions on the data buffering by NPRs (i.e. the “data amount calculation” solution in NSATL/HELCOM and the “time calculation” solution in MAREΣ)

AP4. Italy will present the AIS coverage monitoring tool to the SSN group (tent. March 2021).

AP5. Italy and Norway will update the RS Technical Manuals by including information about the developed new services. EMSA will provide RSs the TM word versions to be updated (April 2021)

AP6. A pre-financing payment will not be requested following the automatic renewal of SLAs (01.03.2021). The period between the SLAs renewal date (01.03.2021) and the date when the SLAs Amendments will come into force will be paid as a balance payment, by the end of period. The price for that period will be based on the existing price of current SLAs 2018 (Art.4.1) and the number of days in that period and calculated using the agreed formula (as described in Agenda item 6).

AP7. After the meeting, EMSA will provide the latest versions of Amendments (drafts) and also the SLAs consolidated versions (drafts) to Italy and Norway, for their information (January 2021).

AP8. EMSA, Italy and Norway will conduct joined evaluations of the detected anomalies in the AIS coverage, when required.

AP9. Norway will assess if any additional downsampling might be implemented, e.g. on NPRs or the RS level (March 2021).

AP10. EMSA will assess impacts to the systems if the clustered data are received from NSATL (March 2021).

AP11. EMSA, Italy and Norway will follow the principle of data integrity, where the data will not be filtered by RSs or EMSA and will continue evaluate how to improve “fake” data detection and presentation, without polluting databases.

AP12. EMSA will present the “fake ships positions” issue to the SSN Group (tent. March 2021)

AP13. Italy will provide inputs on the format of retransmitted data to the joined EMSA/ Italy/Norway paper to be presented to SSN group (February 2021)

AP14. EMSA and Italy will coordinate and execute tests on the MAREΣ capability to retransmit data through the RH application (February – May 2021)

AP15. Norway will provide to EMSA and Italy information on the radar data exchange solution (March 2021)

AP16. A meeting on the radar data exchange will be conducted by EMSA, Italy and Norway (TBC)

AP17. EMSA and Italy will test the Italian patrol boats AIS data exchange (TBD).

AP18. EMSA will prepare a draft report which will be shared with the ICG and NCA for their comments and inputs (January 2021).

Annex 4: Summary of actions

AP opened	Status updates	AP closed	Action point
1 st meeting (Lisbon 07 February 2017)			AP1. The obligation to share the technical documentation of the RSs and procedure on how to maintain and update it will be reflected in the SLAs.
		2nd meeting (Rome, 10.08.2017)	Completed. A relevant clause regarding the technical documentation of the Regional Server hardware and software was included in the SLAs amendments (to the Preamble, Article 3.2 and Annex 6 of the SLAs).
			AP2. EMSA noted that the current SLA the Agency signed with Norway needs to be amended to reflect the applied technical solution (two servers instead of three RSs - North Atlantic, North Sea and Helcom RSs). EMSA and Norway will discuss amending the SLA during its next revision to reflect the applied technical solution.
		2nd meeting (Rome, 10.08.2017)	Completed. Amendments to reflect the NCA's applied technical solution were included in the SLA proposal (as amendments to the Title, Art. 1.2 and Art. 3.2 of the SLA).
			AP3. The NCA will assess and propose the possibility of integrating of the North Atlantic and North Sea Experts Working Groups and propose merging the two groups at the next meeting of the EWGs.
	2nd meeting (Rome, 10.08.2017)		Open. Open issue. The possibility of integrating the North Atlantic and North Sea Experts Working Groups (EWG) will be discussed at the next EWG meeting on September 2017. Following that, some amendments to the draft SLA might be proposed by the NCA (i.e. regarding the name of the Regional server).
		3rd meeting (Venice, 28.11.2018)	Completed. NSATL EWG 1 agreed to merge both groups (Brussels, 11.09.2017). RS was renamed to North Sea/Atlantic RS. (NSATL EWG 1 minutes)
			AP4. EMSA will gather information from ICG to understand if it is possible to pass on to the SSN-SI the special mark indicating the buffered data.
		2nd meeting (Rome, 10 August 2017)	Completed. A discussion between EMSA (C.4) and the ICG took place during March – April 2017, and the solution to sort messages on bases of the time stamp was selected by EMSA C.4. Implemented as SSN SI V.1.1.1.
			AP5. The NCA will request the historical AIS database of the Helcom and North Sea region from Denmark through the Helcom Secretariat.
	2nd meeting (Rome, 10.08.2017)		Open. The NCA was in contact with DMA, but the database has not yet been delivered. (2nd meeting on regional AIS servers, Annex 3)
		3rd meeting (Venice, 28.11.2018)	Closed. The NCA informed that the issue regarding the transfer of historical AIS database of the HELCOM and North Sea region from Denmark was discussed with the DMA but was not conclusive due to reorganisations in the DMA. The status of action point regarding the transfer of historical AIS database of the HELCOM and North Sea region from Denmark is considered as closed.
			AP6. Italy and Norway will maintain the automatic data retransmission approach as the basic option, and the manual retransmission as an alternative option utilised for specific cases. This will be reflected in the next SLA proposal.
		2nd meeting (Rome, 10.08.2017)	Completed. A requirement is included in the SLAs proposal (as amendments to Art. 3.6 of Annex 2 of the SLAs).
			AP7. EMSA will further evaluate and propose if any additional method and procedures for the data retransmission/uploading needs to be introduced.
	2nd meeting (Rome, 10.08.2017)		Ongoing. The issue is opened for further working. A relevant requirement is included in the SLAs proposal (as amendments to Art. 3.7 of Annex 2 of the SLAs).

