

# International Association for Marine Aids to Navigation and Lighthouse Authorities

Jacques Manchard, IALA Senior Adviser





## SUMMARY

- About IALA
- The future
- Risk Management
- The World Wide Academy Strategy
- Delivering as one
- Recommendations



# About IALA

International Association of Marine Aids to Navigation and Lighthouse Authorities



## Aids to Navigation

A marine **aid to navigation** (AtoN) is:

“a device, system or service, **external to vessels**, designed and operated to enhance safe and efficient navigation of individual vessels and/or vessel traffic”

(Reference: NAVGUIDE 1.8 and introduction to Ch 3)

Not to be confused with a navigational aid (**navaid**) which is:

*“an instrument, device or nautical publication (NP) carried **on board** a vessel for the purpose of assisting navigation”.*



# The Maritime Buoyage Agreement

IALA A and IALA B

During the IALA conference in November 1980 two navigation marking systems, i.e. the System A (red color for the left hand of the ship) and the System B (red color for the right hand of the ship), were combined into one - the IALA System.





# Name the mark







# Headquarters

St. Germain-en-Laye, near Paris, is the home base of IALA providing:

- Offices of the permanent secretariat and
- IT-equipped meeting rooms for technical committees, workshops and seminars





## A Brief History of IALA

- Technical lighthouse conferences had been convened since 1929
  - IALA was formed in 1957 as a technical association based in Paris to support the goals of those earlier conferences
  - The organisation has a consultative, recommendatory, and technical nature and is a not-for-profit and non political international association with Non-Governmental Organisation status
-





# Aids to Navigation

IALA Constitution Art. 1

“A device, system or service, external to vessels, designed and operated to enhance safe and efficient navigation of individual vessels and/or vessel traffic”

(Reference: NAVGUIDE 1.8)





## Aids to Navigation

Not to be confused with a navigational aid (**navaid**) which is:

*“an instrument, device or nautical publication (NP) carried **on board** a vessel for the purpose of assisting navigation”.*



## The IALA “Motto” and principal aims

"Successful voyages, sustainable planet"

- To harmonise standards for Aids to Navigation systems worldwide
  - To facilitate the safe and efficient movement of shipping
  - To enhance the protection of the marine environment
-



## Four Types of Membership

- 85 National Members (Coastal States)
- 59 Associated Members
- 130 Industrial Members
- 47 Honorary Members





## Governance structure

- General Assembly meets every 4 years (next 2022)
  - Council (24 members) meets biannually
  - Council Working Groups:
    - Strategy Group
    - Finance and Audit Committee
    - Policy Advisory Panel
    - Legal Advisory Panel
-





# The Committees

The “Power House” of IALA

- AtoN Requirements and Management (ARM)
- Engineering and Sustainability (ENG)
- Vessel Traffic Services (VTS)
- e-Navigation (ENAV)







