Document title	Outcome of AIS EWG 30-2019
Code	2-2
Category	INF
Agenda Item	2 - Matters arising from HELCOM meetings
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Background

The attached document contains the Outcome of the 30th Meeting of the HELCOM Expert Working Group for Mutual Exchange and Deliveries of AIS & Data (AIS EWG 30-2019) held on 28-29 May 2019 in Helsinki, Finland.

Action requested

The Meeting is invited to take note of the Outcome of AIS EWG 30-2019.

Outcome of the 30th Meeting of the Expert Working Group for Mutual Exchange and Deliveries of AIS & Data (HELCOM AIS EWG 30-2019)

Introduction

0.1 In accordance with the decision by the 29th Meeting of the Expert Working Group for Mutual Exchange and Deliveries of AIS & Data (Outcome of HELCOM AIS EWG 29-2018, Paragraph 8.1), the 30th Meeting of HELCOM AIS EWG was held on 28-29 May 2019 in Helsinki, Finland, hosted by the Finnish Transport Infrastructure Agency.

0.2 The Meeting was attended by representatives from Estonia, Finland, Latvia, Poland, Russia, Sweden and Norway. The Meeting noted the regrets received from Ivan Magni Carlsson, Denmark, for not being able to participate in the Meeting. Also, EMSA regretted for not being represented. The list of participants is contained in **Annex 1**. Consent for publication of the list of participants and the information contained therein was received from all participants.

0.3 The Meeting was chaired by Mr. Alar Siht, Estonia, Chair of HELCOM AIS EWG. Mr. Marek Dziewicki, Poland, Vice-Chair of HELCOM AIS EWG, acted as Vice-Chair of the Meeting.

0.4 Mr. Florent Nicolas, HELCOM Project Coordinator – Data Expert, acted as Secretary of the Meeting.

0.5 The Meeting was welcomed to Helsinki by Mr. Simo Kerkelä, Head of the Fairways Unit at the Finnish Transport Infrastructure Agency.

Agenda Item 1 Adoption of the Agenda

Documents: 1-1, 1-2

1.1 Following a round of introductions, the Meeting adopted the Agenda of the Meeting as contained in document 1-1.

Agenda Item 2 Matters arising from other HELCOM meetings

Documents: 2-1, 2-2

2.1 The Meeting took note of the information on meetings and decisions within HELCOM (document 2-1).

2.2 The Meeting took note of the update of the HELCOM Baltic Sea Action Plan (BSAP) (document 2-2).

2.3 The Meeting took note that following the outcome of HELCOM 40-2019, synopses on potential new HELCOM actions will be soon requested from HELCOM subsidiary bodies, Contracting Parties, international projects and HELCOM observers.

2.4 The Meeting noted the importance of the HELCOM AIS data in the matters arising from other HELCOM meetings.

Agenda Item 3 Recent national developments of AIS

Document: 3-1

3.1 The Meeting took a round-the-table to share information on national developments relevant to HELCOM AIS (including AIS coverage, application specific messages and VDL loading):

- **Estonia:** No significant developments have taken place since the last meeting. The same amount of 13 base stations provided by Jotron Norway around the Estonian coast are still functioning since 2004. The IEC stream of AIS messages is provided to the HELCOM regional server in Norway. MRS notices, based on AIS information and ship reports to GOFREP, are being sent as XML-messages to EU SafeSeaNet. Estonia is not monitoring the AIS coverage or the VDL loading. Three years ago, the Estonian Maritime Administration started to provide dGPS corrections from renewed Narva-Jõesuu reference station over AIS BS network, using message 17. Currently for transmitting M17 two AIS BS in the eastern part of the Gulf of Finland named Valaste and Vaindloo are used. The interval is adjustable, 10 seconds seems to be optimal. Concerning the exchange of data between the Contracting Parties to the Helsinki Convention, there is a bilateral agreement with Finland for sharing data. Using application specific messages for ship entering to Estonian part of GOFREP area, the IFM3 ("Capability interrogation) is sent out by VTS Tallinn and according to replay IFM4 (Capability reply) from ship the following messages are sent out: IFM16 (Number of Persons on board), IFM24 (Extended ship static and voyage-related data) and IFM25 (Dangerous cargo indication).

