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| From: ENAV Committee | ENAV18-10.5.2  Formerly ENAV17-14.2.2 |
| To: All IALA Committees | 30 Oct 2015 |

Liaison Note

Please use the template in ENAV18-10.5.

A road map for e-navigation – 2015 and beyond

Prepared by the ENAV Committee

# Introduction

Until recently, the E-Navigation Committee maintained a road map for e-navigation. This consisted of key milestones at international organisations such as IMO and ITU, presented on a couple of Microsoft PowerPoint slides.

The format of the road map has now been changed. The e-navigation road map provides a ‘bird’s eye view’ of the major issues (and some associated risks) that lie ahead in the development of e‑navigation.

The road map is outlined below.

# Road map

The road map is presented along the lines of the various technical domains

## Positioning, navigation and timing

* Multi GNSS available by 2020 (Risk - integrity monitoring remains key aspect)
  + Back up required for safety critical systems
  + Risk – GNSS vulnerable to intentional and unintentional interference
  + SBAS is currently not available globally
    - Int’l liaison will be required to introduce SBAS
  + IALA radiobeacon DGNSS remains essential for now
* Managing resilience is an on-going issue
  + additional sensors
    - new technology – new racons etc.
  + IMO work on PNT processing units in multi-system receivers
* By 2019, expect SBAS enabled receivers will be available for SOLAS ships
* Terrestrial systems - no clear global agreement /direction for now
  + R mode of DGPS and AIS
  + eLORAN
  + Conversion of CHAYKA to eLORAN equivalent
  + limited receiver availability

## Maritime Digital Infrastructure

* Maritime Cloud facilitation of System Wide Information Management
  + Need concept description and development by 2016
  + Need global acceptance (IMO)
    - need strategy to progress this
    - testbed /demonstrator
  + development
  + implement
* Common Shore Side Architecture

## The development of Maritime Services Portfolios (MSP)

* Develop description, scope and objective of services - by 2016
* What is IALA’s role and working with other organisations to progress this work
  + For each MSP, identify whether IALA has a leading, supporting or observing role, based on the IMO e-navigation SIP
  + Liaison and coordinate with relevant leading organizations where IALA has a supporting role
  + Administered items: “individual MSP, services delivered to shipping from ashore, their request/fulfilment dependencies, service parameters and their quality level definitions; ‘product’” (IALA guideline 1113, table 2)
* Refinement of MSP’s where IALA has a leading role
  + User requirements - include results from testbeds and communications trials
  + To develop Product Specifications
  + Risk - Overlap / cross over with other organisations
  + Gather information on objects, attributes and elements

## Implementation

* Guidance on planning testbeds and reporting of testbed results – by 2016
* IALA website for sharing testbed results and discussion forum – by 2016
* provide basic analysis of testbed results
* Liaison with IMO
* Guidance to the IALA membership on testbeds and implementation

## Communications

* Key milestone – November 2015 (Expect VDES approval at WRC-15)
* Task - review IALA World Wide Radio Communications Plan and translate/linkages for the future

# Action requested

IALA Committees are requested to note the contents provided and comment as appropriate.