1 st meeting (Lisbon 07 February 2017)	3rd meeting (Venice, 28.11.2018)		Agreed to keep the status of this action point as “ Ongoing ”. Additional method might be proposed when required. (3 rd meeting, Action point 9)
	4 th meeting (Oslo, 29 August 2019)		Ongoing . The status of this action point was confirmed as “Ongoing”.
	5 th meeting (Online, 12 January 2021)		Ongoing . A new solution to retransmit the RS stored/buffered data through the SSN HR “drop-in box” was implemented by EMSA in May 2020. Any new proposals may be submitted when required.
	AP8 . Italy will present the systems synchronisation issue at the MAREΣ EWG and will request MSs to use a commonly agreed method for time-synchronisation of their systems.		
	2nd meeting (Rome, 10.08.2017)		Open . Is planned to be presented at the next MAREΣ EWG (November-December 2017).
		3 rd meeting (Venice, 28.11.2018)	Completed . The status of action point is considered as closed until Member States will upgrade their national networks with BSs fully complying with the international standards (3rd meeting on regional AIS servers, Action point 2) The issue was presented at the MAREΣ EWG 15, HELCOM EWG, NSATL EWG and SSN/LRIT 5. MSs were invited to maintain the NPR hosting env. time synchronized. At 4 th meeting (Oslo 29 August 2019) the participants agreed to introduce automatic warning message.
	AP9 . EMSA, Italy and Norway will work further in order to define standardised requirements for the NPRs maintenance (e.g. the configuration parameters, data buffering/archiving, down sampling, data age filtering and data storage etc.) and also requirements for the RSs allowing their further harmonisation (e.g. data buffering / archiving policies, the methods for exchanging information, the monitoring procedures etc.). The agreed solutions will then be reflected in the future amendments of SLAs.		
	2nd meeting (Rome, 10.08.2017)		Open . The issue is open for further work. A relevant requirement is included in the SLAs proposal (as amendments to Art. 6 of Annex 4 of the SLAs).
	3rd meeting (Venice, 28.11.2018)		Open . EMSA proposed to agree the list of settings to be harmonised (e.g. as mandatory, supported and additional functions). The participants agreed to assess whether the buffered data need to be down sampled or not, and if the NPRs should have the down sampling settings configuration capability (as supported functionality) (3rd meeting on regional AIS servers, Action point 4). EMSA agreed to prepare a document with a draft action plan to address the NPR synchronisation and share it with the ICG and the NCA by the 10 December. The meeting agreed that the NPRs shall be capable to retransmit all recent data.
		4 th meeting (Oslo, 29 August 2019)	Completed regarding NPRs . Requirements to the NPR capabilities (mandatory and additional/supported) were agreed and will be included in the SLA amendments and in the RS Technical manual. The mandatory functionalities shall be harmonised between the regional AIS servers, and implementation of additional functionalities agreed at the regional level shall not impact performance of the mandatory functionalities.
	4th meeting (Oslo, 29 August 2019)		Ongoing regarding RSs . EMSA, Italy and Norway will work further in order to define standardised requirements for the RSs allowing their further harmonisation (e.g. data buffering / archiving policies, the methods for exchanging information, the monitoring procedures etc.). The agreed solutions will then be reflected in the future amendments of SLAs....
	5th meeting (Online, 12 January 2021)		Ongoing . Italy proposed to continue working on defining the solution for data automatic retransmission.