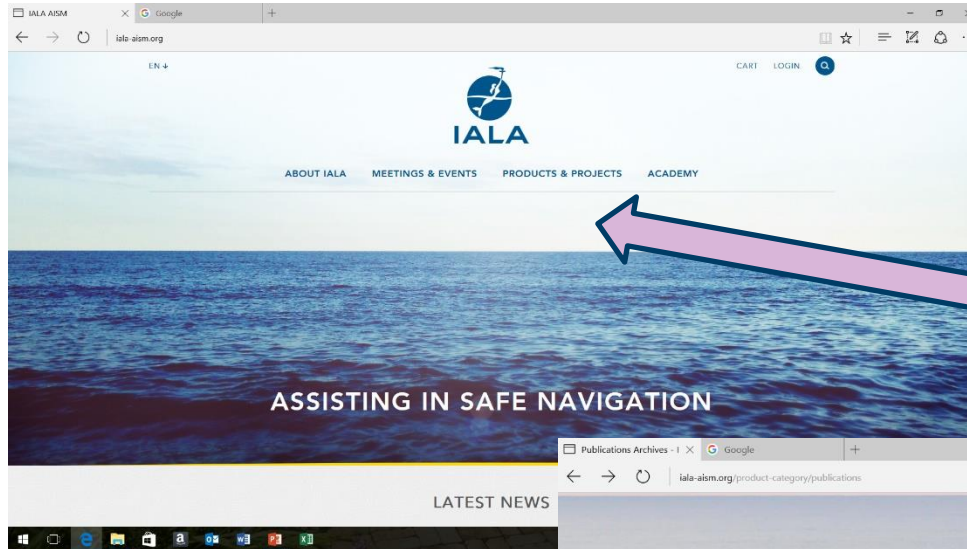
# Publications

Main result of the Committees work

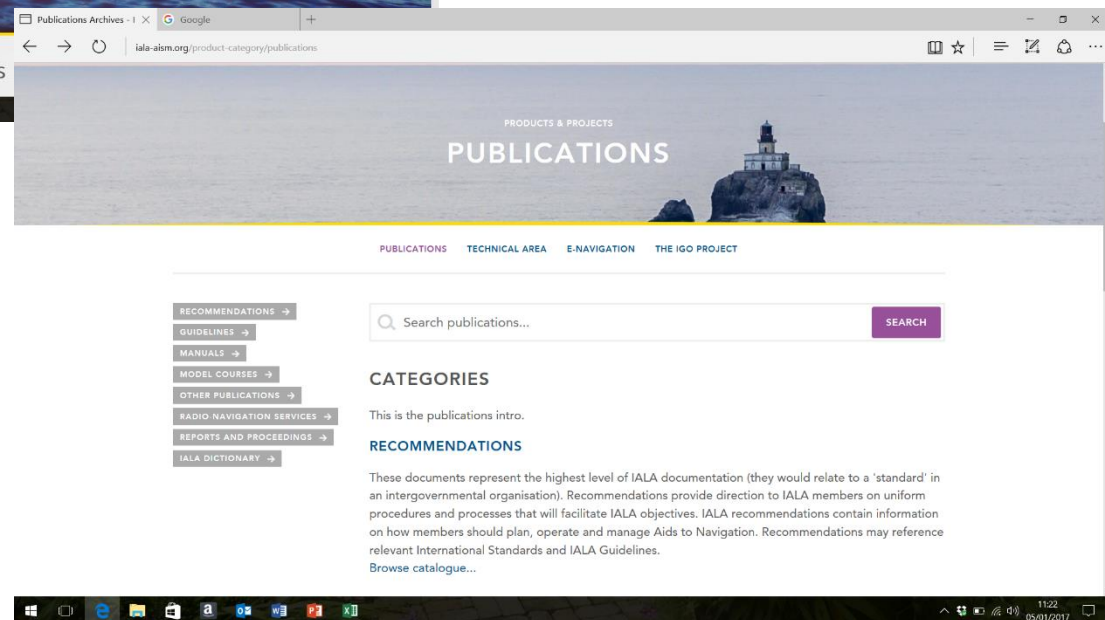
- **Standards** which can be referred to directly in IMO and other Conventions and national maritime laws
  - **Recommendations** advise what should be done
  - **Guidelines** advise how to implement the recommendations as “best practice”
  - **Manuals** (NAVGUIDE; MBS; VTS Guide; CLU; IALA Dictionary)
  - **Model courses** which provide guidance on the training of VTS personnel; Aids to Navigation Managers and Aids to Navigation Technicians.
-



# IALA Website [www.iala-aism.org](http://www.iala-aism.org)



Select Products & Projects to download publications





## Core Activities

- To bring together **AtoN experts** from around the world to enable them to exchange and compare their experiences and achievements in technical committees and working groups
  - To develop **common best practice standards** in the form of Recommendations and Guidelines to ensure that mariners have AtoN which will meet their needs both now and in the future
  - To encourages **cooperation between nations** to assist developing countries in establishing AtoN networks based on the degree of risk for the waterway concerned
  - To contribute to a **reduction in marine accidents; increased safety** of life and property at sea and the **protection of the marine environment**
-



# Organization

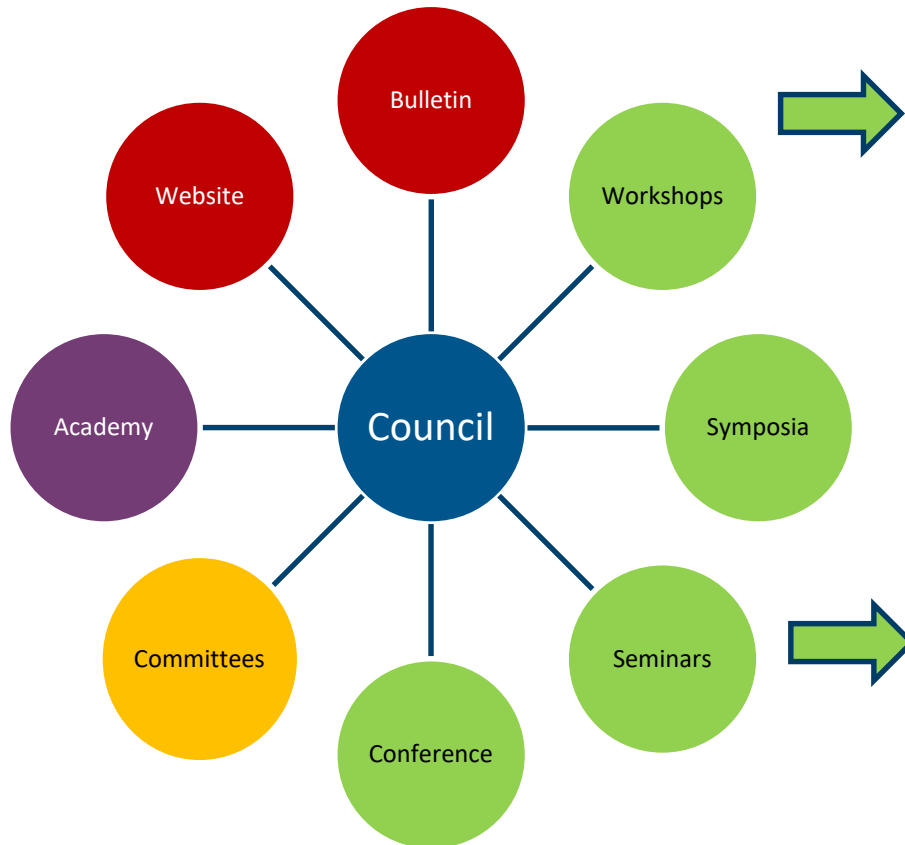
## Three Pillars

- Policy and Technical Operations
- Administration and Finance
- The World-Wide Academy





# The IALA Toolbox



Workshops of technical experts in a specific subject generate draft Guidelines and/or enable new skills to be acquired

Seminars allow sharing of information and experiences for specialists through presentation of papers on a specific topic with discussion sessions



# Strategic Vision and Goals for 2026

## Goal 1

Ensure that aids to navigation systems and related services, including e-Navigation, Vessel Traffic Services, and emerging technologies, are harmonized through international cooperation and the provision of standards.