- **Finland:** Some minor changes in the Finnish national AIS base stations network have been done since the last meeting (e.g. adding a few new stations and relocating some existing base stations) to aim at a better reliability of the network. There are currently a total of 48 base stations to assure the availability of data. Within a year, base stations will gradually be updated to comply with the new ASM Hydro/Meteo message format. Currently the transmissions still follow the old outdated format.

  FTIA (Finnish Transport Infrastructure Agency) has continued the development and testing of route exchange and related e-Navigation services in different projects. In the STM validation project FTIA implemented a winter navigation service that enabled sharing of ice routes and other information related to ice breaker operation directly to ships. The development will be continued in STM EffcientFlow, focusing on traffic organisation in the archipelagos and in STM BaltSafe with the development of digital VTS services. VTS Finland will be responsible for the implementation of Finnish actions during these projects. Finland further explained the procedure which was followed to define what AIS data could be opened for public access (**Presentation 1**).

- **Latvia:** The old Transas T211 base stations were replaced with the new model SAAB R40 in 2019. Since there are no islands in Latvia, a network of 8 base stations is enough to cover the Latvian waters. In 2020-2021 there is a plan to build totally new AIS and GMDSS systems.

- **Norway:** Norway changed their base stations in 2015 and is now working on filling the gaps of areas such as fjords with bad coverage. Norway developed a new AIS infrastructure concept which includes solar panels, wind generator and batteries for remote area (i.e. Svalbard). This is an autonomous system that communicates via AIS repeating of messages. This new base station concept is called Green Field Station (GFS). Norway has also installed traditional AIS base stations at Svalbard that covers populated places. This is included in the HELCOM data.

- **Poland:** There are currently 16 base stations in operation, some are overlapping ranges to ensure a good coverage and signal availability: 12 are marine base stations (covering sea area) and 4 operate over inland waterways. Poland finalized the biggest replacement of AIS system since 2010. The base stations now have upgraded firmware, new antennae installations as well as emergency power supplies. There is a dedicated fiber-optic line between base stations and

the central server, which is owned by the State. Concerning the VDL load, it is monitored periodically and is on the level 5-10%. AIS-PL is using some specific messages, like type 6 to transmit hydro-meteorological data, also synthetic and virtual AtoNs are in use (**Presentation 2**). Poland is distributing AIS data to several international organizations such as EMSA, HELCOM, IALA as well as NATO. There is an ongoing project to use the message type 26 for VDES to measure the distance to the ships (R-Mode Baltic Project).

- **Sweden**: No major changes. There are two AIS national server centres: one in Norrköping and one in Gothenburg which are redundant for each other. The equipment, servers, base stations, infrastructure and software are owned by the Swedish Maritime Administration. Most of the Swedish waters are currently covered except some areas between Sweden and Finland in the Bothnian Sea.
- **Russia**: There are currently five AIS base stations in the eastern part of the Gulf of Finland and two base stations in the Kaliningrad area plus two new base stations with DGPS/GLONASS, which will be activate in 2019, all are Transas base stations. The measurements and results of VDL loading are less than 20% in the eastern part of Gulf of Finland and near by 10% in Kaliningrad area. A pilot project on e-navigation continues. The next step is the organization of interaction with the Swedish cloud and testing the project.

3.2 The Meeting took note of the information from Finland on the reform of agencies in the administrative branch of the Ministry of Transport and Communications, which took place at the beginning of 2019 (**Presentation 3**). The Finnish Transport Infrastructure Agency will be the responsible for the HELCOM AIS EWG while the maintenance of the Finnish AIS base stations network is a joint effort between the Transport Infrastructure Agency and the Traffic Management Finland Group.