1 st meeting (Lisbon 07 February 2017)	AP10. Italy will present the data coverage maps distribution service at the next EWG		
	2nd meeting (Rome, 10.08.2017)		Open. Is planned to be presented at the next MAREΣ EWG (November-December 2017).
	3rd meeting (Venice, 28.11.2018)		Open. Italy agreed that the presentation on the data coverage maps distribution service will be included in the agenda of the next MAREΣ meeting.
	4 th meeting (Oslo, 29 August 2019)		Open. The status of action point was agreed as open. Will be presented to MAREΣ 16 (December 2019).
		5th meeting (Online, 12 January 2021)	Completed. Italy presented the AIS coverage monitoring tool at 17th MAREΣ EWG (27 October 2020) [17th MAREΣ EWG, Agenda item 5]
	AP11. EMSA, Italy and Norway will assess further the need of making available a quality indicator in the comment block (as well any other indicator)		
	2nd meeting (Rome, 10.08.2017)		Open/Ongoing. Any practical implementation needs further evaluation and could be assessed as part of the SSN SI further upgrades. A relevant requirement is included in the SLAs proposal (as amendments to Art. 1.2 of Annex 2 of the SLAs).
	3rd meeting (Venice, 28.11.2018))		Open/ Ongoing. Proposed to keep the status of this action point as "Ongoing". No specific actions were proposed by RSs. EMSA is evaluating a new solution planned to replace the existing SSN-SI software.
	4 th meeting (Oslo, 29 August 2019)		Ongoing. The status updated. Proposals may be provided, when required (4th meeting, Agenda item 2)
		5th meeting (Online, 12 January 2021)	Closed. Is included in the list of action points of the 3rd meeting on regional AIS servers.
	AP12. EMSA, Italy and Norway will assess the possible implementations in order to improve and harmonise the systems' monitoring functionalities. EMSA will provide the MSS monitoring procedures to RSs for their assessment and possible implementation.		
		2nd meeting (Rome, 10.08.2017)	Completed. The EMSA MSS Operational procedures were submitted to the ICG and NCA (03/04/2017). EMSA's planned enhancement to the MSS monitoring tool is fully operational since 16 May 2017. The NCA has implemented some improvements to their web monitoring tools. (2nd meeting on regional AIS servers, Annex 3)
	AP13. All types of incidents to be reported by RS will be included in the SLAs amendments during their next revision.		
		2nd meeting (Rome, 10.08.2017)	Completed. A relevant requirement is included in the SLAs proposal (as amendments to Art. 6.5 of Annex 2 of the SLAs). (2nd meeting on regional AIS servers, Annex 3)
	AP14. EMSA will present the 24/7 contact availability issue at the next SSN group and invite the MSs to coordinate their operational 24/7 contacts.		
	2nd meeting (Rome, 10.08.2017)		Open. Will be presented to 2nd SSN/LRIT WG (October 2017). Following that, the draft SLAs will be amended. A relevant requirement is included in the SLAs proposal (as amendments to Art. 3 of Annex 5 of the SLAs). (2nd meeting on regional AIS servers, Annex 3)
		3rd meeting (Venice, 28.11.2018)	Completed: Presented to 2nd SSN/LRIT WG (October 2017). Presented in Art. 3 of Annex 5 of the SLAs (3rd meeting, Agenda item 2)
	AP15. EMSA will propose the necessary amendments to reflect the role of the RS administrator in the IFCD.		

1 st meeting (Lisbon 07 February 2017)	2nd meeting (Rome, 10.08. 2017)		Open. Will be presented to 2nd SSN/LRIT WG (October 2017).
		3rd meeting (Venice, 28.11.2018)	Completed. The SSN/LRIT WG 2 group meeting agreed with the proposal. The issue will be executed during the next major upgrade of IFCD. (see also AP13 from the 3 rd meeting)
2 nd meeting (Rome, 10 August 2017)	AP1. Italy and Norway to work further addressing the quality issues, with the support of their contractors and under the coordination of EMSA		
	2nd meeting (Rome, 10.08. 2017)		Open/Ongoing. NCA and ICG highlighted the importance of the AIS data quality and agreed on the need to work together, with the support of their contractors and under the coordination of EMSA to address the quality issues (2nd meeting, Action point 1)
	3rd meeting (Venice, 28.11.2018)		Ongoing: No specific comments or inputs (3rd meeting, Agenda item 2)
	4th meeting (Oslo, 29.08.2019)		Ongoing: No specific comments or inputs
	5th meeting (Online, 12.01.2021)		Ongoing. Norway proposed a new solution on the stored/buffered data retransmission by MSs. The solution was presented to the HELCOM EWG 31, NSATL EWG 6 and MAREΣ 17th EWG. To implement this (or similar) solution, Italy has started assessing NPRs hosting conditions in the MARES region
	AP2. EMSA will amend the draft SLAs, and submit them to the ICG and NCA, for their final validation (on experts and coordinators level) by 15 September 2017.		
		3rd meeting (Venice, 28.11.2018)	Completed. The new SLAs came into force on 1 March 2018.
	AP3. EMSA will check with the legal department the correctness of the formula used to calculate the liquidation damages.		
		3rd meeting (Venice, 28.11.2018)	Completed. The formula was corrected, and the SLA amendment was agreed through the exchange of letters.
	AP4. The validity periods of both SLAs will be aligned by extending the existing SLAs until the end of January 2017 (under the same conditions), and with a fee proportional to the extension period and a payment of balance at the end of the period.		
		3rd meeting (Venice, 28.11.2018)	Completed. Upon agreement between the Parties, the period of both SLAs was extended till 28 February. The new SLAs came into force from 1 March 2018.
	AP5. EMSA will send formal letters to the NCA and ICG proposing to renew the existing SLAs for the agreed period. After that, the new SLAs (including the agreed amendments) will be signed, following the prior approval of the EMSA Administrative Board.		
		3rd meeting (Venice, 28.11.2018)	Completed. SLAs came into force from 1 March 2018
	AP6. EMSA will share the current version of the document describing the TDM methodology, for the ICG and NCA comments.		
		3rd meeting (Venice, 28.11.2018)	Completed. The TDMS methodology (draft) was sent to the ICG and NCA on 05.09.2017.

