



International Association of Marine Aids to Navigation and Lighthouse Authorities
UK Maritime Autonomous Systems Regulatory Conference
2019

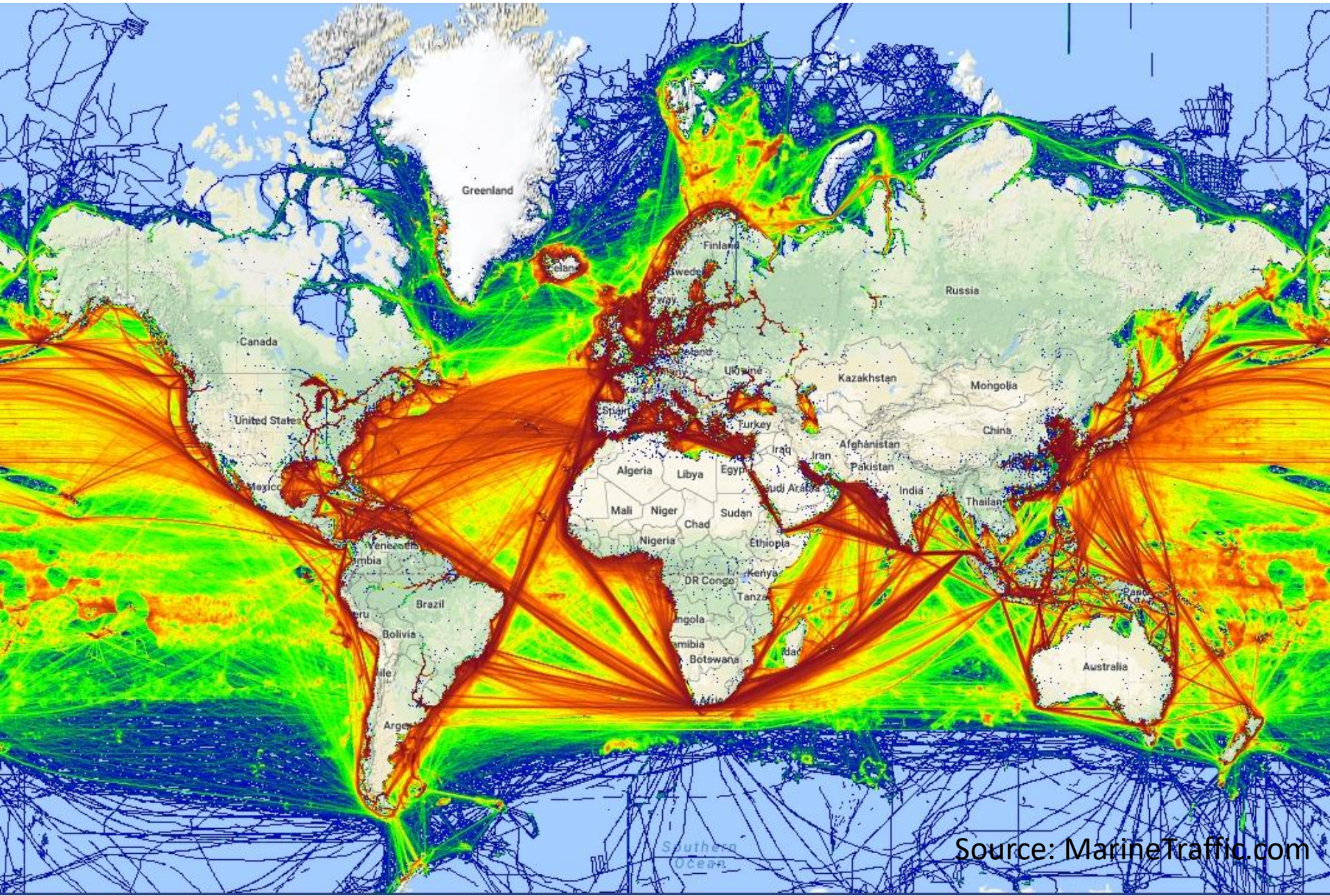
Secretary-General Francis ZACHARIAE



CONTENTS

- About IALA and the World-Wide Academy
 - Challenges/Developments in the Maritime sector
 - Future global infrastructure, the work of IALA
-

There are some challenges out there...



Source: MarineTraffic.com



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”





IALA Strategic Vision and Goals for 2026

Goal 1

Marine Aids to Navigation are **developed** and **harmonized** through international cooperation and the provision of standards.