3.3 The Meeting discussed possible gaps area in the coverage of AIS data in the Baltic Sea Region, especially in the Gulf of Bothnia.

3.4 The Meeting welcomed the offer from Norway to provide support to limit as much as possible these coverage gaps. Norway gave a presentation on the coverage analysis in the North Sea system also hosted by the Norwegian Coastal Administration (**Presentation 4**). The analysis also covered the Baltic Sea area even if the project was focused on the North Sea. Following the maps produced by the project, it seems that the coverage is relatively good for the Baltic Sea Region.

3.5 The Meeting discussed how to provide a request to Norway to get such a more complete analysis for the Baltic Sea Region, for example for the next HELCOM AIS EWG Meeting 31-2020.

3.6 The Meeting considered the questionnaire on AIS status at national level submitted by Norway (document 3-1) and took note of the information to take part in the survey to offer a better system to deliver regional AIS data stream. The answers should be sent to Norway by 2 July 2019 regarding the document 3-1.

3.7 The Meeting agreed that the results will be considered by AIS EWG 31-2020 with a document that will be submitted by Norway.

Agenda Item 4 Maintaining and further development of HELCOM AIS

Documents: 4-1, 4-2

4.1 The Meeting took note that HELCOM 40-2019 adopted the revised HELCOM Recommendation 33/1 "Unified interpretation in relation to access to and use of HELCOM AIS" to reflect the migration of hosting of the HELCOM AIS Server.

4.2 The Meeting revisited the matter of AIS data format, and the possible need and practicability to use standard IEC 61162-450 (Maritime navigation and radiocommunication equipment and systems - Digital interfaces - Part 450: Multiple talkers and multiple listeners - Ethernet interconnection) based on the information document 4-1 submitted by Finland (Presentation 5).

4.3 The Meeting discussed that in the current HELCOM system, the time stamped to the data stream is the time when the sentence was received by the HELCOM proxy. The time stamp could be added to a tag block of each sentence when received by the base stations or the national servers.

4.4 The Meeting discussed that adding this tag block at a national level would increase the data quality but would also increase by 30% the amount of data transferred between the base stations, the national servers and the HELCOM server hosted by the Norwegian Coastal Administration.

4.5 The Meeting noted that Norway is providing a dedicated webpage (https://helcom.kystverket.no/) where it is possible to see the time difference between the national HELCOM proxy and the HELCOM regional server hosted by NCA.

4.6 The Meeting discussed that a time difference of few seconds is not a real issue for the use of AIS data. Adding this new time block as described in the document 4-1 would help some of the countries to have more precise time stamp for AIS Data analysis.

4.7 Norway requested that the Contracting Parties use an official time server to get a synchronised time. The Meeting agreed that the Contracting Parties should submit information to the HELCOM Secretariat (florent.nicolas@helcom.fi) by 2 July 2019 describing what time source is nationally used. This topic will be further discussed during the next HELCOM AIS EWG Meeting 31-2020.

4.8 The Meeting took note of the EMSA document (SSN/LRIT 4.5.4) submitted by Poland and related to AIS data buffering and retransmission by EU Member States (document 4-2).

4.9 The Meeting took note of **Presentation 6** from Norway. EMSA is planning to run a buffering test with the EU Member States in June 2019. EMSA can also do the test for Russia if needed.

4.10 Norway offered to coordinate the test dates with the national HELCOM AIS Contact Points. The test does not require any actions from the Contracting Parties.

4.11 The Meeting noted the importance of having a time schedule to develop a national buffering solution for the HELCOM AIS data network. The Meeting noted the importance of having the buffering at the national level.

4.12 The Meeting agreed that the Contracting Parties will send information to the HELCOM Secretariat (florent.nicolas@helcom.fi) on the current status of AIS data buffering at the national level as soon as possible but before the end of 2019. The HELCOM Secretariat will compile the information and submit a summary at the next HELCOM AIS EWG Meeting in 2020.