## Goal 2

All coastal states have contributed to an efficient global network of aids to navigation and services for the safety of navigation, through capacity building and the sharing of expertise.







# The Future

From a Non-Governmental Organization to an Intergovernmental Organization



# IALA's cooperation with other international organizations

Particular status or Memorandum of Understanding (MoU)

## Consultative Status



## MoU



Pacific  
Community  
Communauté  
du Pacifique



# IALA's future as an IGO

A major step in the evolution of IALA

- In May 2014 the IALA General Assembly passed a Resolution supporting the change of from that of a NGO to that of an international intergovernmental organization (IGO) - a major step in the evolution of IALA
  - The Government of France has commenced diplomatic activities to inform the Governments of Member States of this proposed evolution
  - A Diplomatic Conference will be convened – hopefully by 2019 after 3 PreDipConf (Paris 2017, Marrakesh 2018, Istanbul 2019)
  - IALA's core activities will not be affected
-



# Advantages of IGO Status

- Increased international acceptance of Standards and existing Recommendations and Guidelines due to direct participation by Governments. Harmonization will be enriched.
- Enhanced liaison with IMO and IHO with IALA as an equal partner. Synergies between this trinity of excellence would make more efficient use of the resources available.
- Headquarters agreement with host nation will provide additional financial, operational and human resource capabilities and less bureaucratic hurdles for Members.





# IALA membership fee

Category <i>Catégorie</i>	Description	Contribution (€) <i>Montant (€)</i>
National Member* <i>Membre national</i>	Authority legally responsible for aids to navigation in its country <i>Administration légalement responsable d'aides à la navigation au niveau national</i>	16 170
Industrial Member* <i>Membre industriel *</i>	Manufacturer, distributor or consultant in aids to navigation <i>Fabricant, distributeurs d'aides à la navigation ou ingénieur conseil</i>	6 350
Associate Member* <i>Membre associé *</i>	Port, scientific organisation or service responsible for aids to navigation in a specific area of a country <i>Port, organisation scientifique ou service responsable d'aides à la navigation au niveau régional</i>	3 070





# Risk Management

## The IALA Risk Management Toolbox





# Navigational Risk

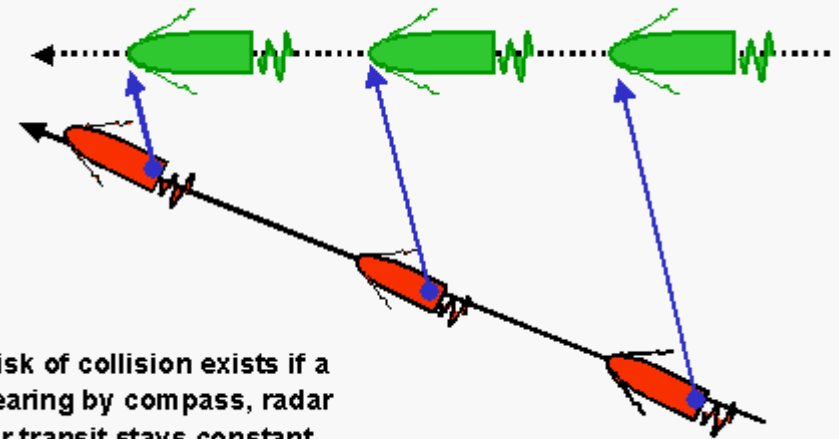
Grounding

Collision

....?



## Risk of Collision





# How ?

- How to measure Traffic Volume?
- How to Quantify Risk?