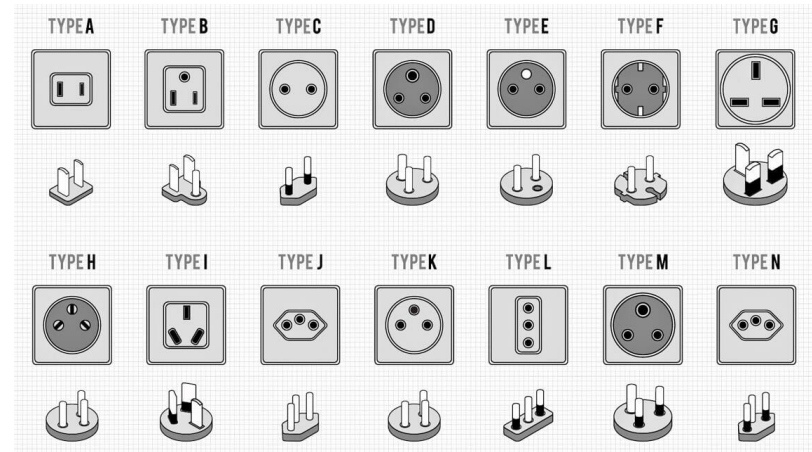
Goal 2

All coastal states have contributed to a sustainable and efficient global network of Marine Aids to Navigation through capacity building and the sharing of expertise.





