



IALA e-Navigation

- IALA's Role
- Challenges
- Boundaries

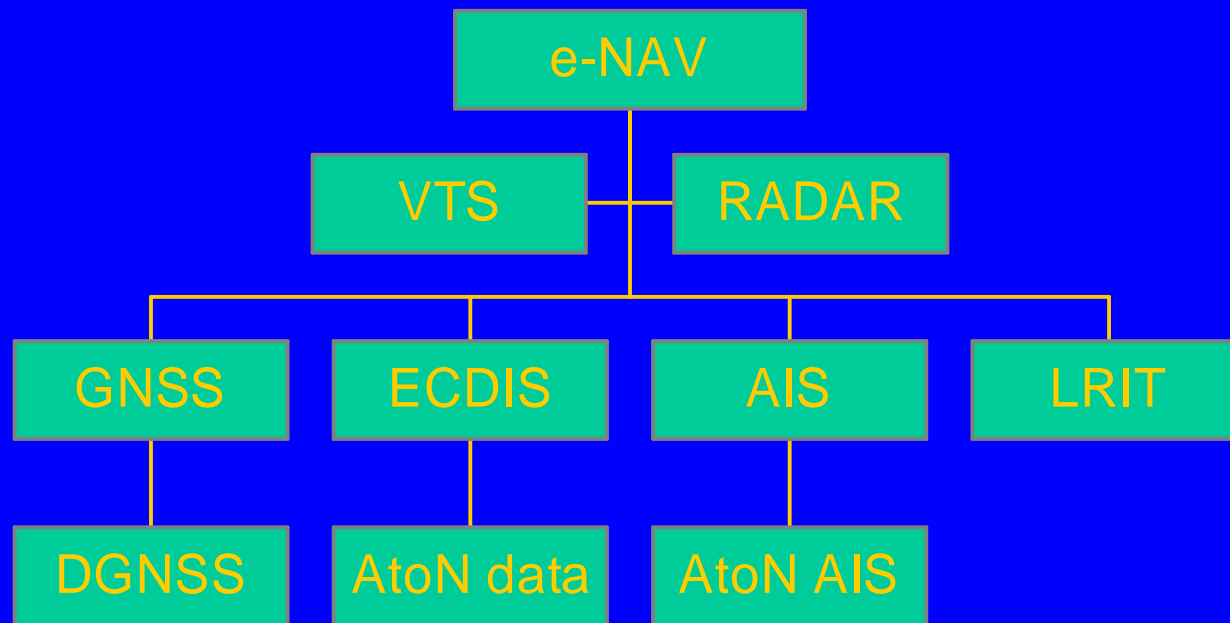




IALA e-Navigation

- First question is what does “e” stand for?
 - electronic or enhanced?
- Electronic Navigation in IMO proposal
 - electronic navigation has been around for years
- Navigation enhanced by electronic means
 - enhancement comes from the integration of several systems (GNSS, ECDIS, AIS, radar etc)

e-NAV concept





IALA's Role

- Define e-Navigation & its objectives
- Cooperation/Coordination with other bodies
- Identify problems & solutions
- Facilitate implementation



IALA definition

"e-Navigation is the collection, integration and display of maritime information onboard and ashore by electronic means to enhance berth-to-berth navigation and related services, safety and security at sea and protection of the marine environment"



Objectives

- Improve Safety of Navigation
 - Protecting human life and the environment
- Increase efficiency of maritime transport
 - Conserving resources & enhancing economics



Cooperation

- IALA – Committee/WG interfaces
- IMO – Correspondence Group
- ITU – Future communications
- IHO – ENC_s, WWNWS, AtoN data
- IEC/CIRM – Equipment standards



Coordination tasks

- Establish internal IALA interfaces
- IMO CG – definition & plan with timeline
- IHO – symbols, WWNWS
- IEC/CIRM – identify standards needed



Facilitate implementation

- Technology transfer
- Harmonisation of national plans
- Publications, training



Challenges

- Avoid common-mode failures (e.g. GNSS)
 - eLoran, inertial systems, integrity checks
- Improve situational awareness
 - target matching, coherent presentation
- Prevent information overload
 - alarm management, essential information only



Integration

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Presentation

- Avoid overload
- Prioritise information
- Coherent presentation





Data exchange

- Standard data formats
- Common symbology
- Records
 - databases, archives

Buoy Name		HAMMOND
Latitude		N 52° 49' 44.640"
Longitude		E 001° 57' 35.160"
Depth (m)		20.4
Height Profile		
Type Code		255WC
Lit		LIGHTED
Active		TRUE
Area		YARMOUTH
Light Char		Q(9)155
Racon		
Racon Code		
Ownership		

DGPS Reference Station

Buoy Information



Boundaries

- Shore-side infrastructure - networks
- AtoNs – fixed & floating
- VTS, AIS
- IALA is not responsible for onboard systems
 - but interaction must be recognised & e-NAV must be treated as one concept



Summary

- IALA's Role
 - Coordination tasks
- Challenges
 - develop solutions
- Boundaries
 - infrastructure, but one system



Terms of reference for discussion groups

Tak account of IALA's mandate and its expertise, develop text to elaborate on the following, noting IALA's definition of e-navigation:

- Reasons why maritime community needs e-navigation
- Constituents of e-navigation
- Limitations of e-navigation
- Organisational boundaries