# IALA Risk Management Toolbox



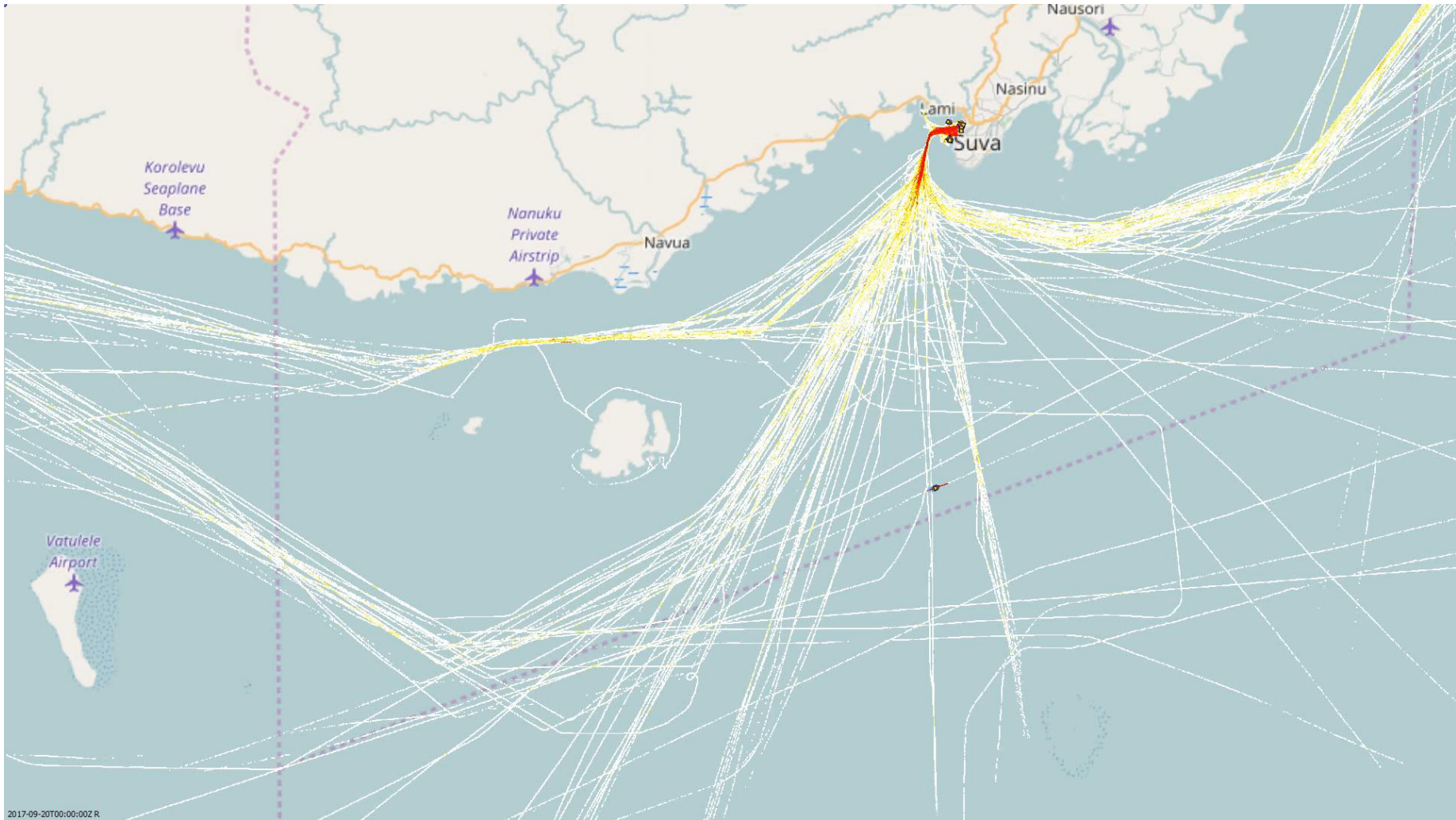
PAWSA – 30 experts

IWRAP MkII – calculates statistics

SIRA – a few stakeholders who really care



# IWRAP Mk II





# Risk Value Matrix (SIRA)

		PROBABILITY OR LIKELIHOOD				
		Very Rare (1)	Rare (2)	Occasional (3)	Frequent (4)	Very frequent (5)
CONSEQUENCE OR IMPACT	Catastrophic (5)	5	10	15	20	25
	Major (4)	4	8	12	16	20
	Severe (3)	3	6	9	12	15
	Minor (2)	2	4	6	8	10
	Insignificant (1)	1	2	3	4	5

*ALARP* (As Low As Reasonably Practicable) is indicated by a green arrow pointing from the top-left towards the bottom-right of the matrix, covering the cells from (Severe, Rare) to (Insignificant, Frequent).



