International Association of Marine Aids to Navigation and Lighthouse Authorities
Association Internationale de Signalisation Maritime

GMISS - 2010

IALA and Maritime Information Sharing

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IALA and Maritime Information Sharing

1. *IALA*
2. *Context from an IALA perpective*
3. *IALA-NET*
4. *Problems to solve, Actions to be taken.*

IALA-AISM …

♦ *Is a Non-Governemental Organization (NGO), created in 1957*
  – Not-for-profit
  – Secular and non-political
♦ *Membership*
  – National
  – Associate
  – Industrial
  – Honorary

… brings together services and organisations that deal with marine aids to navigation

… provides a forum to share expertise

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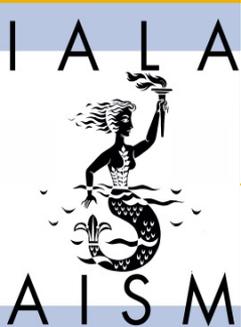
IALA
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Aim of IALA-AISM …

Fostering the safe, economic and efficient movement of vessels by <u>improvements</u> and <u>harmonisation</u> of aids to navigation worldwide

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For IALA Aids to Navigation

include:

- *Traditionnal AtoN (lighthouses, beacons, buoys...)*

- *Radio AtoN (GNSS, e-Loran...)*

- *VTS, VTMIS, VTM... (Domain Awarness?)*

- *AIS*

- *...*

Sharing information is not new

It started long time ago by sharing information on lights (lights list), charts, navigation, MSI (Navtex, SafetyNet), weather, ...

More recently by exchange of information such as PSC inspections (PSC MoUs, Equasis)

Through voluntary and mandatory ship reporting systems inside, but also outside territorial waters since 1993 (Valdés)
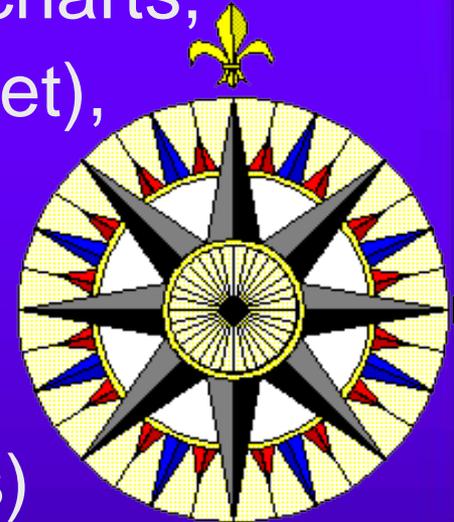
Maritime traffic monitoring

Mandatory ship reporting systems

90 MN
6 H à 15 nds

105 MN
7 H à 15 nds

Cross Gris Nez

Cross Jobourg

Cross Corsen

affaires maritimes

Sharing information is not new

Lloyd's List is very and rightly proud to explain that they have tracked ships and reported their situation for nearly three hundred years.

Local newspaper used to report position of ships of the national flag or calling at ports of the region.
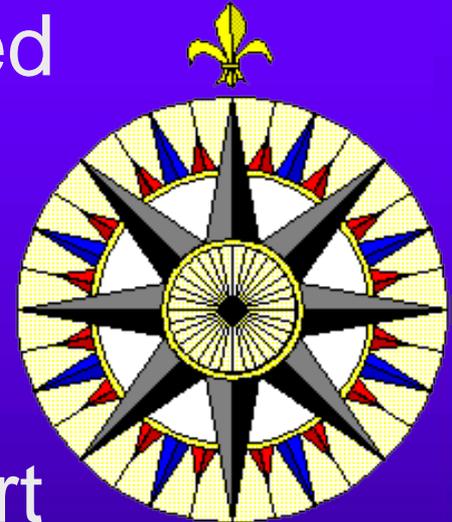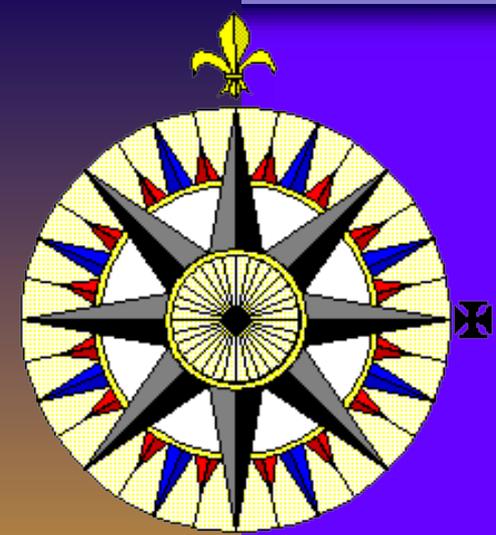
For IALA and its Members, sharing information is essential

It is one of the main functions for a VTS, it is the main function for VTMIS and, to morrow, for a VTM.