Developed and Harmonized





Publications

Main result of the Committees' work

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



The Committees

The “Power House” of IALA

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





IALA Strategic Vision and Goals for 2026

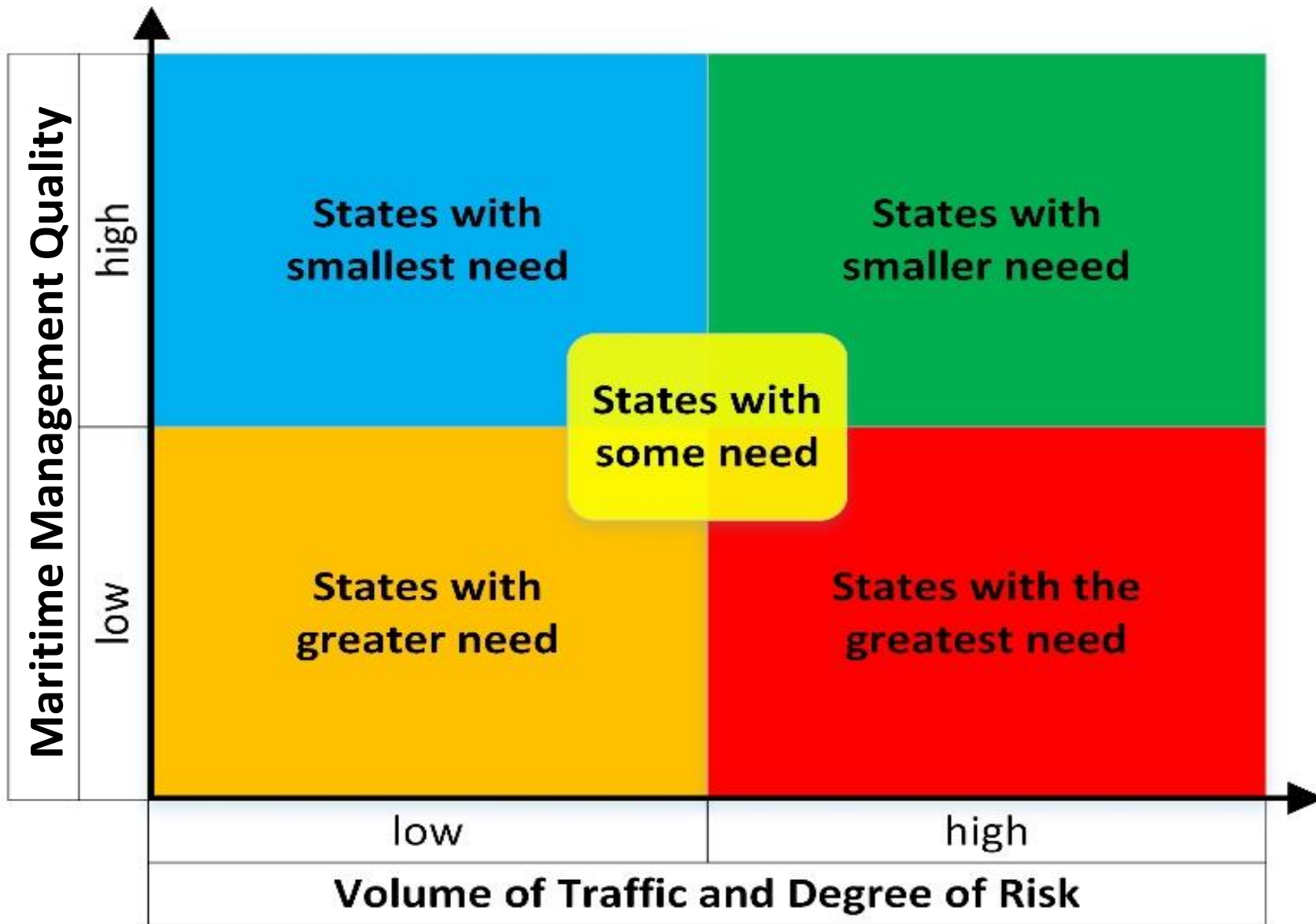
Goal 1

Marine Aids to Navigation are developed and harmonized through international cooperation and the provision of standards.

Goal 2

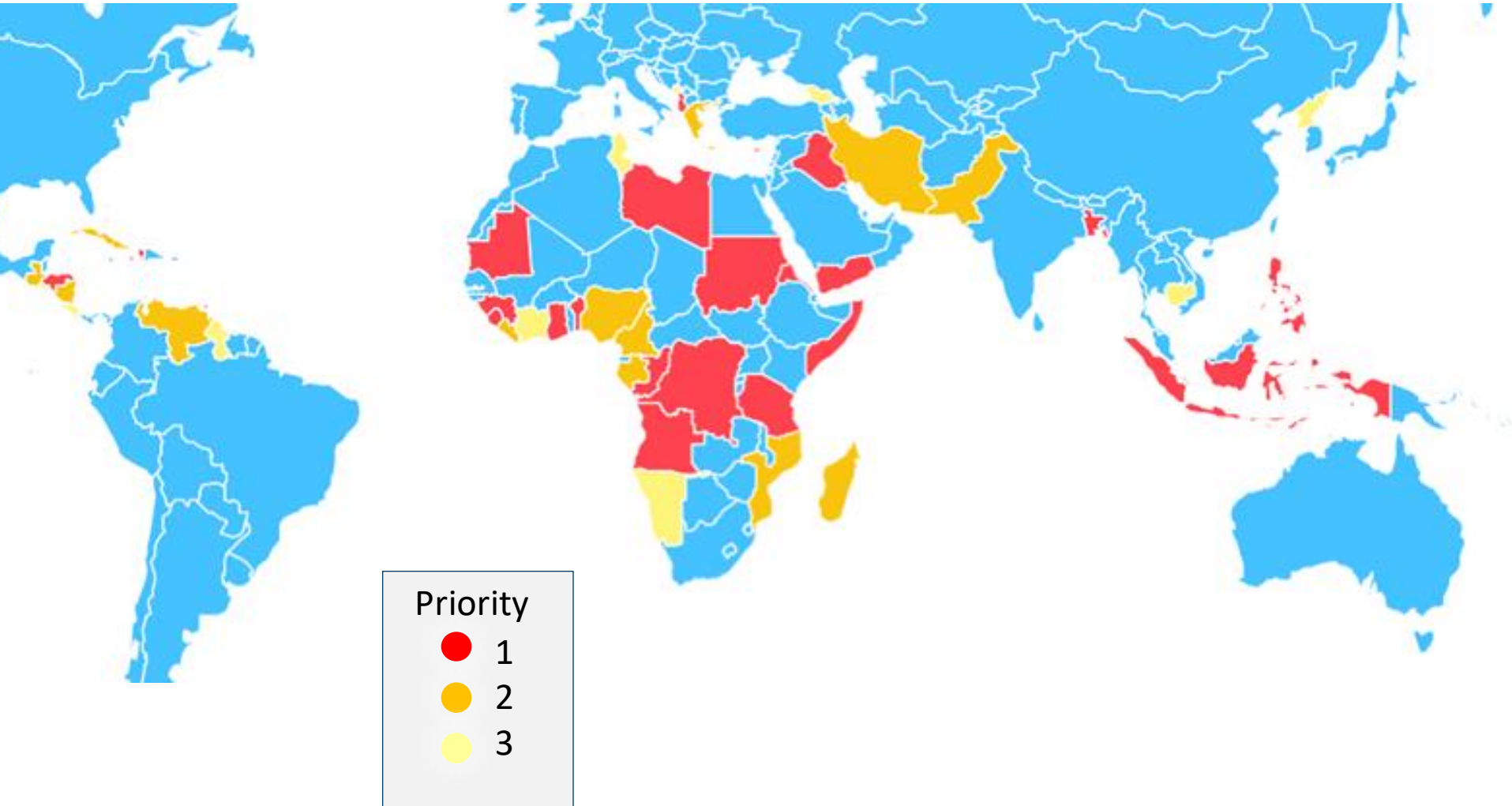
All coastal states have **contributed to a sustainable and efficient** global network of Marine Aids to Navigation through **capacity building** and the **sharing of expertise**.







