

Draft

Northern North Atlantic/Barents Region AIS

Project Mandate

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1 INTRODUCTION

1.1 Scope

The purpose of this document, requested during the meeting in Haugesund 16.01.2009 between representatives from Norway, Denmark, Faroe Island, Iceland, Ireland and the United Kingdom and EMSA on establishing a regional VTMS for the Northern North Atlantic and Barents Sea Region, is to provide participating countries with a project specification as basis for the establishment of the Northern North Atlantic/Barents Region AIS.

1.2 Background

There is an increasing demand for oil and gas worldwide, combined with more interest in access to resources located in the North Atlantic and Barents Sea Regions.

The UN climate panel has warned of rising sea temperatures in the north, and a retraction and possible disappearance of the Arctic sea ice. Among other outcomes this will contribute to a longer shipping season, possible opening of new sea routes and perhaps increased attractiveness for regional development. In addition the participation of Canada into the regional server would assist EMSA in harmonising the input of data from the EU/EEA states and the Paris MOU for PASC states enabling better management. As a result of this information exchange and better situation awareness is becoming more vital to provide safety at sea. It has been accepted by EMSA that it is desirable to have a common regional traffic image to facilitate the efficiency of traffic, to help prevent incidents and facilitate response in case of accidents.

A regional Northern North Atlantic/Barents Region AIS proposes to physically bring together and exchanging information in regards to vessel movements in the Northern North Atlantic, the North Sea and the Barents Sea regions (see map below). The scheme also proposes to provide an easy access tool to visualize the traffic. The geographical scope of this cooperation will be limited by the number of participating States and the range of AIS coverage. The network should allow other states, both inside and outside of the EU/EEA, to be adopted as participating parties. This should be regulated by agreements.



1.3 Recommendations for further work

Norway has taken first steps to discuss the establishment of a common regional traffic image covering the Northern North Atlantic and Barents Sea region with bordering countries, which are responsible for commissioning AIS services for authorities in the region and EMSA. Meetings on this topic have been conducted. The last meeting in Haugesund 16.01.2009 agreed on a set of recommendations for further work;

1. Denmark, The Faroe Island, Iceland, Norway and the United Kingdom support the establishment of a regional North Atlantic AIS/VTMIS.
2. These states will work to implement an agreement on the use of maritime information using the distribution of real-time, historical and statistical North Atlantic AIS data in the North Atlantic and Barents Sea region as soon as possible.
3. The Republic of Ireland will have observer status.
4. The Information Management Centre (IMC) will be located in Norway.
5. A project scope and proposal plan, with reference to the North Sea AIS agreement, will be developed prior to the next meeting.
6. A formal invitation to be extended to Canada to take part in this agreement.

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It was agreed that these are working definitions. The final definition of Northern Atlantic should be clarified in a final agreement.

2 PROJECT DEFINITION

2.1 Purpose

The purpose of the project is to facilitate the harmonization of traffic monitoring infrastructures in Europe, as described in the STIRES report (Saab AB, PM 374185), and specifically within the sub- EU Regional domain encompassing the Northern North Atlantic and the Barents Sea regions in line with the directive 2002/59/EC.

2.2

Objectives

The main project objective is to set up a constantly connected data exchange facility between National AIS servers and a regional server for the collection, distribution and storing of AIS data. The participating countries will exchange AIS data with the regional North Atlantic AIS server, and the data will be displayed and statistically processed through a Web portal. Aggregated AIS data from the region will also be relayed to the EU server.

The project is to be scalable to allow for future development, specifically in Geographical Information Systems and a cooperative multinational Vessel Traffic Management Information System.

2.3

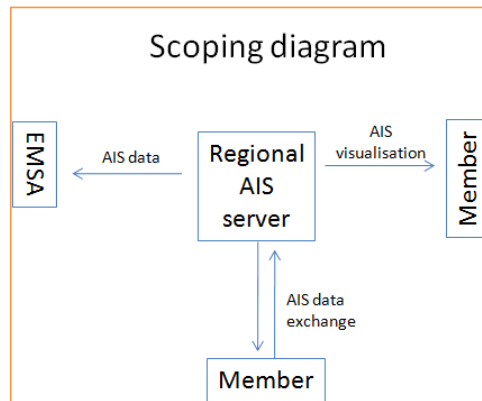
Project Scope

The project will address issues concerning the storing of AIS data centrally and tools for visualizing AIS data acquired from the various National systems; similar to what takes place in the Mediterranean, Baltic and North Sea areas.