2 nd meeting (Rome, 10 August 2017)	AP7. EMSA, Italy and Norway will evaluate further M2M connection's impacts to the systems and continue discussion on this issue at the next meetings.		
		3rd meeting (Venice, 28.11.2018)	Completed. A direct M2M connection between the RS and central SSN is possible without using the SSN-SI. It has several advantages and drawbacks. The STAR Remote Hub application would possibly replace the SSN-SIs. EMSA will organise a videoconference to discuss the technical details of this solution, its installation and testing.
	AP8. EMSA will present the issue regarding the role of the RS administrators and their 24/7 services to the next SSN/LRIT Group meeting (October 2017). Following that, the SLAs will be amended.		
		3rd meeting (Venice, 28.11.2018)	Completed. Presented to SSN/LRIT WG2 (October 2017). Included in Art. 3 of Annex 5 of the SLAs.
	AP9. EMSA, Italy and Norway will agree a common template to be used for the RS technical documentation's publication.		
	3rd meeting (Venice, 28.11.2018)		Ongoing. The RS technical documentation (the main part) was published on EMSA website (restricted). Annexes to the RS technical manual (questionnaires to RS participating MSs) were not provided.
		4th meeting (Oslo, 29.08.2019)	Completed. Pre-fill the questionnaires (annexes to Manuals) were distributed to the MAREΣ participating MSs in February 2019. Information from the NSATL and HELCOM participating MSs were collected during the EWG meetings (25.09.2018 and 28.05.2019).
	AP10. EMSA will distribute the summary of the RS technical status for further revision by the RSs.		
		3rd meeting (Venice, 28.11.2018)	Completed: Technical manuals were revised and validated by the RSs.
	AP11. EMSA, Italy and Norway will work further, involving also the ICG and NCA contractors, to identify the causes of the "time stamp" issue and to develop guidance on how to improve the situation or to reduce the consequences to the possible extent. A working paper will be prepared to be presented to the Member States.		
2 nd meeting (Rome, 10 August 2017)		3rd meeting (Venice, 28.11.2018)	Completed. The ICG presented the issue at the MAREΣ 15th EWG. The status of action point was agreed as "Closed" until Member States will upgrade their national AIS Base Stations fully complying with the international standards. (3rd meeting on regional AIS servers, Action point 2).
	AP12. EMSA will prepare a short document with the problem definition and a draft action plan to address the AIS "time stamp" issue that will be shared with the ICG/NCA by the 31 st August.		
		3rd meeting (Venice, 28.11.2018)	Completed. EMSAs drafted document was sent to the NCA and ICG on 23.08.2017 (feedback received from the ICG on 29.08.2017 and the NCA on 06.09.2017). The status of action was discussed at the EMSA, Norway and Italy skype meeting on 11 December 2017
	AP13. EMSA, ICG and NCA will discuss the points [a] (i.e. M2M interface), [e] (i.e. standardised requirements for the NPRs), and [f] (i.e. AIS "time stamp") of Agenda item 7 at the next meeting that will take place in Rome (possibly in November/December 2017), if enough progress will be made by that date. Otherwise the meeting will take place at a later stage.		
		3rd meeting (Venice, 28.11.2018)	Completed. Action points discussed at the 3 rd meeting on regional AIS servers (Agenda item 2). EMSA agreed to prepare a draft action plan to address the NPR synchronisation issue and share it with the ICG and NCA by the 10 December.
2 nd meeting (Rome, 10 August 2017)	AP14. EMSA will prepare a draft meeting report which will be shared and finalised with the ICG and NCA.		
		3rd meeting (Venice, 28.11.2018)	Completed. The meeting minutes were sent to the participants on 21.08.2017. Proposal for inputs were received from the ICG on 26.08.2017. The final draft version was distributed on 29.08.2017.

3 rd meeting (Venice, 28 November 2018)	AP1. The status of action point regarding the M2M interface between the central SSN and the regional servers is considered as closed. EMSA will organise a videoconference to discuss technical details of the “STAR Streaming remote hub” software and the RSs involvement in its testing.	
	4th meeting (Oslo, 29.08.2019)	Completed. EMSA has organised several video meetings with Italy and Norway to discuss the technical details of this solution, its installation and testing
	AP2. The status of action point regarding the time synchronisation issue is considered as closed until Member States will upgrade their national networks with BSs fully complying with the international standards.	
	4th meeting (Oslo, 29.08.2019)	Closed. The issue was presented also to SSN Group, MAREΣ EWG, NSATL EWG and HELCOM EWG
	AP3. EMSA will present the “time synchronisation” issue to the SSN group. Italy will assist EMSA in drafting the paper for the SSN Group meeting.	
	4th meeting (Oslo, 29.08.2019)	Completed. The time synchronisation issue was presented and discussed at the NSATL EWG meeting (25 September 2018), MAREΣ EWG meeting (28 November 2018) and HELCOM EWG meeting (28-29 May 2019). EMSA/ Italy/ Norway document SSN/LRIT 5.4.5 was presented to the SSN Group (20 May 2019), inviting MSs to maintain the NPR hosting environment time synchronised.
	AP4. EMSA, Italy and Norway will assess, should the buffered data be down sampled or not, and should the NPRs have the down sampling settings configuration capability (as supported functionality).	
	4th meeting (Oslo, 29.08.2019)	Open. The issue whether the buffered data need to be down sampled or not (AP4), and the down sampling rate will be further assessed, considering the capabilities of NPRs and “Remote Hub” application. The agreed solution will be presented in proposals to the SLA amendments.
	5th meeting (Online, 12 January 2021)	Completed. The agreed technical amendment to SLAs (2021) describes NPRs functionalities, stating that the buffered data down sampling (as a new functionality) can be agreed and implemented, if required.
	AP5. EMSA will prepare a document with a draft action plan to address the NPR synchronisation and share it with the ICG and NCA by the 10 December	
	4th meeting (Oslo, 29.08.2019)	Completed. A list of NPR settings to be harmonised (e.g. as mandatory, supported and additional functions) and the draft action plan to address the NPRs synchronisation was agreed with ICG and NCA.
	AP6. The regional servers shall warranty the reception and forwarding of all data from Member States (i.e. also “old” data).	
	4th meeting (Oslo, 29.08.2019)	Open/Ongoing. No additional inputs provided.
	5th meeting (Online, 12.01.2021)	Ongoing. The requirement is included in the amendment to SLAs (2021). [Annex 2]. The RSs capability shall be confirmed.
	AP7. EMSA will provide the data quality definition (e.g. erroneous, delayed, missing data) which could be used as a basis to evaluate the services	
	4th meeting (Oslo, 29.08.2019)	Completed. Presented to the 4 th meeting on AIS regional servers. Will be included in the SLA amendments.
	AP8. The status of action point regarding the transfer of historical AIS database of the HELCOM and North Sea region from Denmark is considered as closed	
	3rd meeting (Venice, 28.11.2018)	Closed. (see also AP5 from the 1 st meeting)