Those in need (still)



Delivering as one



SUSTAINABLE DEVELOPMENT GOALS



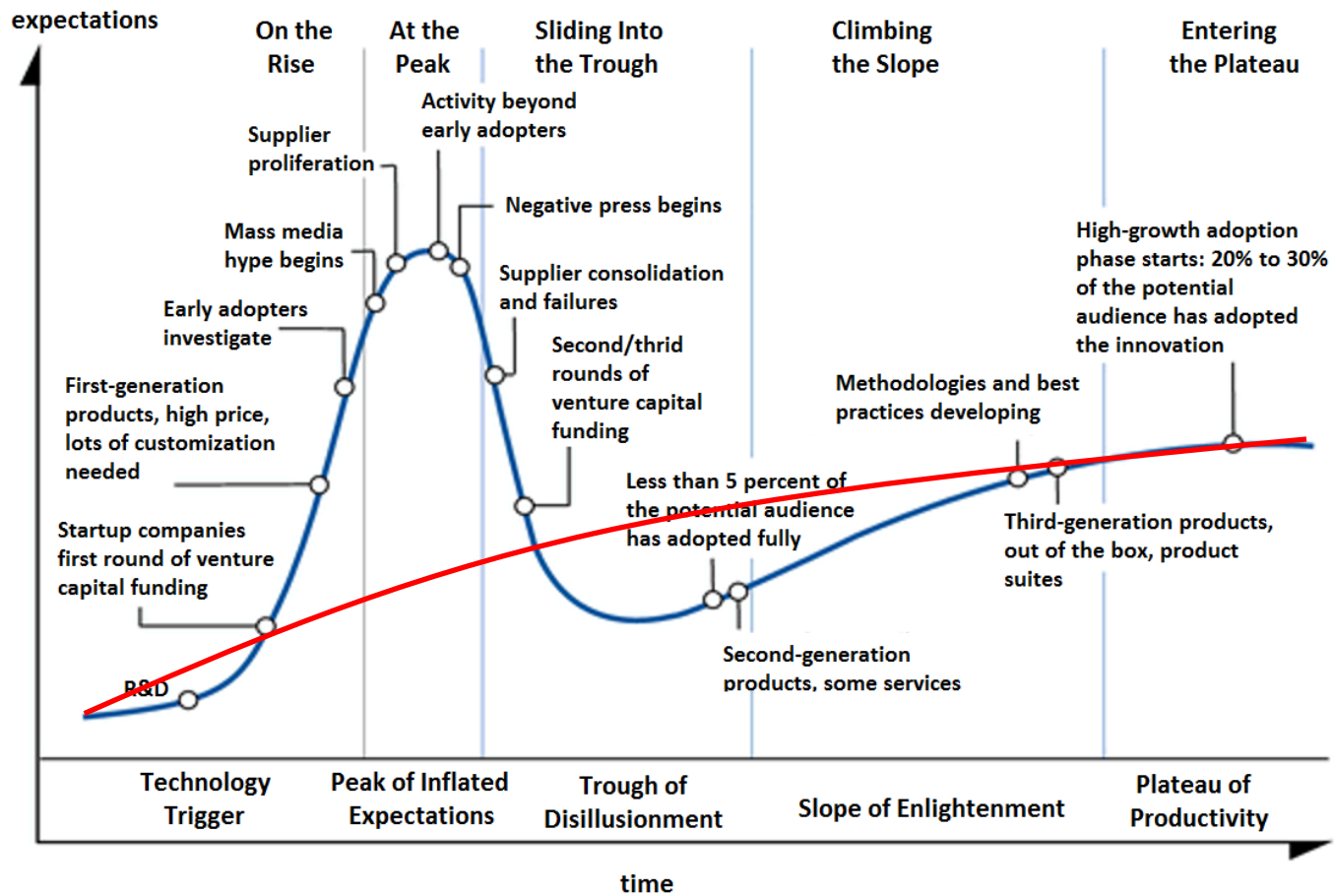


Challenges

For the maritime sector and IALA



The hype cycle





E-Navigation

The definition (2005-2008)