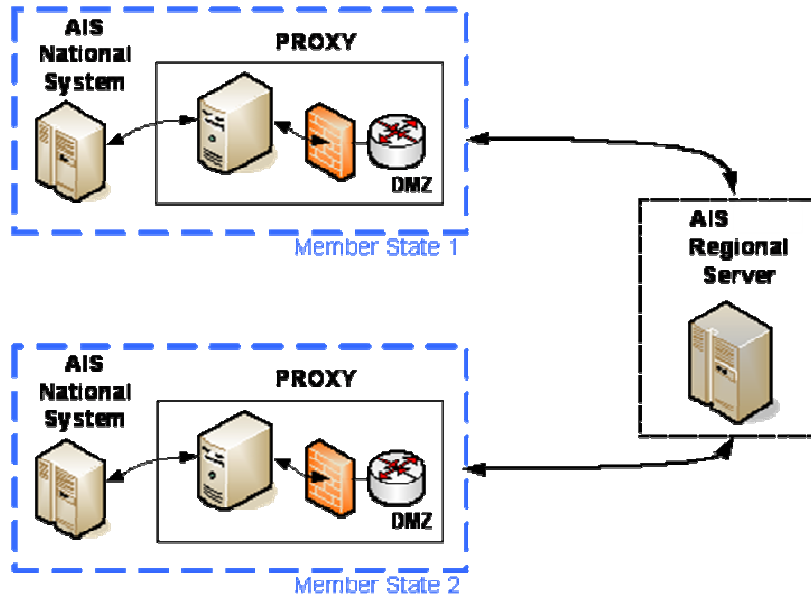
2.3.1

System Scope

Amongst the most important services that the Regional AIS server will provide are the reception of AIS data in real time, the storage of the incoming data, and distribution of aggregated AIS data. Consequently, implementation of a Regional AIS server requires permanent connections with all of the National AIS servers, as well as the EU domain, to allow the exchange of data between the systems involved. See scoping diagram.



The architecture of the Regional system will be divided in two separate segments as illustrated in this model:



(source: STIRES 7/MED/4)

The first segment includes software modules that must be installed on hardware located inside the National DMZ of each participant State. The location where this hardware will be placed can be decided by the National Authority involved; this part of the system will be the gateway (Proxy) which enables the AIS data exchange between each National system and the Regional server.

The second segment includes software modules that must be installed on server(s) which will be located in the management centre in the Norwegian Coastal Administration. The main services that must be provided by these modules are:

- collecting and distributing AIS data from/to the Proxy;
- storing AIS data in the Regional database;
- retrieving and analysing the stored AIS data and displaying this data in predefined reports, in diagrams and layered over charts (GIS).

Internet will be used for connecting the Regional server with the National proxies and with EMSA. The Regional system must be designed to sustain the data produced by the vessels inside the defined area.

2.4

Constraints

1. The project shall be subject to a formal agreement between participating parties.
2. An AIS Expert Working Group will be established where the participating parties will agree on the methods for exchange of AIS data and how the implementation will be done.
3. The project will be completed and evaluated 10 months after entering the agreement.

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4. Norway will finance the implementation and maintenance of the system. The participating countries will finance their own delivery of data into the system.

2.5 Interfaces

1. National systems
2. SafeSeaNet (SSN).
3. SafeSeaNet Tracking Information Relay and Exchange System (STIRES).

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3 QUALITY EXPECTATIONS

Users should be able to display either the current combined AIS picture or an old traffic image, stored in the regional database, through a playback function. A Web portal target display should include the following features:

1. Target attributes visualisation.
2. Distance calculation.
3. Manual user display de-clutter (hiding of targets' labels and information).
4. Target history with an export and printing capability.
5. Layer activation/deactivation (such as basic bathymetry, major navigational aids etc).
6. Configurable manual and automatic page refresh.
7. Target filtering of AIS fields as defined by ITU (callsign, MMSI, speed over the ground etc.).

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The Web portal should also provide the user with the tools to perform statistical analysis, including field search criterion, time criterion and geographical criterion.

4 ASSOCIATED PROJECTS AND PRODUCTS

1. 2002/59/EC (Vessel Traffic Monitoring Directive).
2. Harmonising traffic monitoring infrastructures in Europe, as described in the STIRES report (Saab AB, PM 374185).
3. The MarNIS (Maritime Navigation and Information Services), an Integrated Research Project in the 6th Frame Work Programme, with focus on improved exchange of information and integrating several maritime operational services.
4. North Sea AIS agreement.
5. SSN-THETIS Management of ship call notifications.
6. HELCOM/EMSA project on monitoring the banning of carriage of heavy grade oil in Single Hull Tankers (2005-2007)

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5 RESPONSIBILITIES

5.1 Overall responsibility

The Royal Ministry of Fisheries and Coastal Affairs Norway have the overall responsibility for the establishment of a regional North Atlantic AIS/VTMIS for the North Atlantic and Barents Sea regions.

5.2 Executive and Project Manager

The Norwegian Coastal Administration is assigned project management, responsible for the development, implementation and the maintenance of the system in accordance with the agreement. The project will be managed by senior resource in the Norwegian Coastal Administration.

5.3 Stakeholders

1. National Competent Authorities as detailed in the Access Agreement.
2. International Maritime Organisation.
3. European Maritime Safety Agency.
4. Directorate-General for Energy and Transport.
5. International Chamber of Shipping.
6. International Association of Marine Aids to Navigation and Lighthouse Authorities.

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6 OUTLINE PLAN AND APPROACH

Participating parties will sign the Northern North Atlantic and Barents Sea AIS Agreement.

Norway will be responsible for the building and commission of the Regional Server. This will be the main system for collecting, distributing, storing and visualising of AIS data acquired from participating parties. It is expected that a trial system will be in place by April 2010.

Start up costs in relation to the exchange of AIS information is estimated at €200,000. These costs will be met by Norway. Norway will cover the annual operational management costs. Investments in additional functionalities are not included in this estimate.

Participating parties will undertake to provide the required data according to the methods of implementation decided by the AIS Expert Group.