



European Maritime Safety Agency

Meeting Report

**Proxy pilot project (providing
streamed SSN data to MSs)**

**Held in Amsterdam,
5 August 2010**

Lisbon 7 September 2010

Background

1. Introduction

SSN 12 (Lisbon, 21/22 October 2009) agreed to set up a pilot project with the participation of three Member States (Norway, The Netherlands and Poland) to test the use of the so-called "SSN Proxy application" with the objective to distribute streamed AIS enriched data to the MS. This pilot project is the result of an increasing request of some MSs to receive real SSN data at their premises with the objective to integrate them into their national applications.

The meeting was opened and chaired by Mr Lazaros Aichmalotidis Head of EMSA Unit C.2. EMSA sent to the three MSs a formal letter on 30 May 2010 defining the actions to be taken for launching the pilot project (see **Annex A**).

The pilot project objectives are to:

- demonstrate the usability/effectiveness of SSN data streamed continuously to MSs through the proxy application;
- assess the needs/benefits of streaming position data to MS and evaluate the conditions of distribution on a need to share/ need to know basis.

The meeting was attended by delegations from: **the Netherlands, Norway and Poland**. The list of participants is s **Annex B and the agenda is indicated in Annex C**.

Meeting Objectives

The specific aims of the meeting were:

- Review the progress and current status of the pilot project;
- Exchange views on the operational concept and technical issues relate to data distribution and
- agree on the next steps for the pilot.

Meeting Programme

2. Opening / Introduction

Mr. Aichmalotidis emphasised that the first priorities of the pilot project are to clarify:

- What is the level of interest of the MSs in receiving SSN-STIRES data through the proxy application?
- Which are the needs of the various users?
- What are the necessary developments of the MSs' systems to exploit these data (interface with the proxy, national system evolutions, charts and GIS tools associated...)

By the end of this pilot, a clearer picture will be provided to all MSs based on the experience gained. The outcomes of this project should allow EMSA and the MSs to analyse the potential impact on national systems and consequence for the long-term (planning for developments, evolutions, operational procedures etc).

EMSA stressed that the distribution of streaming SSN data to MS would be a logical way forward facilitating the sharing and exchanging of traffic information among MS. The participants welcomed the initiative of EMSA for this pilot project. The Norwegian representative presented the rationale of Norway's participation in the pilot project and mentioned that the web-based visualisation application does not cover their national requirements; instead they need a machine2machine communications to allow ingestion of data to their national applications. The Dutch and Polish representatives agreed with the views expressed by Norway.

The chairman mentioned that the development and maintenance of the SSN Graphic Interface (SSN GI) should be maintained for the MSs not ready or willing to make any further investment for receiving the streamed data. The SSN GI creates a considerable costs to EMSA (e.g. licensing of maps, expensive hardware, software maintenance costs), but at the same time ensures a minimum level of service for the MS. He reminded that although a number of countries expressed an interest for the machine2machine data exchange only three countries (plus Latvia) expressed their willingness to join this pilot.

The participants **agreed** that while the web-based SSN graphical user interface, is used mainly for presentational purposes, the streaming data distribution (enabling MS to integrate the SSN data into their national applications) maximises the benefit.

3. Impact to MS related to the introduction of streaming mode

The participating States confirmed that all the preliminary actions (downloading/ installation of the proxy, digital certificates, provision of information on users and area of interest) have been concluded successfully.

The participants **agreed** that they need to change their national applications (mainly to add software on top of existing GIS applications operated at NCA and/or VTSSs). Norway and Poland presented the initial concept of integration of data delivered via streaming mode into their national applications.

The participants **agreed** that the SSN-generated information is not to be used to replace data that are collected by national means (VTS, national AIS network) but to complement the already available information at national data with the "enrichment" tags embedded into the SSN data. The draft cost of modifications of the existing national application is estimated to 30,000€ for Poland and 70.000€ for Norway; no estimation is made by the Netherlands.