E-navigation is defined as “the harmonized collection, integration, exchange, presentation and analysis of marine information on board and ashore by electronic means to enhance berth to berth navigation and related services **for safety and security at sea and protection of the marine environment.**”



Maersk CEO: Unmanned Containerships Not in My Lifetime

WORLD MARITIME NEWS

SMI presents the 4th annual MARITIME RECONNAISSANCE & SURVEILLANCE TECHNOLOGY 6-7 February 2019 | Rome, Italy

HOME NEWS BY TOPIC REGIONAL NEWS IN DEPTH EVENTS SUBSCRIBE

CONTACT REPORT YOUR NEWS ADVERTISING

The ongoing push toward automation of ships is not likely to result in crewless vessels anytime soon, according to the CEO of the world's biggest shipping company, Soren Skou.

The latest technological developments have seen the number of crew members on board Maersk Line's ships halved when compared to two decades ago, which has, in turn, helped cut salary costs.

However, Skou doesn't believe giant containerships would be allowed to sail without humans on board, at least not in his lifetime, Bloomberg writes.

"The workforce has now reached a floor and there's no more room to get rid of humans," Skou is cited as saying.

calaméo

THE INTERNATIONAL PILOT

ISSUE NUMBER 44 / JULY 2018

THE JOURNAL OF THE INTERNATIONAL MARITIME PILOTS' ASSOCIATION

A MESSAGE FROM THE PRESIDENT

Fellow Pilots,

As I meet with IMPA members around the world, I am often asked about the much-publicized efforts to develop and introduce so-called "autonomous ships." The IMPA leadership has devoted considerable time and resources to following this subject and participating in debates about it. Pilots, and indeed most other people knowledgeable about ship operations, recognize that much of the expressed enthusiasm is unrealistic and generated by technology vendors and coastal government administrations rather than the ship operating community.

Dismissing the claims that we hear and read about, that we will not be unmanned, remotely navigated, or fully autonomous vessels arriving in pilotage waters in the foreseeable future. Autonomous operations may be introduced in the relatively near term in certain inland waters, in small single-purpose vessels. But operations on commercial vessels extend beyond autonomous ships.

We must, however, resist the urge to be dismissive about the autonomous ship. Many of its projections may be unrealistic, there is a development ongoing right now that may pose a serious near-term risk to pilotage and global ship operations. This development may have consequences that extend beyond autonomous ships.

1 Message from the President

3 Message from the Secretary General

4 5 Ps to Make You More PPU Ready

6 Pilot Boat Captains Due to Wake and Currents

7 IMPA Safety Campaign

8 Comment by Houston Pilot Captain Michael Phillips

8 Grounding Report: Pilot Lacked Information After Engine Failure

10 Policy Statement: Pilotage on Commercial Vessels

Téléchargez Google Chrome

Is 2017 the breakthrough year for unmanned vessels?

SHIP TECHNOLOGY

join us at SMM 4-7 sept 2018 hamburg Hall: A1 Booth: 126

VESSELS CRUISE PORTS OPERATIONS SECURITY MARKET DATA TECHNOLOGY

12 DECEMBER 2016 ANALYSIS

Is 2017 the breakthrough year for unmanned vessels?

By Gary Peters

Autonomy is largely seen as the next big disrupter in the maritime world. So, is 2017 the year in which unmanned vessels really begin to make their presence felt?

Unmanned ships

See linköinen expects to see

MOST READ

About so-called autonomous ships: "Pilots, and indeed most other people knowledgeable about ship operations, recognize that much of the expressed enthusiasm is unrealistic and generated by technology vendors and coastal government administrations rather than the ship operating community"