3 rd meeting (Venice, 28 November 2018)	AP9. The status of action point regarding further proposals of any additional method and procedures for the data retransmission/ uploading is considered as "Ongoing".	
	4 th meeting (Oslo, 29.08.2019)	Open/Ongoing. Additional method might be proposed when required.
	5 th meeting (Online, 12.01.2021)	Ongoing. The national AIS status was updated by EMSA through the questionnaires to MSs (June-November 2019). Norway proposed the data manual retransmission by MSs solution. EMSA introduced the stored data manual retransmission by RSs solution (May 2020). Italy is assessing the data automatic retransmission solution (July 2020). Any additional method might be proposed, when needed.
	AP10. The ICG presentation on the data coverage maps distribution service will be included in the agenda of the MAREΣ next meeting.	
	4 th meeting (Oslo, 29.08.2019)	Open. Will be presented at the MAREΣ EWG 16.
		5 th meeting (Online, 12.01.2021)
	Completed. The item was presented to the 16th MAREΣ EWG. Italy presented the AIS coverage monitoring tool at the 17th MAREΣ EWG (27 October 2020) [agenda item 5]	
	AP11. The status of action point regarding assessment of the need of making available a quality indicator in the comment block (as well any other indicator) is considered as "Ongoing".	
	4 th meeting (Oslo, 29.08.2019)	Open/Ongoing. Proposals may be provided
	5 th meeting (Online, 12.01.2021)	Ongoing. At the 16th MAREΣ EWG meeting, the ICG informed about their assessment on the BSs status indicator in the CB [agenda item 5]. A new requirement to include BSs identifiers in the AIS msg (if available) was included in the SLA amendment (2021) [Annex 2]. Any additional proposals may be submitted, when required.
	AP12. The role of the RS administrator will be reflected in the IFCD document during its next major upgrade.	
	4 th meeting (Oslo, 29.08.2019)	Open
	5 th meeting (Online, 12.01.2021)	Open. Will be executed when the IFCD will be opened for its revision.
	AP13. Italy and Norway will update the RS Technical manuals by mid-January 2019 taking into consideration also the presented remarks (). The status of RS Technical manuals will be confirmed every 6 months, in the Service summary reports	
		4 th meeting (Oslo, 29.08.2019)
	Completed. The RS Technical manuals were updated. The amended versions (V.1.1.1) validated by the NCA and ICG and will be published.	
	AP14. EMSA and RSs will partially pre-fill questionnaires (annexes to the RSs Technical manuals) with already available information and send these to the participating Countries to be revised and amended (in January 2018).	
		4 th meeting (Oslo, 29.08.2019)
	Completed. Pre-fill the questionnaires (annexes to Manuals) were distributed to the MAREΣ participating MSs in February 2019. Information from the NSATL and HELCOM participating MSs were collected during the EWG meetings (25.09.2018 and 28.05.2019).	
	AP15. Italy and Norway will assess solutions on how to introduce the automatic data retransmission.	