It is why IALA was the promoter of AIS to ITU and to IMO.

Recommendation ITU-R M.1371-3

Technical characteristics for an automatic identification system using time division multiple access in the VHF maritime mobile band (150 pages).

SOLAS Chap. V - Reg. 19

Mandatory carriage introduced in 1997, accelerated implementation decided in 2002
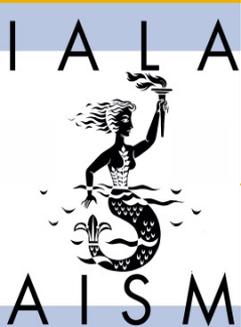
AIS has changed the maritime world and made the shore Authorities more responsible

- ◆ In the (recent) past, with signal stations / binoculars : no idea on traffic along the coast

- ◆ Radar : few ideas

- ◆ Mandatory ship reporting system : major legal evolution, improves the knowledge

- ◆ AIS : all SOLAS ships are identified and the traffic along the coast cannot be ignored any more (density, dangerous situations, efficiency of aids to navigation). Shore Authorities have the tool to implement SOLAS V-12 (VTS) and V-13 (AtoN).

Suggested new two-way route limit

Upright soundings - need investigation
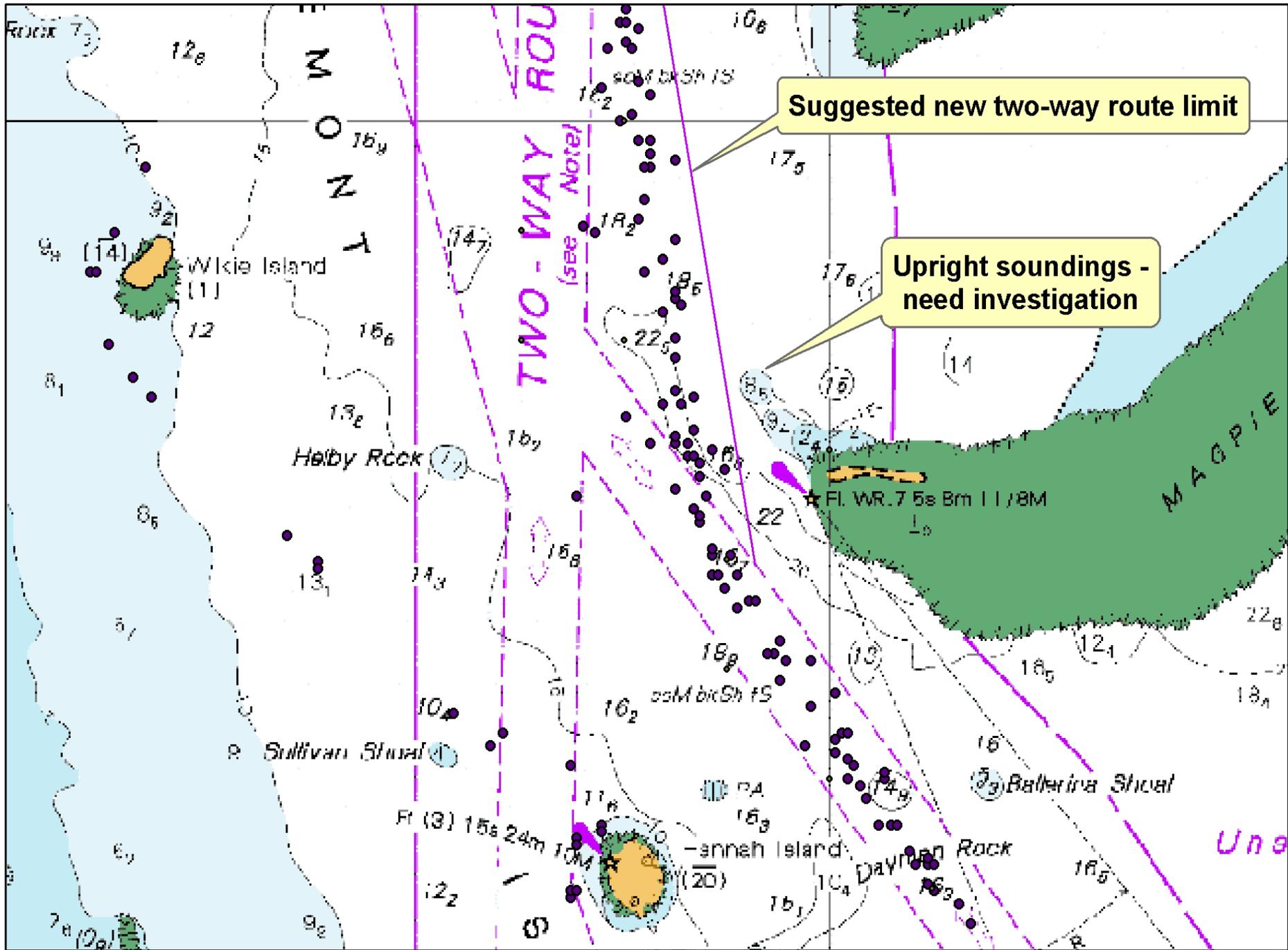
Development of shore based AIS Networks