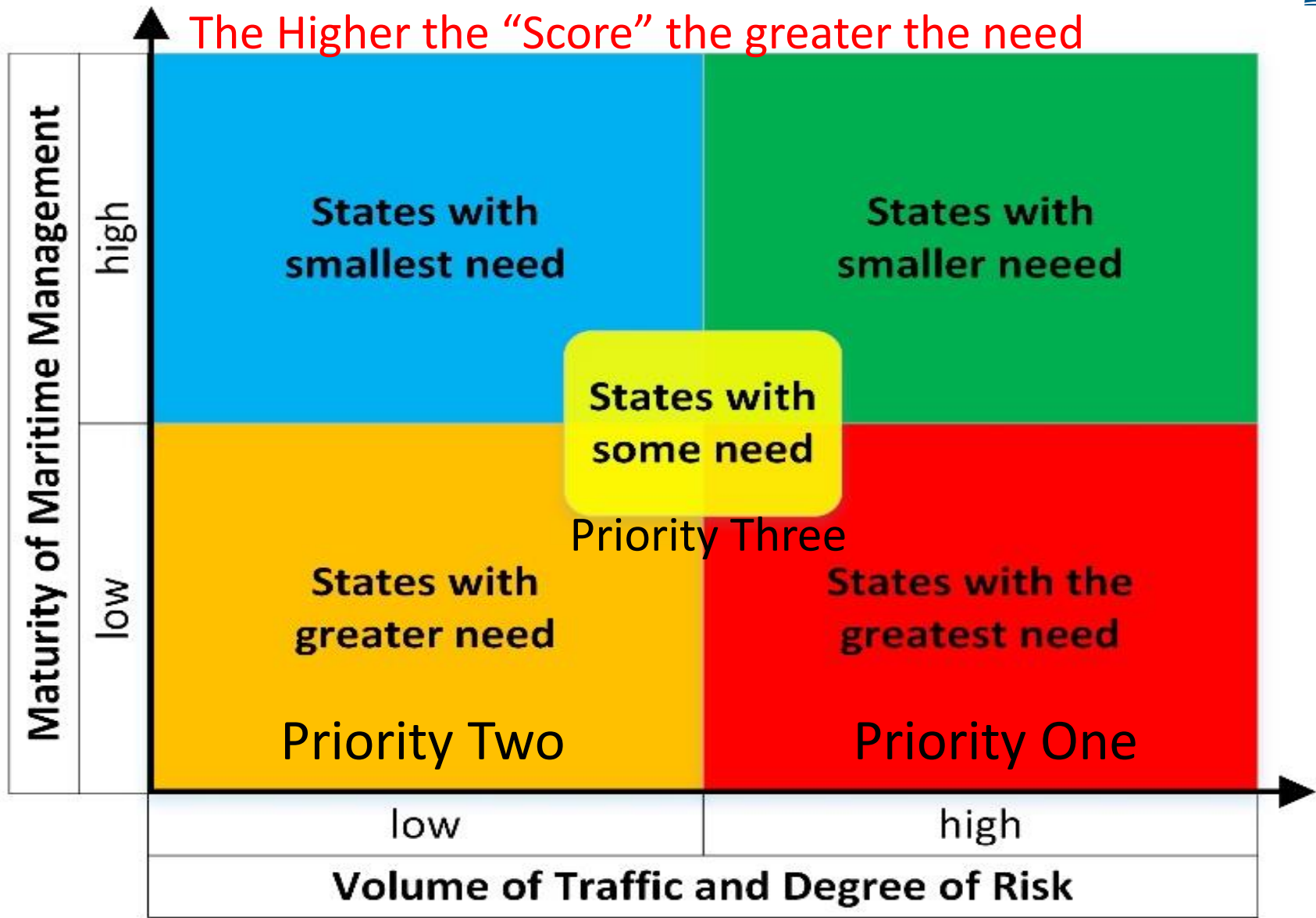


# Risk Control Options (RCO)

RCO for each undesirable incident reduce the risk to a level (**As Low As Reasonably Practicable - ALARP**) which is acceptable to stakeholders

The Risk Value will determine what action is required

Risk Value	Risk Category	Action Required
1 - 4	Green	Low risk. No RCOs unless implemented at low cost
5 - 8	Yellow	Moderate risk. Reduce to ALARP level through RCOs
9 - 12	Amber	High risk requiring RCO and significant funding
15 - 25	Red	Very high and unacceptable risk – immediate action required with major funding. Ports/waterways may need to close until risks are at ALARP level







## Target States 2017

	Continental Regions					
Degree of Need	Africa	Europe	Asia	Pacific	Americas	Total
Smallest need	1	12	7	1	6	27
Smaller need	10	16	13	8	13	60
Some need	6	2	3	2	5	18
Greater need	7	1	2	5	7	22
Greatest Need	14	2	7	0	4	27

If a State is on the target list, it has yet to demonstrate its capability to meet its obligations under SOLAS Chapter V so that MSI and AtoN services are delivered to full international standards.



# Those in need

AFRICAN REGION			
	Priority 1	Priority 2	Priority 3
Africa anglophone	Eritrea	Gambia	Namibia
	Ghana	Liberia	Seychelles
	Lybia	Nigeria	
	Sierra Leone		
	Somalia		
	Sudan		
	Tanzania		
Africa francophone	Benin	Cameroon	Cote d'Ivoire
	Comoros	Gabon	Tunisia
	Congo (Democratic Republic)	Madagascar	
	Congo (Republic)		
	Guinea		
	Mauritanie		
Africa lusophone	Angola	Mozambique	Sao Tome & Principe
	Guinea Bissau		

