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# A road map for e-Navigation - 2016 and beyond

# The IALA perspective

1. **Harmonisation**
   1. **Maritime Digital Infrastructure**
      1. **Maritime Cloud (MC) facilitation of System Wide Information Management (SWIM)**

* MC - describe concept (including identities, services, identity management, security and communication links)
* Describe the MC Identity Register (MIR) and service register
* Complete assessment w.r.t CSSA and CSSA M2M interface description
* Produce prototype MC management system / portal for maintaining identity register and service register
* Develop initial proposal for governance model
* Set up MC testbed
* Regional implementation of Maritime Cloud

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* Finalise proposal for governance model

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* Global acceptance (IMO approval)

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* 1. **S-100 Geospatial Information (GI) Registry and Product Specifications**
     1. **Development of Product Specifications** 
        1. Aids to Navigation information
        2. Inter VTS Exchange Format
        3. AIS Application Specific Messages
  2. **Maintain IALA S-100 GI Registry-related documents**

1. **Implementation**
   1. Revise guidance on planning testbeds and reporting of testbed results
   2. Establish IALA website for sharing testbed results and hosting a discussion forum
   3. Provide basic analysis of available testbed results

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* 1. Liaison with IMO

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* 1. Guidance on testbeds and implementation of e-navigation solutions

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* 1. Develop guidance on CSSA architecture
  2. MAF Cube

1. **Communications for E-Navigation**
   1. Update the IALA Maritime Radiocommunications Plan
   2. Develop IALA Guidance on VDES

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* 1. Review IALA Guidance on AIS

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* 1. Manage ASM register (web catalogue)
  2. Monitor developments in GMDSS – post IMO GMDSS review (post 2017)
  3. Liaison with ITU (WRC-19 preparation) and assistance to IALA membership for national matters)

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1. **Positioning, navigation and timing** 
   1. Develop guidance on maritime use of SBAS
   2. Develop guidance on eLORAN
   3. Develop Recommendation on PNT relevant services
   4. Develop guideline on port and harbour high accuracy systems
   5. Develop guidance on techniques used for oboard PNT data processing
   6. Review IALA radiobeacon DGNSS guidance
   7. Develop guidance on DGNSS radiobecaon coverage
   8. Develop guidance on the Raning (or R) Mode of operation
2. **Maritime Services Portfolios (MSP)** 
   1. **Define IALA’s role in developing each of the sixteen MSPs**

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* + 1. Coordination with relevant organizations where IALA has a supporting role
  1. **Develop objective, scope and description of MSP within IALA’s remit**
* User requirements – draw from agreed (IMO) user needs and any relevant testbeds
* Define service and quality parameters
* Develop Product Specifications, if required
* Seek IMO endorsement

1. **Vessel Traffic Services and e-Navigation**
   1. Contribution to the development of the Single Window Concept
   2. Develop the concept of electronic manuals for VTS equipment
   3. Develop guidance on the display of accuracy and reliability of information in relevant VTS equipment.
   4. Develop guidance for the harmonised display of information received from communications equipment in VTS and other relevant shore based equipment
2. **Requirements derivation and traceability**
   1. Clarify user requirements as required, including shipboard user

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* 1. Sustainable Maritime Transportation System (SMTS) (as source for requirements)

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* 1. Develop guidance on the implementation and management of e-**Navigation** products and services

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