4. Data distribution (proxy solution)

EMSA mentioned that in the framework of the STIRES project, the Agency developed a software application (named proxy – in the future the application will be identified as "SSN Streaming Interface (SSN-SI)"). This software is primarily used for collecting AIS data from MSs either directly or via the regional AIS servers. Apart raw data reception, the SSN-SI could be used for the distribution of the SSN enriched AIS data back to the MSs. The SSN-SI software is suitable for a streamed data distribution of AIS data and is based on the IEC standards.

EMSA sent to the participant MSs technical documentation and instructions on how to request the SSN-SI software on 31st March 2010.

The participants **agreed** to receive the SSN streamed data using the SSN-SI.

The meeting also discussed about other potential options for an automatic data distribution and in particular on the "Comment block¹" that is considered as an update of the proxy application. EMSA noted that the "comment block" update of the SSN-SI needs attention for the following reasons:

- The 3rd revision of ITU-R M.1371 standard slightly modified the definition of the content of AIS messages 1, 2 and 3 as far as the field which was originally reserved for regional applications (ref. ITU-R M.1371, Message 1, Reserved for regional applications parameter) and utilised by SSN (in the currently available version of the SSN-SI) for the enrichment data. Two out of four bits used in the present implementation are now allocated to a new "special manoeuvre indicator" field. As a result a number of AIS applications at national level shall not be able to process properly the data concerning the enrichment.
- The current SSN-SI implementation also uses the "Navigational Status" field of the AIS message protocol to allow applications at Regional and National level to distinguish LRIT from AIS data. The forthcoming forth revision ITU standard amends the definitions for the "Navigational Status" field. Based on this revision, all the 16 possible values of the field are now associated with a status. Therefore, there will be a potential ambiguity, should the new ITU draft revision be approved

EMSA mentioned that it launched a procurement process for upgrading the current SSN-SI by fully exploiting the "comment block" option at SSN in order to turn the SSN-SI into a "future-proof" solution. The development of the EMSA comment block-compliant SSN-SI application does not create any impact to MSs; it only provides flexibility to those MSs who may decide to carry out similar developments at national level.

The adoption of the "comment-block" compliant proxy would allow MS to distribute position data originated to system other than AIS to authorised users via their NCA application. The operators of the SSN-SI (at SSN or national level) will act as "trusted brokers" between data providers/subscribers operating in line with the agreed rules. Data originator/recipients tags embedded in the transmission will facilitate access control since the recipient of a data stream is aware of the data distribution related restrictions.

5. XML versus proxy

The participants discussed on the use of a mechanism based on XML as an alternative option to the SSN SI. The participants **noted** that there is no evident added value of an XML based mechanism for "pushing" AIS information against the one realised via the existing SSN-SI.

¹ The term "comment-block" refers to an evolution of the existing SSN-SI fully compliant with the "comment block" extensions of standard AIS messages. The comment blocks are introduced in the 62320-1 standard on AIS base stations. The currently available version of the software makes use of comment blocks to include a complete time-stamp to position messages.

Norway and Poland confirmed their preference to the “comment block” compliant release of the streaming interface. The Norwegian representative stated that the existing XML-based mechanism of ship notification on SSN (which is based in request/ response and provides information on the latest position registered in the system) is superfluous and it gives no value to the MS. Furthermore he stated that Norway decided to adopt the AIS data streaming solutions in their national architecture instead of an XML-based solution.

The Dutch representative pointed the discussion made in IALA on the IVEF protocol. IVEF is an XML-based protocol allowing pushing and “polling” VTS-generated data (including those that are AIS generated).

EMSA informed the participants that it is currently analysing the use of IVEF in the context of the pilot agreed with France, Spain and Italy to explore dissemination of VTS-generated and radar information via SSN and noticed that both approaches (distribution via SSN-SI and IVEF) have specific benefits and serve different needs.