Priority	
●	1
●	2
●	3



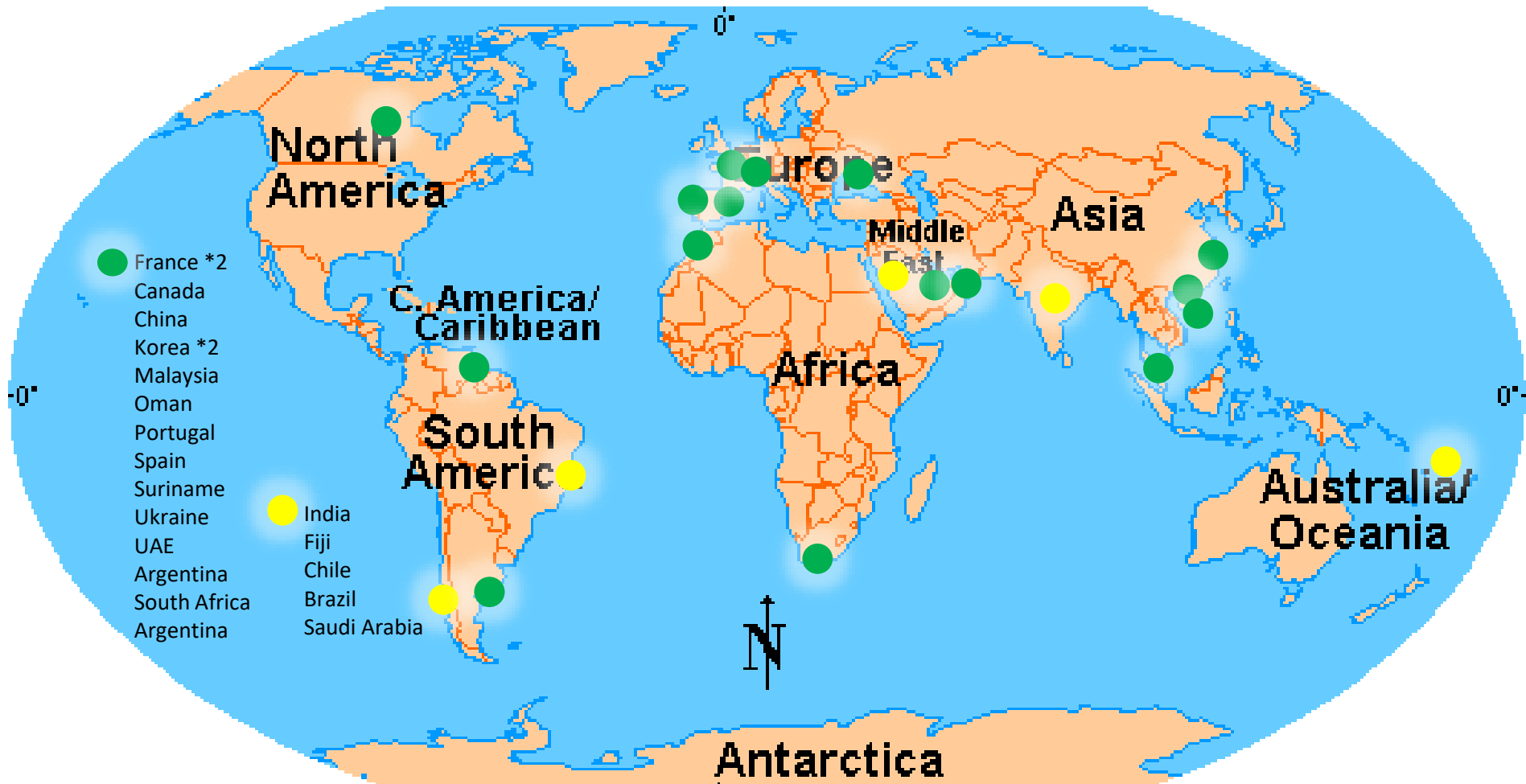


# The World-Wide Academy

Training and capacity building



# Accredited Training organisations (29)





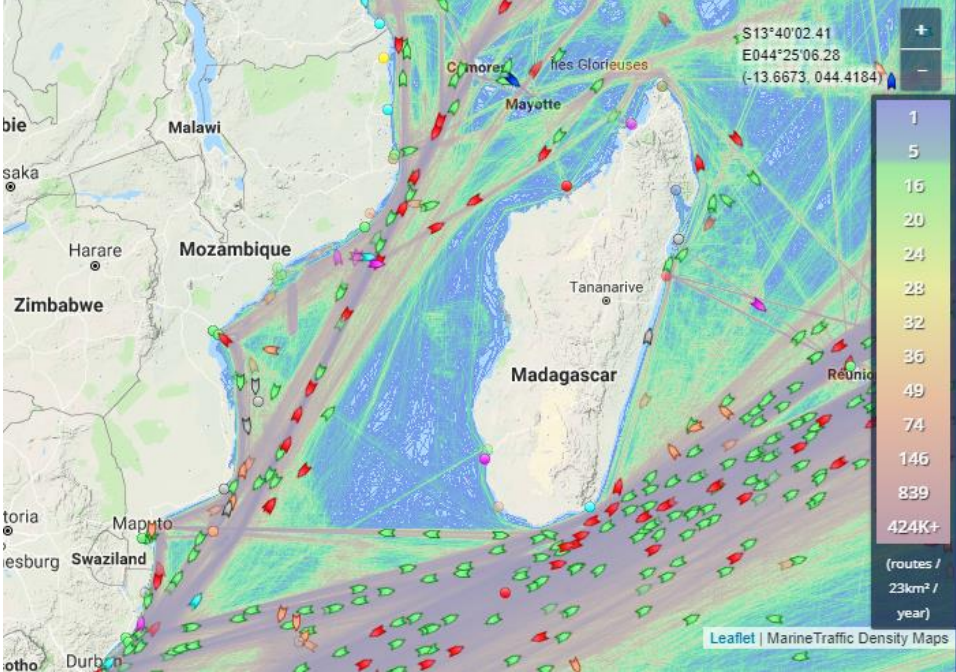
# Capacity Building Strategy

**Seminar**



**Mission**

**Review**





## Future Possible Training Hubs

Strategy is to have at least one Accredited Training Organization in each Target Region  
Some ATOs to develop as regional training hubs  
IALA WWA to facilitate where requested through MOUs