The difficult balance

Look out the window



Autonomous navigation





2017 was the safest year in aviation history





Ship accidents 2016 reported by EMSA





(On-board navigation systems),

Shore side vessel traffic information management
and

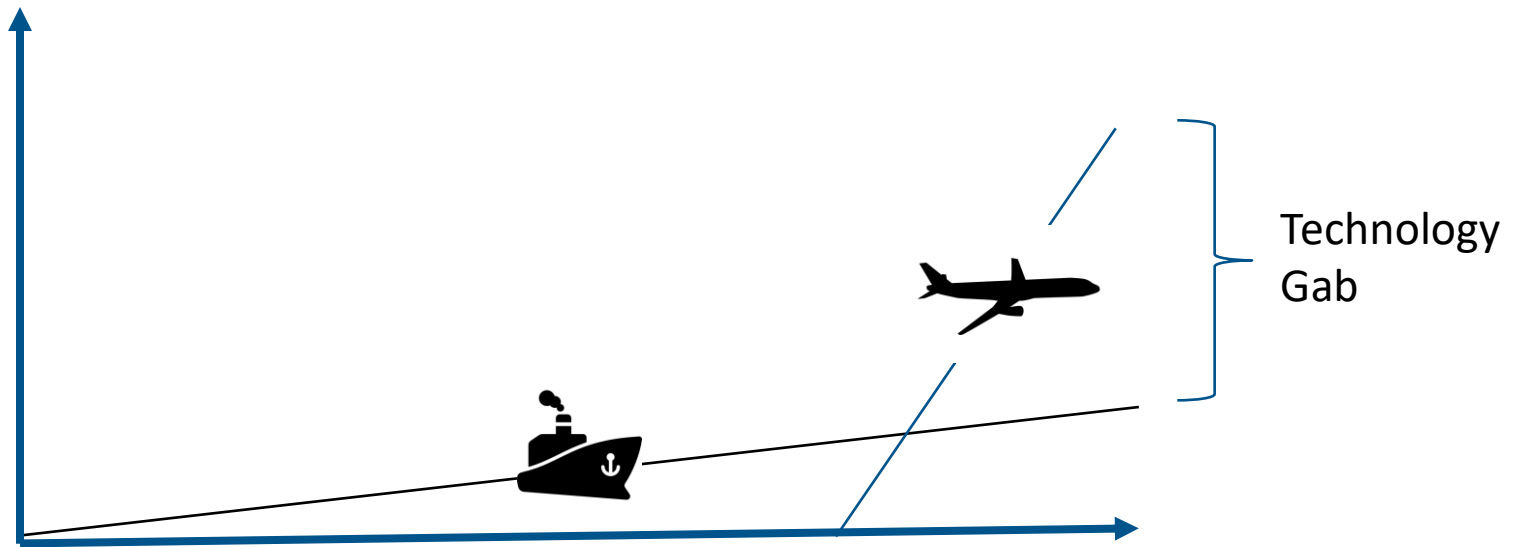
Ship-to-ship-, ship-to-shore and shore-to-shore-
communication infrastructure.





Mind the Gab

The Maritime domain into the digital age





IALA and the future ships

What about traditional Aids to Navigation?





IALA and the future ships

- **Shore services**
- Resilient Position, Navigation and Timing (PNT)
- Data Modelling
- Connectivity





Shore Services

- The 16 IMO SIP Maritime Services (digital)
- Aton related Services (draft guideline MS 17)





IALA and the future ships

- Shore services
- **Resilient Position, Navigation and Timing (PNT)**
- Data Modelling
- Connectivity





Increased dependence on automated systems

...combined with a decline in traditional skills gives rise to concern.





Resilient Position, Navigation and Timing

- More GNSS systems available
- SBAS coverage increasing
- PNT services (draft guideline MS18)
- R-mode (VDES, AIS, MF)
- Signals of Opportunity
- Radar positioning
- eLoran (Europe has lost interest, cost)