3 rd meeting (Venice, 28 November 2018)		4th meeting (Oslo, 29.08.2019)	Closed. Italy and Norway confirmed that that implementation of the automatic data retransmission is problematic due to the technical implications. An alternative has been agreed that the main solution kept for resending the data from RSs will be the data manual transfer. Data automatic retransmission may be used as an alternative (if available). The SLAs will be amended accordingly.
	AP16. A new procedure of the data retransmission by RSs will be agreed and included in the SLAs amendment.		
	4th meeting (Oslo, 29.08.2019)		Open. The requirements to the data file format and the new procedure of the manual data retransmission by RSs will be included in the SLA amendments (4th meeting on regional AIS servers, Action point 11)
		5th meeting (Online, 12.01.2021)	Completed. The procedure was provided to RSs by EMSA's 3.1. and included in the SLA technical amendment (2021) [Annex 2].
	AP17. EMSA, Italy and Norway will assess the Polish experience in developing the data retransmission functionality in their national system, when the results will become available by EMSA. Norway will assist Poland in the testing, if requested.		
	4th meeting (Oslo, 29.08.2019)		Open. PL confirmed that they are working on the technical implementation. Information will be exchanged upon its availability.
		5th meeting (Online, 12.01.2021)	Closed. May be re-open when additional information will be available.
	AP18. Regional servers will support EMSA in conducting the data buffering tests.		
	4 th meeting (Oslo, 29.08.2019)		Open/Ongoing. The AIS data buffering by NPRs tests conducted in cooperation with Regional servers for all connections. All NPRs tested were buffering and retransmitting the data. The data buffering by the SSN proxy application (RH) tests will be conducted in October/November and will be followed by regional server tests.
	5th meeting (Online, 12.01.2021)		Open. The data buffering by the SSN proxy application (RH) tests were postponed to 2021
	AP19. Italy will prepare a short paper describing their proposal on how to introduce the "testing NPR", and submit it to EMSA and Norway (by mid-January 2019).		
		4th meeting (Oslo, 29.08.2019)	Closed. The participants agreed that execution of this action is not needed, and the action point shall be considered as "closed".
	AP20. EMSA will assess if the solution to introduce a second NPR could be proposed to Member States (e.g. at the next SSN Group meeting). Norway will be asked to provide an additional information about their experience to EMSA and Italy		
		4th meeting (Oslo, 29.08.2019)	Completed. EMSAs assessment was presented and the meeting agreed to present this issue to the participating States at the next AIS EWGs meetings.
	AP21. EMSA will evaluate and propose the required amendments to the SLAs regarding the AIS data exchange by "3rd countries" monitoring.		
		4th meeting (Oslo, 29.08.2019)	Completed. Agreed to include Jordan, Ukraine and Georgia in the SLA with MARES. The subject will be discussed at the MAREX EWG Will be included in the SLA amendments (4 th meeting on regional AIS servers, Action point 19).
	AP22. EMSA will prepare a draft meeting report which will be shared with the ICG and NCA for their feedback.		

		4th meeting (Oslo, 29.08.2019)	Completed. The meeting minutes were submitted and agreed by the participants (08 January 2019).
	AP23. EMSA will create a new tab on EMSA website where the agreed minutes of the meetings on regional AIS servers will be published		
	4th meeting (Oslo, 29.08.2019)		Open. Agreed that the minutes of the meetings on regional AIS servers will be published on EMSA website, in section "Events - Workshop materials and reports" (including minutes from previous meetings) (4 th meeting on regional AIS servers, Action point 18).
		5th meeting (Online, 12.01.2021)	Completed. The meeting minutes (including minutes from previous meetings) were published on the EMSA website, in section "Events - Workshop materials and reports". [See also AP18 from the 4th meeting]
4 th meeting (Oslo, 29 August 2019)	AP1. The summary of actions will be attached to the meeting report and updated after each meeting.		
		5th meeting (Online, 12.01.2021)	Completed. The summary of actions was attached to the report of 4 th meeting (Oslo, 28 August 2019). Will be maintained as ongoing action. The list will be updated after each meeting.
	AP2. EMSA will organise a videoconference with the ICG and NCA to discuss the "STAR remote hub" software installation and testing outcomes (by 15 September).		
		5th meeting (Online, 12.01.2021)	Completed. Video meetings were conducted with the ICG on 11.09.2029 and 16.12.2019. Meeting with the NCA (Harald Asheim) took place in EMSA, on 15.11.2019. STAR RH are installed and operated by RSs.
	AP3. The NCA plans to provide data to EMSA in two parallel streams (i.e. active – active mode) will be discussed at the EMSA/ICG/NCA videoconference.		
		5th meeting (Online, 12.01.2021)	Completed. The NCA plan to provide data to EMSA in two parallel streams (i.e. active – active mode) was discussed at the EMSA/NCA meeting (15.11.2019). Was concluded that EMSA cannot monitor this solution and the RS shall maintain the switch-over solution
	AP4. Italy and Norway will introduce an automatic warning (e.g. by e-mail) which would be sent to the Member State in case the time asynchronization goes beyond the agreed threshold.		
		5th meeting (Online, 12.01.2021)	Closed. Might be re-opened, if required. The MAREΣ application includes a tool allowing the ICG personnel on duty to monitor the time synchronisation. In case of detected asynchronization, the duty officer will contact MS. In Norway, the time synchronisation warning will be assessed in the framework of monitoring upgrading. Currently all participating states can get this information on the NSATL and HELCOM RSs monitoring pages.
	AP5. EMSA's experience on filtering out duplicates of the positions in areas overlapped by two regional servers will be discussed EMSA/Italy/Norway videoconference.		
		5th meeting (Online, 12.01.2021)	Completed. The item was discussed at the EMSA/RSs video meetings on the RH installation (see AP 2). Any additional information can be provided (if requested).
	AP6. The issue whether the buffered data need to be down sampled or not, and the down sampling rate shall be further assessed, considering the capabilities of NPRs and "Remote Hub" application. The agreed solution will be presented in proposals to the SLA amendments		
		5th meeting (Online, 12.01.2021)	Completed. Included in the agreed technical amendments to SLAs (2021).
	AP7. Italy and Norway will assess the possibility to implement both, the "time window" and the "amount of data" solutions for the data buffering by NPRs. The agreed solution will be presented in the SLAs amendments		