Region	VTS	AtoN
Africa (A) Africa (F)	Abidjan Casablanca <i>France</i>	South Africa Morocco <i>France</i>
Near East	Abu Dhabi	Oman
Far East	Malaysia Singapore Japan	Malaysia China
SW Pacific	Australia	Fiji (SPC)





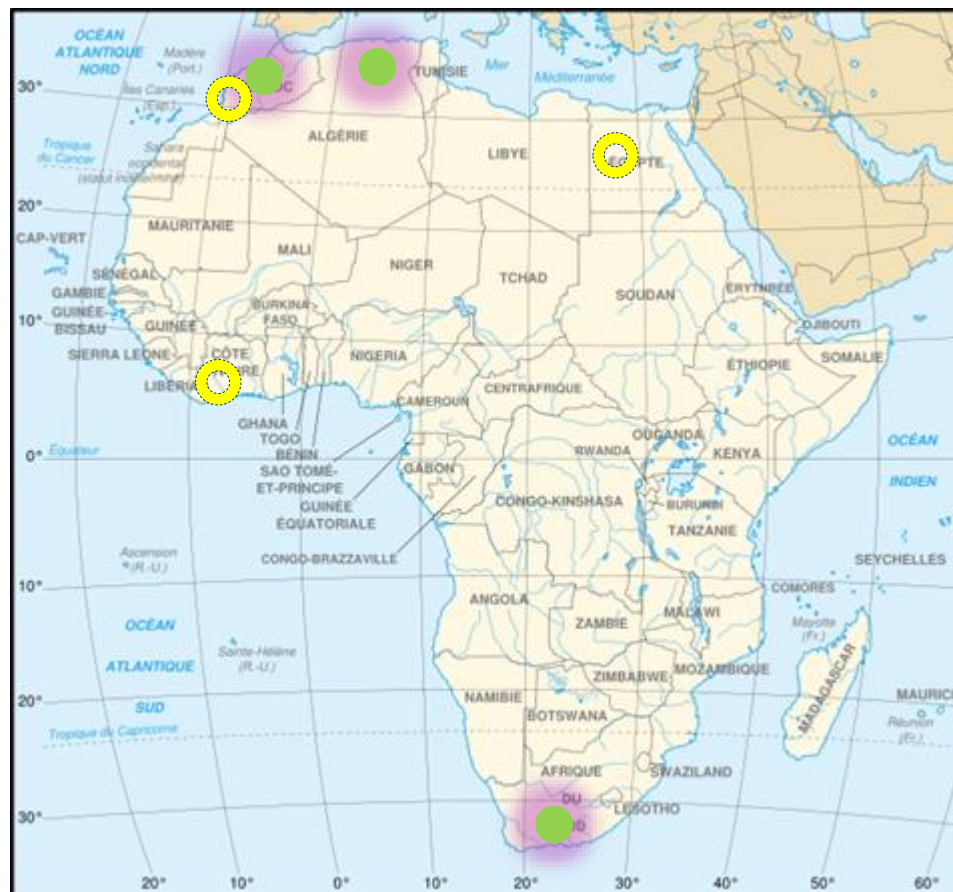
# Training organisations within Africa

## ● Accredited:

- ✓ VTS : Algeria, South Africa
- ✓ AtoN: Morocco, South Africa

## ○ Possible:

- ✓ VTS : Côte d'Ivoire, Egypt, Morocco
- ✓ AtoN: Egypt



# Level 1 AtoN Managers owning the certificate



51 owners within Africa:  
Benin (2), Cameroon (1), Comoros (2), Côte d'Ivoire (2), Democratic Republic of Congo (1), Djibouti (1), Gabon (2), Ghana (1), Guinea (2), Kenya (1), Liberia (1), Madagascar (3), Mauritius (1), Morocco (14), Togo (1), Senegal (1), Somalia (1), South Africa (11), Sudan (1)



# AtoN Managers

## Level 2 training participants



★ 7 managers and technicians:  
Djibouti (1), Comoros (3),  
Congo (1), Madagascar (1),  
Senegal (1)





# Delivering as One

IMO, IHO, IALA





# DELIVERING AS ONE



For consistent implementation and strengthening of international standards, capacity building actions are essential



Nouakchott, September 2013





## Generalities – Hydrographic Conferences

Regular participation by IALA as an observer at the Hydrographic Commissions (EAtHC, NIOHC, SAIHC) meetings provided an ideal opportunity for follow-up “awareness” briefings with African States representatives.

The provision of both VTS and AtoN services should be based on a formal analysis of maritime traffic patterns and risk. The same applies to the provision of hydrographic services.