Agenda Item 5 Access to and use of HELCOM AIS information

Documents: 5-1, 5-1 Rev.1

5.1 The Meeting took note of the overview of requests to access and to use the HELCOM AIS data, received by the Secretariat during the period from March 2018 to April 2019 (document 5-1 Rev.1).

5.2 The Meeting discussed the process when a live-stream AIS data request is received by the HELCOM Secretariat.

5.3 The Meeting agreed that requests from private companies for live-stream data should be forwarded to each Contracting Party to the Helsinki Convention, since it is not part of the Revised Recommendation 33/1.

5.4 The Meeting requested the HELCOM Secretariat to add a column in the table of the requests (document 5-1 Rev.1) about the country origin of the requester.

5.5 The Meeting noted that when an AIS data request is related to AIS data from one Contracting Party, the HELCOM Secretariat will, as usual, forward the request to the relevant HELCOM AIS National Contact Point.

5.6 The Meeting noted the needs of listing per country the AIS data requests that are not falling under the Revised Recommendation 33/1. Sweden will submit a template to the next HELCOM AIS EWG Meeting.

Agenda Item 6 Cooperation with other organizations

Document: 6-1

6.1 The Meeting took note of the information on the IALA Workshop on Ranging Mode (R-Mode), including VHF (AIS) implementation, to be held at IALA Headquarters, Saint-Germain-en-Laye, France, on 9-12 September 2019 (document 6-1). The IALA Workshop will help to discuss about the project with a broader audience than the usual project partners.

6.2 The Meeting welcomed **Presentation 7** given by Poland on the R-Mode Baltic Project funded by Interreg Baltic Sea Region and took note that the aim of the project is not to change existing IALA, ITU standards. However, some new additional equipment will be required.

6.3 The Meeting took note of the information from Poland that the outcome of the workshop will be available on the IALA website and will be shared with the HELCOM Secretariat.

6.4 The Meeting took note of the information that Estonia is planning VDES base stations tender for 2021.

6.5 The Meeting discussed that during the upcoming World Radio Conference (28 October to 22 November 2019), a decision might be taken related to allow satellites downlink for VDES.

Agenda Item 7 Any other business

Documents: 7-1, 7-2, 7-2-Att.1

7.1 The Meeting updated the lists of contact persons and technical representatives for HELCOM AIS EWG as well as contact persons for the HELCOM AIS Agreement (document 7-1). The Meeting agreed that only the updated AIS EWG contact address list will be made available on the AIS EWG 30-2019 Meeting Site, upon receipt of consent for publication by all contact persons.

7.2 The Meeting took note of a survey on HELCOM knowledge and research needs submitted by the Secretariat (document 7-2) and that the Contracting Parties and experts are invited to submit proposals by the end of June 2019 (ullali.zweifel@helcom.fi), noting that the proposals will be discussed at MARITIME 19-2019 (24-26 September 2019).

7.3 The Meeting noted that the Convention for the Protection of the Marine Environment of the North-East Atlantic (OSPAR) already published their own science agenda in which the OSPAR Contracting Parties took part. This document is regularly updated by OSPAR.

Agenda Item 8 Election of Chair

8.1 The Meeting re-elected Mr. Alar Siht as Chair of HELCOM AIS EWG for the period 2020-2021; as well as Mr. Sergei Rostopshin and Mr. Marek Dziewicki as Vice-Chairs of HELCOM AIS EWG for the period 2020-2021.

Agenda Item 9 Future work and meetings

9.1 The Meeting welcomed the offer by Norway to host the next meeting of AIS EWG and agreed to arrange AIS EWG 31-2020 tentatively between 25 and 29 May 2020. The final location and dates will be confirmed by intersessional correspondence between the host and the HELCOM Secretariat.

Agenda Item 10 Outcome of the Meeting

10.1 The Meeting adopted the draft Outcome of HELCOM AIS EWG 30-2019 containing the main decisions of the Meeting. The Outcome of the Meeting will be made available in the HELCOM Meeting Portal, together with the documents considered and presentations given during the Meeting.

Annex 1 List of Participants

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