Very soon after the IMO decision to make the carriage of AIS mandatory, there were several public initiatives to develop systems of exchange of AIS information:

♦ On national basis (many countries)

♦ On regional basis (few, Helcom, North-Sea, SafeSeaNet...)

♦ On world-wide basis (one, MSSIS).

In the meantime, the private sector using the broadcast function of AIS (no secrecy!) has developed several systems accessible to everyone through Internet, sometime for free, sometime by buying information. The next slide show half of the 1st page of Google on AIS tracking.

[Live Ships Map - *AIS* - Vessel Traffic and Positions](#)

- Vessel positions *tracking* based on *AIS* data. Real-time ship locations and port arrivals departures. *www.marinetraffic.com/*

[*AIS* Vessel Data live in Google Earth - vesseltracker.com](#)

- A*IS* vessel signalling reporting *AIS* data live in Google Earth. *www.vesseltracker.com/en/Googleearth.html* -

[*AIS* Vessel *tracking*](#)

- Ships fitted with an *AIS* transponder automatically broadcast information, such as their position, speed, and navigational status, at regular intervals via a **...** *www.sea-seek.com/real_time/index.php* -

[Vessel *Tracking* and Automated Identification System (*AIS*)](#)

- The first version was developed by Astra Paging Ltd. in 2006 and distributed among the custommers of commercial *AIS tracking* service VT Explorer. **...** *www.vesseltracking.net/* -

[*AIS* Live](#)

- THE FIRST GLOBAL *AIS* NETWORK. AISLIVE **...** countries and is the most cost effective method of *tracking* vessels in real time available today. **...** *www.aislive.com/* -

[Your free source for vessel monitoring and *tracking*, live *AIS* **...**](#)

- Digital-Seas.com is the popular free ship-spotting community and vessel-*tracking* website for ship lovers, ship spotters, seamen and other **...** *www.digital-seas.com/* -

[*AIS* free ship and vessel *tracking*. *AIS* data sharing in raw NMEA **...**](#)

- *AIS tracking* services AIS is the mariner's most significant development in navigation safety since the introduction of radar. The system was originally **...** *www.aishub.net/* - [En cache](#) - [Pages similaires](#)

♦

Seasearcher/Lloyd's MIU "has purchased the necessary receivers for each of its existing reporting sources which allow us to offer our customers not only the **world's largest** AIS (Automatic Identification System) coverage but also the **highest quality** of information in the market.

The powerful Lloyd's MIU AIS functionality allows the user to study total AIS traffic patterns and it is possible to filter by type, classification, flag, gross and deadweight tonnages. Most importantly, with a lot of our AIS offerings it is possible to view both Seasearcher and our AIS system side by side switching seamlessly between the two applications, linking the vessels, ports or casualties plotted by each AIS station to the qualified ownership, characteristics, casualty and ports records recorded in the Lloyd's MIU database. Vessel, port and casualty positions are plotted against high level costal maps, but, as the user zooms in to take a closer look, electronic maritime charts are used to provide a detailed view of the port from which the AIS data was received. This enables precise identification of the position of each vessel within each port, improving on the historic reporting of movements."