EMSA stated that the MS’s participating in the project would be given the chance to participate in the discussions and have influence on the design of the content (syntax) of “comment blocks” to be used in the context of the SSN-SI application.

The participants **acknowledged** the importance of the “comment-block” solution and suggested informing the SSN MS and the IALA eNav Committee. The Dutch participant in the IALA eNav committee **agreed** to inform the IALA eNav members about the possible use of the “comment block” .

6. Conditions of Use

EMSA suggested that a draft agreement for the Conditions of Use (CoU) should be signed between EMSA and each participating country. The objectives of the CoU would be:

- to establish the common understanding and application of the access rights;
- to confirm the extension of the responsibilities and contacts of SSN NCAs.

The participants **agreed** that the existing Condition of use EMSA signed with the 3 MSs will be modified to define the terms of the additional data flow.

7. Access rights and data distribution

The participant MSs defined the users for the pilot project and stated that at national level, the management of the users having access to SSN streamed falls under the responsibility of the National Competent Authority. This approach follows the current logic of SSN whereby the NCA decides and EMSA only keeps a register of users.

The distribution of data shall be coherent to the Directive 2002/59 (as amended) and its objectives. Article 24(1) of the Directive defines the confidentiality terms while Article 23a prescribes the distribution of data to all Member States authorities.

In regard to the level of interest of the MSs in receiving SSN data through the proxy application, Poland identified the Baltic Sea as the area where information is required while Norway and Netherlands are mainly interested to receive SSN data for vessels sailing off their coast. In addition the Netherlands requested to have access to SSN data for vessels carrying the Dutch flag irrespective of the area of operation.

The participants **agreed** that EMSA should open the data stream allowing the provision of AIS enriched data to Norway and the Netherlands (for all vessels operating in the North Sea) and to Poland (for the Baltic). Moreover the participants should be granted access to AIS enriched streamed data for vessels carrying their flag regardless the area they operate (logic similar to LRIT). The participant MSs **agreed** to provide to EMSA the polygons indicating the exact areas of interest with the objective to limit the data flow from the entire area to the specific area of interest.

8. Pilot project phases

EMSA reminded the content of the letter sent to participants (Ref: C.2/yIm/LAI/2010/975; 31 May 2010) containing proposals on the project phases (see attached Annex A).

The participants **agreed** that Phase A of the pilot project is completed and the next phase will start in September following the steps below:

- Step (a): EMSA will open the data stream allowing the provision of AIS enriched data to Norway and the Netherlands (for all vessels operating in the North Sea) and to Poland (for the Baltic). Moreover the participants should be granted access to AIS enriched streamed data for vessels carrying their flag regardless the area they operate (logic similar to LRIT).;
- Step (b): Participating MS, validate/ verify good reception of data be conducting tests requiring no modifications to their existing applications;
- Step (c): The three participants (plus any other MSs wanting to join) will enter into the implementation phase and testing.

9. AOB

Norway presented their S-AIS project and stated that S-AIS provides valuable additional information on the maritime traffic complementing data received by LRIT.

EMSA summarised the results of a recent study conducted by the MSS on the Hazmat notification.

The date and the venue of the next meeting should be defined at a later stage considering the outcome of the next SSN 14 Workshop (Lisbon 20 and 21 October 10).

Annex (A) – Letter sent to NO, NL and PO

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Lisbon, 31 May 2010

Ref: C.2/yIm/LAI/2010/975

Subject: SSN-STIRES pilot project

Dear Mr.,

As you may be aware, it was agreed at SafeSeaNet (SSN) workshop 12 (held in Lisbon on 21/22 October 2009), that a pilot project should be set up to organise the future receipt of AIS enriched data through a STIRES receiver proxy (see action point 12 of the meeting minutes) with three Member States (Norway, Netherlands and Poland).