4 th meeting (Oslo, 29 August 2019)		5th meeting (Online, 12.01.2021)	Completed. The participants agreed that RSs will continue maintain their existing solutions on the data buffering by NPRs (i.e. the “data amount calculation” solution in NSATL/HELCOM and the “time calculation” solution in MAREΣ)
	AP8. Requirements regarding the NPR capabilities (mandatory and additional/supported) will be included in the SLA amendments and in the RS Technical manual. The mandatory functionalities shall be harmonised between the regional AIS servers, and implementation of additional functionalities agreed at the regional level shall not impact performance of the mandatory functionalities.		
		5th meeting (Online, 12.01.2021)	Completed. Requirements regarding the NPR capabilities (mandatory and additional/supported) are included in the SLA amendment (2021).
	AP9. Italy and Norway will evaluate their solutions to receive, accept and forward to the central SSN all data retransmitted from MSs (including “old” data) and present proposals to MSs at the next EWGs meetings. Member States may provide data automatically (in a background) or resent manually or submit via e-mail or FTP. The solution will be agreed at the regional level.		
	5th meeting (Online, 12.01.2021)		Ongoing. 1) The NCA and Belgium tested the stored data retransmission. It was concluded that the tested solution could not be implemented. 2) On 04.05.2020, EMSA, ICG and NCA agreed that Norway will work on an alternative solution, in cooperation with their contractor. The solution will be proposed to MSs [Outcomes of the EMSA, ICG, NCA video meeting on SLAs amendment]. 3) The new solutions on AIS data manual retransmission was presented by Norway to the 31st HELCOM EWG, 6th NSATL EWG and 17th MAREΣ EWG. 4) Italy assessed the solution and how it could be implemented in MAREΣ. 5) EMSA, Norway and Italy will draft a paper to be presented to MSs [MAREΣ 17th EWG minutes, AP 13] 6) EMSA, Italy and Norway will continue working on the data retransmission by MSs requirement.
	AP10. The main solution kept for resending the data from RSs will be the data manual transfer. Data automatic retransmission may be used as an alternative (if available). The SLAs will be amended.		
		5th meeting (Online, 12.01.2021)	Completed. Included in the SLA technical amendment 2021 [Amendment 1, Annex 2, Art.3]
	AP11. In coordination with EMSA, Italy and Norway will introduce the agreed standardised data file format and the new procedure used for the data retransmission. The requirements to the data file format and the new procedure of the data manual retransmission will be included in the SLA amendments.		
		5th meeting (Online, 12.01.2021)	Ongoing. Included in the SLA technical amendment proposal (2021) [Amendment 1, Annex 2, Art.3]. The stored data retransmission (manually, through the RH application) functionality was implemented by EMSA in May 2020. The functionality has been tested by RSs. MAREΣ made some additional implementation related to the data storing format. EMSA and Italy agreed to coordinate and execute tests on the MAREΣ capability to retransmit data through the RH application. The status of action point was changed to “ongoing” until completing the agreed testing.
	AP12. The amended versions of RS Technical manuals will be published on the EMSA web (restricted part). The status of RS Technical manuals will be revised/confirmed by RSs every 6 months, in the Service summary reports.		
		5th meeting (Online, 12.01.2021)	Completed. The RS TMs are published on EMSA web (restricted). MSs not provided information to the Manuals (annexes) were reminded at the EWG meetings.

AP13. Italy, Norway and EMSA will start working on creating the “AIS operational manual” to present the objectives, purposes and solutions of the European AIS network. The initiative will also be presented to the Member States at the next EWG meetings.		
5th meeting (Online, 12.01.2021)		Ongoing. EMSA is working on the draft Manual.
AP14. The data buffering by the SSN proxy application (RH) tests will be conducted in October/November and will be followed by regional server tests.		
5th meeting (Online, 12.01.2021)		Open. The planned activities were postponed being executed in 2021.
AP15. EMSA, Italy and Norway will conduct the NPRs stress tests (e.g. for one NPR connection in the RS network). The schedule and scenario will be agreed between EMSA, RS and the participating Member State.		
5th meeting (Online, 12.01.2021)		Open. Due to the COVID-19 situation, the planned activities were postponed being executed in 2021.
AP16. EMSA will evaluate the proposal of Italy to introduce two separate codes for the Portuguese data stream (for mainland and islands).		
	5th meeting (Online, 12.01.2021)	Completed. EMSA concluded that introducing of 2 separate codes for data stream from Portugal is not needed.
AP17. Introducing at least 2 NPRs for the connection will be presented to the participating States at the next EWGs meetings		
	5th meeting (Online, 12.01.2021)	Completed. The item was presented at the 16th MAREΣ EWG and 6th SSN/LRIT WS. The NSATL and HELCOM MSs already use several NPRs for their connections. Italy is assessing the possibility of introducing additional NPRs in MAREΣ. Italy shall present the results of the assessment e.g. at the next MAREΣ EWG.
AP18. The minutes of the meetings on regional AIS servers will be published on EMSA website, in section “Events - Workshop materials and reports” (including minutes from previous meetings).		
	5th meeting (Online, 12.01.2021)	Completed/Ongoing. The meetings minutes are published on the EMSA website. This action will be maintained also as “ongoing”.
AP19. Jordan, Ukraine and Georgia will be included in the SLA with MAREΣ, following decision at the MAREΣ EWG.		
	5th meeting (Online, 12.01.2021)	Completed. Participation of Georgia, Ukraine and Jordan in MAREΣ (on the pilot project’s bases) was agreed at HLSG 6 and the 16th MAREΣ EWG. Included in the SLA with ICG amendment (2021).
AP20. EMSA will summarise all the agreed inputs and will distribute a new draft SLA to Italy and Norway for their evaluation (after MAREΣ meeting). The SLAs amending might be initiated in 2020.		
	5th meeting (Online, 12.01.2021)	Completed. The SLA amendments proposals were submitted to RSs in April 2020 and agreed between EMSA and RSs hosting authorities by September 2020. The draft SLAs amendment (as Amendment No1) will be proposed for approval to EMSA AB (March 2021).
AP21. EMSA will prepare a draft report which will be shared with the ICG and NCA.		
	5th meeting (Online, 12.01.2021)	Completed. The report of the 4th meeting was drafted on 09.09.2019. Inputs proposed by the ICG (16.09.2019). The report was published on the EMSA website.
AP22. Italy, Norway and EMSA will coordinate agendas of the AIS EWGs meetings and meetings on AIS regional servers.		