I A L A

A I S M

Seasearcher/Lloyd's MIU

AIS Station coverage
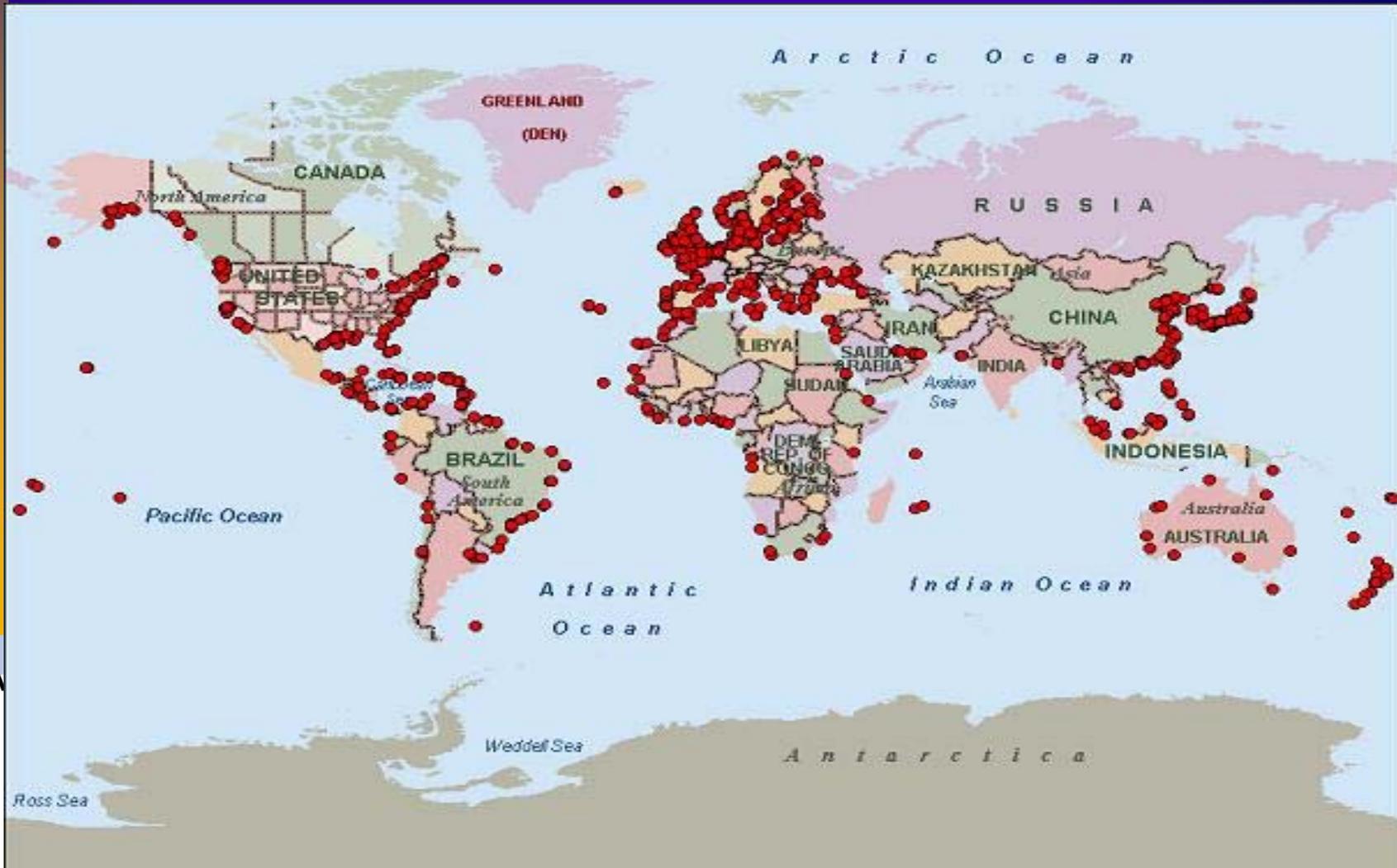
The reasons to create IALA-NET

Apart MSSIS, only private/commercial companies monitor the maritime traffic on a global mode. However, traffic monitoring includes security, safety, protection of marine environment and traffic organization missions.