The pilot project will be used to demonstrate the usability/effectiveness of SSN data streamed to MSs through the proxy applications. EMSA wishes, with your support, to assess the needs/benefits and evaluate the conditions for making SSN streamed data to the MSs using the proxy as a distribution tool.

Technical documentation and instructions on how to request the relevant proxy software were sent through the official SafeSeaNet contacts to Norway, The Netherlands and Poland on 31st March 2010.

To launch the pilot project, we propose a phased in approach as follows:

First I - Preparation

Phase I includes:

- Downloading of the proxy software
- Administrative arrangements (assignment of the responsible officer, launching the procedure for the Security certificates etc).
- Identification of the users among the authorised SSN groups. The NCA is invited to identify the SSN users to be given access to the streamed data.
- Identification of the areas of interest. The areas of interest should be justified by the operational needs. For example a MS may have a greater interest in receiving data from the area it belongs to.

The pilot project should have an impact to the SSN national application which needs to be assessed. The proposed deadline for the completion of Phase I is the end of July 2010.

As an outcome of this phase, EMSA would expect to receive by each participating MSs a report containing the MSs' feedback on the bullet points mentioned above, a description of the pilot project's technical impact, cost estimations and planning.

Phase II – technical implementation and testing

Phase II includes the implementation of the pilot project at national level and testing. It is premature, at this stage to forecast the duration of phase II. The schedule is largely based on the results and feedback of Phase I.

Phase III - Operations

This would be the phase of gaining experience from the operation of the pilot project. Duration of Phase III (tbd).

Phase IV – Analysis and assessment phase

During Phase IV, EMSA and the participating MSs should analyse and assess the impact upon the national systems and the longer-term perspectives (need for further developments, evolutions, modified operational procedures etc). Duration of Phase IV (tbd).

We would expect to present at SSN workshop 14 (October 2010), the results of phases I and if possible of II and the final assessment of the entire pilot project (including Phases III and IV) at SSN 15 or 16. For the pilot project phase I, you are invited to provide your feedback by the 30th of July.

Should you require further information please contact Mr. Yann Le Moan (00 351 21 1209 325, yann.le-moan@emsa.europa.eu).

I would like to thank you for your participation and interest in this potential future service as an enhancement to SafeSeaNet.

Yours sincerely,

Lazaros Aichmalotidis

Head of Unit

Vessel Traffic and Reporting Services

Annex (B) - Meeting Agenda

DRAFT AGENDA

SSN proxy pilot project 1st meeting
 5th August 2010, De Ruijterkade 7, Amsterdam, the Netherlands

09:45 – 10:15	1. Approval of the agenda and objectives <ul style="list-style-type: none"> ▪ Opening /Welcome to participants ▪ Approval of the Agenda ▪ Meeting objectives 	NL All EMSA
10:15– 10:30	2. Background information	EMSA
11:30 – 11:30	3. Data distribution (technical options) <ul style="list-style-type: none"> ▪ Proxy solution ▪ XML solution ▪ Comment block 	EMSA
11:30 – 11:45	<i>Coffee Break</i>	
11:45 – 12:30	4. Impacts for MSs <ul style="list-style-type: none"> ▪ technical (data processing, ENC's) ▪ operational ▪ costs 	NL, NO, PL
12.30 – 14.00	<i>Lunch</i>	
14:00 – 14:30	5. Current status (EMSA and MSs)	All
14:30 – 15:30	6. Access rights and data distribution <ul style="list-style-type: none"> ▪ users identification (NCA and others) ▪ restrictions on data access (flag; area; destination) ▪ data confidentiality issues 	All
15:30 – 16:30	7. Follow-up action <ul style="list-style-type: none"> ▪ CoU ▪ Pilot project phases 	All
16:30 – 17:00	Summary of discussion	
17:00	End of the meeting	

Annex (C) - Attendants' list

Present at the meeting of 5 August 2010

Proxy pilot project (providing streamed SSN data to MSs)

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