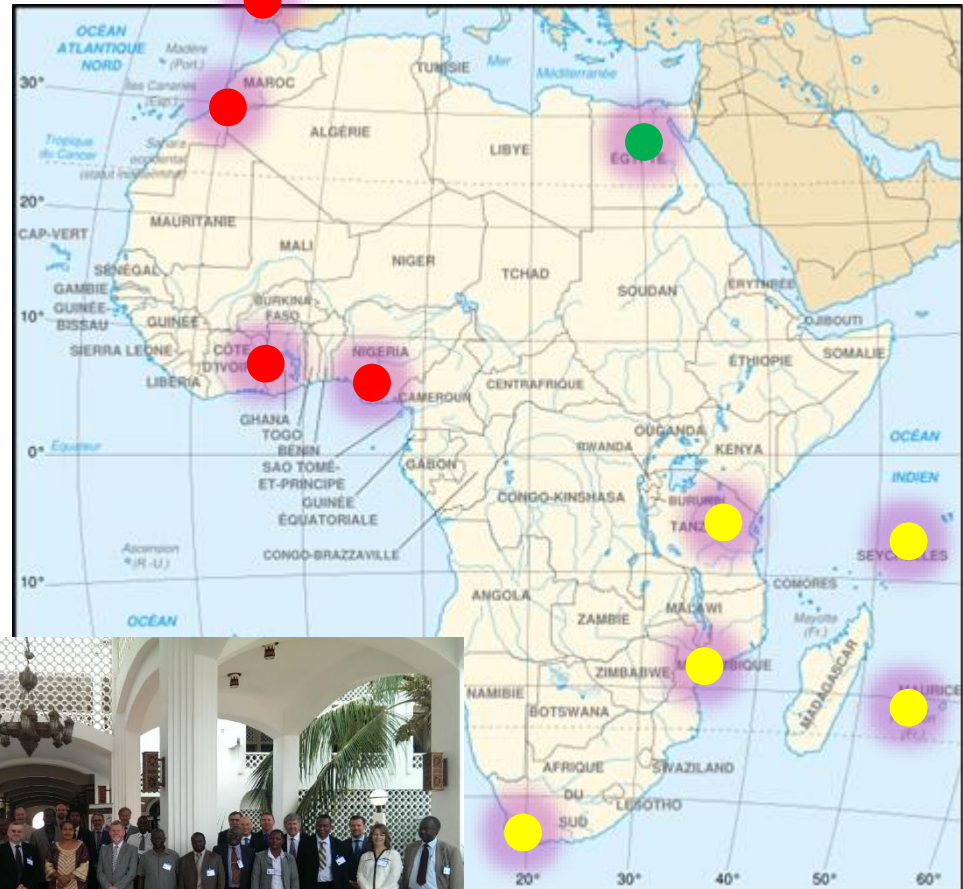
.





# Regional hydrographic Conferences

- EAtHC - CHAtO  
Lisbon, Portugal, 2012  
Casablanca, Morocco, 2014  
Cadiz, Spain, 2016  
*Lagos, Nigeria, 2018*
- SAIHC - CHAIA  
Maputo, Mozambique, 2014  
Dar-Es-Salaam, Tanzania, 2015  
Cape Town, South Africa, 2016  
St Gilles, La Réunion, 2017  
Seychelles, 2018
- NIOHC  
Cairo, Egypt, 2017





## IMO Audit

October 2005: IMO introduced a Voluntary Audit Scheme for IMO Member States (VIMSAS).

States could ask IMO to check their compliance with IMO Statutory Instruments including SOLAS V Regulation 13.

References: IALA Guidelines No. 1054; 1115 on preparing for an audit on AtoN Service/VTS delivery.

The Audit Scheme is **mandatory** (legally enforceable) from 1<sup>st</sup> January 2016 onwards (26th Assembly Resolution A.1018(26) Nov 2009).

National Authorities **will be** audited at some time after 2016.

# IMO Audit



2016	1	Guinea-Bissau	2018	51	Djibouti
	2	Guinea		67	Kenya
	3	Côte d'Ivoire		68	Sudan
	5	Togo		70	Sao Tome and Principe
	6	Mauritania		71	Equatorial Guinea
	13	Angola		73	Sierra Leone
	14	Seychelles	2019	75	Congo
	15	Nigeria		76	Eritrea
	16	Senegal		79	Algeria
	21	Somalia		80	United Republic of Tanzania
	22	Egypt		82	Comoros
2017	26	Ghana		83	Uganda
	29	Gambia		85	Zimbabwe
	33	Gabon		90	Libya
	35	Democratic Republic of the Congo		93	Mozambique
	37	Cape Verde			
	48	Madagascar			



## IMO Audit Instruments

- **SOLAS – including Chapter V Regulation 12 & 13**
- Maritime Pollution (MARPOL)
- Collision Regulations (COLREGS)
- Standards of Training Certification and Watchkeeping (STCW)
- Load Lines (LL)
- Tonnage Convention
- Nairobi Convention 2007 on removal of wrecks (entered into force 2015)



# Recommendations

SAIHC15 participants



## Recommendations

**It is recommended to SAIHC 15 participants:**

- **To be compliant with IMO Statutory Instruments**
- **To implement the action plans taking in account IALA WWA report recommendations**
- **To send participants to the IALA Technical Committees, to take benefits of the IALA membership, and increase the safety of navigation in their coastal States' waters**
- **To train AtoN and VTS staff to allow them performing the required tasks**

**IALA could support coastal States in need (IMO Audit, CB, training)**





# Thank you Questions?

Jacques Manchard  
IALA Senior Adviser  
[Jacques.manchard@iala-aism.org](mailto:Jacques.manchard@iala-aism.org)



The IALA WWA Team.  
Jacques, Gerardine, Omar et Stephen

[www.iala-aism.org](http://www.iala-aism.org)