Those missions are part of governmental responsibilities and the information used by the Authorities in charge of the missions shall not be dependent of the sole private sector.
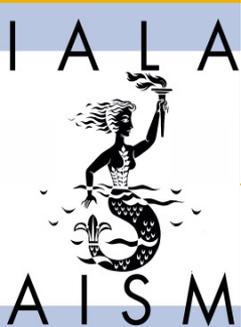
IALA-NET is an IALA project

1.   Therefore, with the assistance of MSSIS, it was decided to start a trial through a demonstrator to verify the feasibility and the interest of the project to establish a global system of exchange of AIS information between Marine AtoN Authorities.

2.   The demonstrator was provided to IALA and IALA Members free of charge thanks to the generosity of Denmark and the United States.

3.   The trial started in August 2008 and ended the 1st of July 2010 when the IALA Council decided to make the IALA-NET system permanent.

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What is IALA-NET ?

IALA-NET is a near real time AIS data exchange service through Internet.

It is a worldwide service only open to national Authorities who provide the AIS data from their own country.

The service is intended to assist these Authorities to fulfill their duties regarding safety, security, protection of marine environment and efficiency of navigation.

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What are the benefits provided by IALA-NET ?

Here are some examples :

➢ **Maritime safety**

➢ **Search and Rescue**

➢ **Marine investigation accident**

➢ **Improving efficiencies of navigation**

➢ **Security**

➢ **Illegal activity**

➢ **Traffic analysis**

➢ **Environmental monitoring**

➢ **...**

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Who can access IALA-NET ?

Access to the IALA-NET data exchange will only be allowed to countries which provide AIS information themselves to the system. Furthermore, in each of these countries, the access to the information will only be permitted to Competent National Authorities, and under their control to those in charge of:

- **Maritime Safety Administrations**
- **Pollution preventing and combating**
- **VTS(Vessel Traffic Services)**
- **Port State Control (PSC)**
- **Contingency planning**
- **International Ship and Port Security (ISPS)**
- **Search and Rescue (SAR)**
- **Traffic planning, efficiency and management, incl. icebreaking services**
- **Mandatory reporting system and reporting requirements**
- **Pilotage**
- **Customs surveillance**
- **Protection of marine resources**
- **Science and research supporting the implementation of the Helsinki Convention and for preparing IMO ships routeing measures**

Regarding sharing information with LRIT

LRIT and AIS are two systems complementary. To totally benefit from the LRIT system a flag State, a port State or a coastal State need to have the latest AIS information available received by a shore based station before the ship had left the A1 area, whatever her location around the world: it will be much more convenient and cheaper for the Authority in charge, when receiving LRIT information, to refer to the IALA-NET AIS data base rather than to exchange messages with the ship to have more detailed information.

But LRIT is a very complex and costly machine, with limited information and access …