	5 th meeting (Online, 12.01.2021)		Ongoing. Any relevant inputs can be provided.
5 th meeting (Online, 12.01.2021)	AP1. The status of action points from the previous meetings is updated, as follows: • From the 1st meeting (Lisbon 07 February 2017): AP7 – Ongoing; AP9 – Ongoing; AP10 – Completed; AP11 – Closed. • From the 2nd meeting (Rome, 10 August 2017): AP1 – Ongoing. • From the 3rd meeting (Venice, 28 November 2018): AP4 – Completed; AP6 – Ongoing; AP9 – Ongoing; AP10 – Completed; AP11 – Ongoing; AP12 – Open; AP16 – Completed; AP17 – Closed; AP18 – Open; AP-23 – Completed. • From the 4th meeting (Oslo, 29 August 2019): AP1-Completed; AP2 – Completed; AP3 – Completed; AP4 – Closed; AP5 – Completed; AP6 – Completed; AP7 – Completed; AP8 – Completed; AP9 – Ongoing; AP10 – Completed; AP11 – Ongoing; AP12 – Completed; AP13-Ongoing; AP14 – Open; AP15 – Open; AP16 – Completed; AP17 – Completed; AP18 – Ongoing; AP19 – Completed; AP20 – Completed; AP21 – Completed; AP22 – Ongoing.		
	AP2. Italy will present the results of assessment on introducing additional NPRs in the MAREΣ at the next MARES EWG.		
	AP3. RSs will continue maintain their existing solutions on the data buffering by NPRs (i.e. the “data amount calculation” solution in NSATL/HELCOM and the “time calculation” solution in MAREΣ)		
	AP4. Italy will present the AIS coverage monitoring tool to the SSN group (tent. March 2021).		
	AP5. Italy and Norway will update the RS Technical Manuals by including information about the developed new services. EMSA will provide RSs the TM word versions to be updated (April 2021)		
	AP6. A pre-financing will not be requested following the automatic renewal of SLAs (01.03.2021). The period between the SLAs renewal date (01.03.2021) and the date when the SLAs Amendments will come into force will be paid as a balance payment, by the end of period. The price for that period will be based on the existing price of current SLAs 2018 (Art.4.1) and the number of days in that period and calculated using the agreed formula (detailed description in Agenda item 6).		
	AP7. After the meeting, EMSA will provide the latest versions of Amendments (drafts) and also the SLAs consolidated versions (drafts) to Italy and Norway, for their information (January 2021).		
	AP8. EMSA, Italy and Norway will conduct joined evaluations of the detected anomalies in the AIS coverage, when required.		
	AP9. Norway will assess if any additional downsampling might be implemented, e.g. on NPRs or the RS level (March 2021).		
	AP10. EMSA will assess impacts to the systems if the clustered data are received from NSATL (March 2021).		
	AP11. EMSA, Italy and Norway will follow the principle of data integrity, where the data will not be filtered by RSs or EMSA and will continue evaluate how to improve “fake” data detection and presentation, without polluting databases.		
	AP12. EMSA will present the “fake ships positions” issue to the SSN Group (tent. March 2021)		
	AP13. Italy will provide inputs on the format of retransmitted data to the joined EMSA/ Italy/Norway paper to be presented to SSN group (February 2021)		

			AP14. EMSA and Italy will coordinate and execute tests on the MAREΣ capability to retransmit data through the RH application (February – May 2021)
			AP15. Norway will provide to EMSA and Italy information on the radar data exchange solution (March 2021)
			AP16. A meeting on the radar data exchange will be conducted by EMSA, Italy and Norway (TBC)
			AP17. EMSA and Italy will test the Italian patrol boats AIS data exchange (TBD).
			AP18. EMSA will prepare a draft report which will be shared with the ICG and NCA for their comments and inputs (January 2021)

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