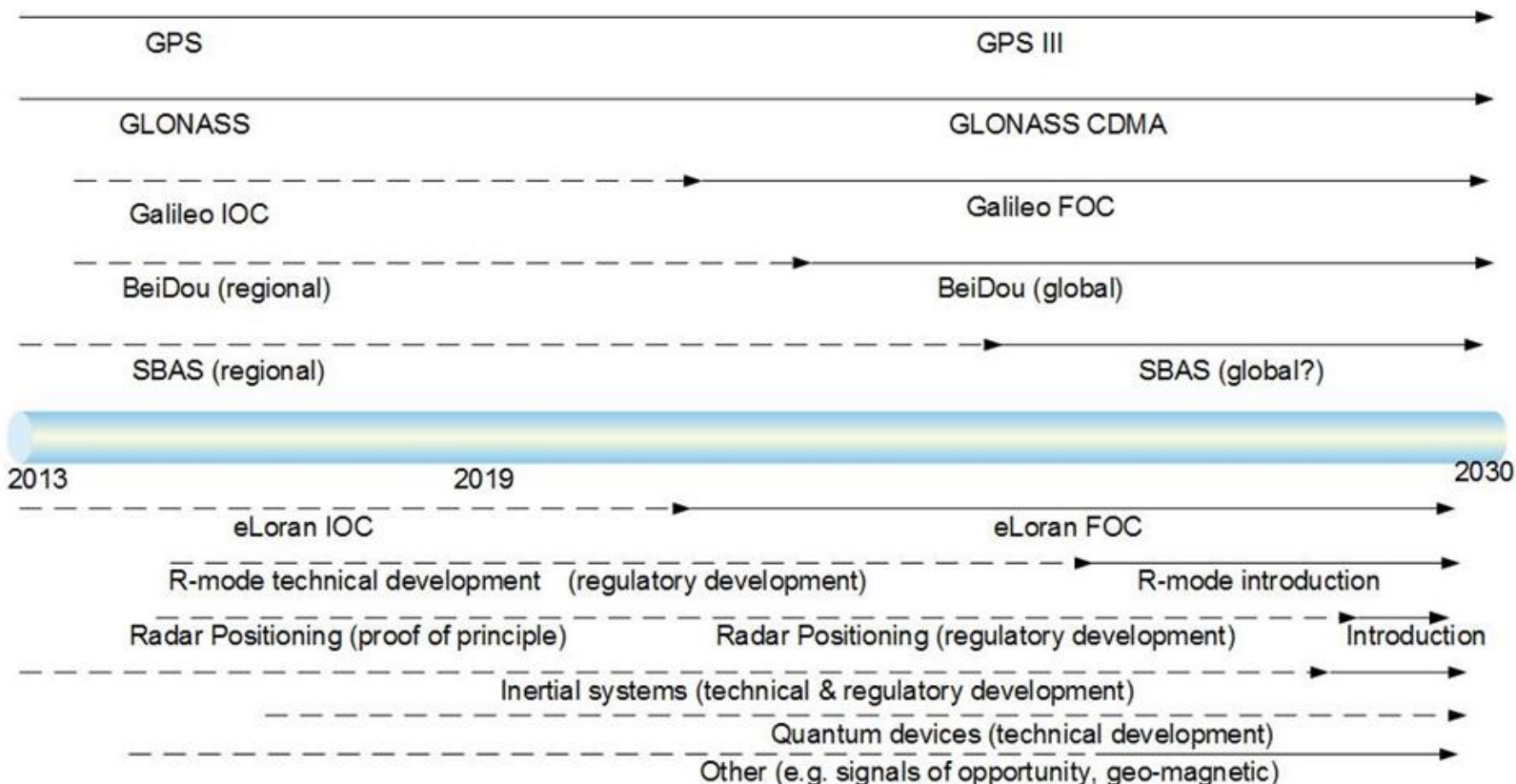




Timeline for Resilient PNT

GNSS

————— e-Navigation Introduction —————>



Complementary systems



IALA and the future ships

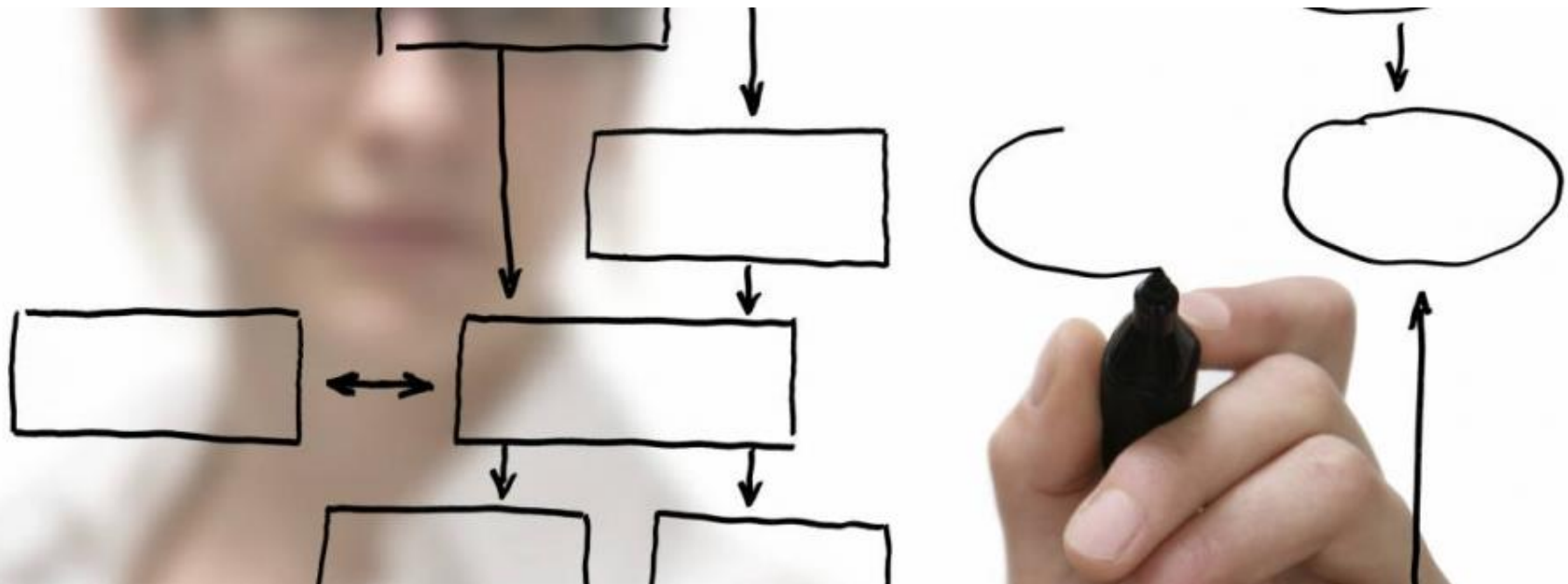
- Shore services
- Resilient Position, Navigation and Timing (PNT)
- **Data Modelling**
- Connectivity