IALA–NET System
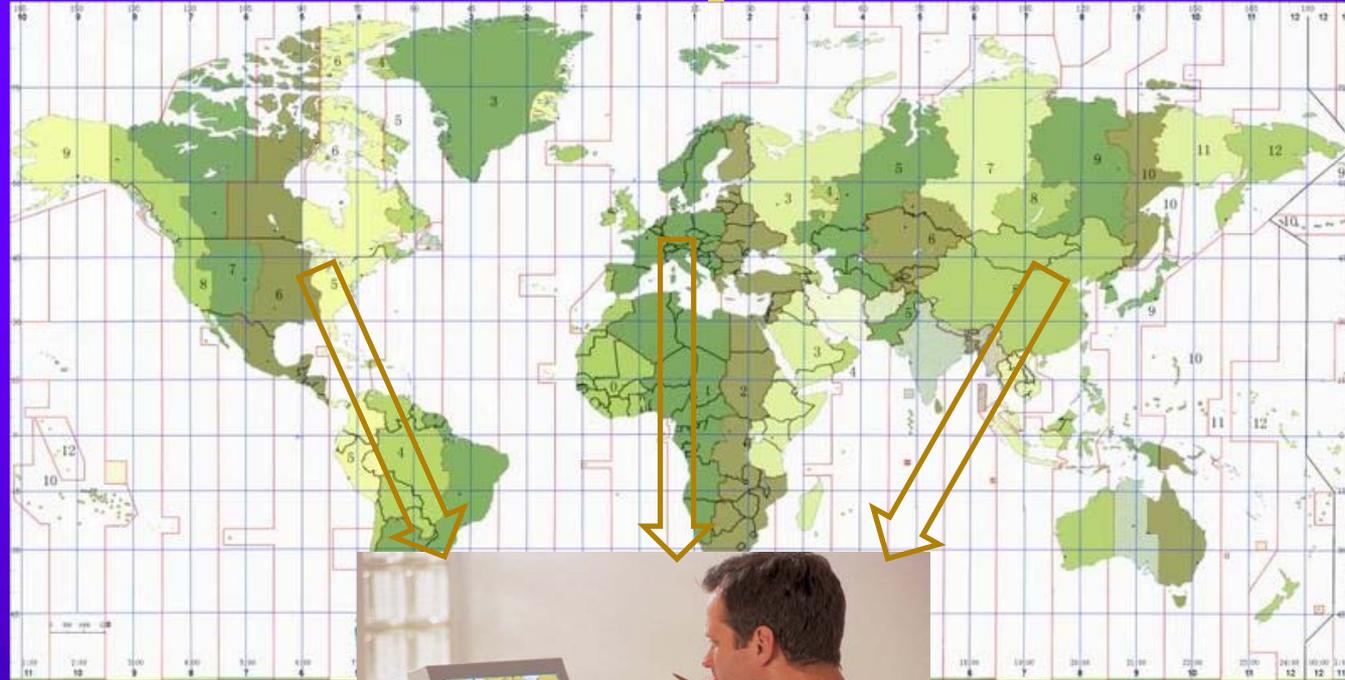
IALA-NET uses 3 server centers, evenly spaced in time-zones, to provide back-up and a 24-hour service.

IALA-NET Global Data Center

WORLD MAP

The USA, Denmark and China have agreed to establish each one a Data Center at their own cost. The three servers have the same functions and received the same information, but each one watch the system for eight hours during its working hours to limit the running cost of the system.

IALA-NET

What's next?

♦ To organise the storage of historical data

♦ To develop the system using other sources of information, including satellite AIS, radars, etc...

♦ To prepare for e-Navigation

IALA-NET

Following countries are on-line or are pending connection

Denmark - USA - Finland - Montenegro

Norway - Poland - Australia - Estonia

Ireland - Latvia - Oman - China

Chile - Germany - Irak - Jamaica

Scotland - Senegal - Turkey - Vietnam

Canada

Difficulties to recruit participants!

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Why the participation to IALA-NET is not growing faster?

- Lack of knowledge: many people still considered that the AIS information is secret and have not yet realised that anyone can buy it on Internet.

- Lack of clear policy on the use of AIS information. At its 79th session the MSC Committee agreed on principles, just after having learned the publication on the web site « AIS-Live » of live AIS information. Since that time the position of MSC/IMO remains unchanged and blocks any discussion on the matter, in particular on the development of AIS Satellite.
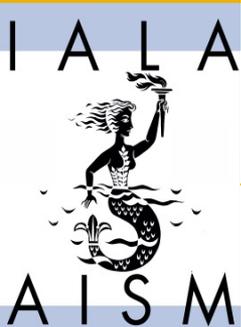
IALA-NET

...At its 79th session, the Maritime Safety Committee decided to:

♦ "urged masters of ships, notwithstanding the provisions of Guidelines for the on-board operational use of AIS – Resolution A.917(22) as amended by Resolution A.956(23) – not to switch off the ship's AIS on account of the publication on the world-wide web or elsewhere of the AIS data transmitted by their ships;

♦ urged Member Governments, subject to the provisions of their national laws, to discourage those who make available AIS data to others for publication on the world-wide web, or elsewhere from doing so;

♦ condemned the regrettable publication on the world-wide web or elsewhere of AIS data transmitted by ships;

♦ condemned those who irresponsibly publish AIS data transmitted by ships on the world-wide web or elsewhere, particularly if these offer other services to the shipping and port industries; and

♦ requested the Secretary General to bring to the attention of those who publish or who may publish AIS data transmitted by ships on the world-wide web or elsewhere, the conclusions of the Committee."

Conclusion

•**Needs to educate on the use and on the potential of AIS information (Model courses?)**

•**Needs to review the policy regarding the circulation of AIS information (Proposal to IMO?)**

•**Needs to promote IALA-NET**

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Thank You