Data Modeling

- S-100, S-200 Series Product Specifications
- Maritime Resource Names
- Data models for Maritime Services





IALA and the future ships

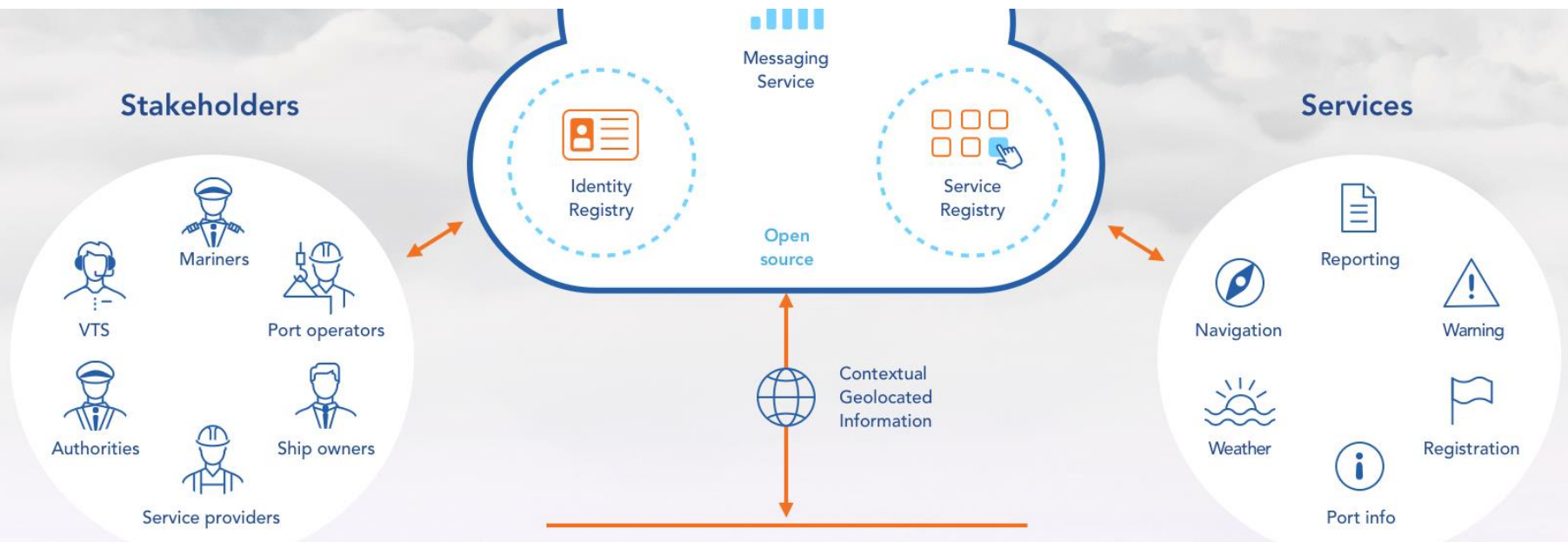
- Shore services
- Resilient Position, Navigation and Timing (PNT)
- Data Modelling
- **Connectivity**





Connectivity

- VHF Data Exchange System (VDES)
- LTE/5G
- Maritime Connectivity Platforms





QUESTIONS?

Feel free to contact the IALA Secretary-General

Francis ZACHARIAE

francis.zachariae@iala-aism.org