



**Draft**

**IALA's activities concerning  
e-Navigation and related  
maritime domain developments**

**A road map for 2016 and beyond**



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| <b>Introduction</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |      |      |      |      |
| <p>This document is a high-level representation of how overarching concepts and strategies such as the former IMO's concept of a Sustainable Maritime Transportation System (SMTS) [1], IMO's e-Navigation strategy and its implementation plan [2; 3; 4] and IHO's Universal Hydrographic Data Model (UHDM; S-100) [5] can be applied in a coordinated manner to contribute to IALA's vision [6].</p> <p>The relationships between the SMTS, e-Navigation, operational and technical issues in this road map are reflected in several IALA documents approved by Council (e.g. [7; 8; 9]).</p> <p>Furthermore, there is a need for an overall, pan-IALA road map for IALA's activities concerning e-Navigation and related maritime domain developments. The development of such a road map is an approved task in the working programme 2014-2018 (4.3.4) of the ENAV Committee. Consideration has been given to the fact that numerous e-Navigation related activities are already incorporated in the various working programmes (2014-2018) of IALA's committees.</p> <p>IALA is coordinating numerous aspects of e-Navigation (those within IALA's mandate). Close cooperation will be required with other IGOs and NGOs to ensure any gaps in the development of e-Navigation are addressed.</p> |      |      |      |      |
| <b>Legend</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |      |      |      |      |
| <ul style="list-style-type: none"><li>- Individual <i>circles</i> designate milestones when tasks indicated by the road map should be completed. Different colours of the circles serve editorial purposes and designate the various years.</li><li>- The <i>arrow</i> designates a continuous process, where the start and/or end points of the process given.</li><li>- In future, the circles can be replaced by ellipses to contain the designation of the group or entity within IALA responsible. Several Ellipses and arrows can be combined to designate several meaningful milestones within a continuous process. This way of designation may be required for complex tasks.</li></ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |      |      |      |      |
| <p><i>Note 1. The list of MSPs given in the SIP [3] is a proposed list of internationally recognised MSPs, and task 17 of the SIP specifically states that further development shall take place. Several domains with relevance to the maritime domain are not included yet. This is to be amended in due course. Hence these MSPs-to-be-added are postulated.</i></p> <p><i>Note 2. For further introduction to the application of IHO's UHDM/S-100 framework to the IALA domain, compare IALA Guideline 1106 on Producing an IALA S-100 Product Specification [10]. Also, it is necessary to identify the emerging S-1xx specifications of IHO and their relevance to IALA's own product specifications S-2xx.</i></p> <p><i>Note 3. It should be noted that for some activities in this high level road map, individual road maps will need to be developed in keeping with this high level road map.</i></p>                                                                                                                                                                                                                                                                                                                                                                                        |      |      |      |      |



# 1 Requirements derivation and traceability ([9], Table 2, refers)

- Contribute to the development of the Sustainable Maritime Transportation System (SMTS) (as source for requirements)
- Clarify user requirements as required, including shipboard user
- Derive system requirements, as required, from user requirements
- Develop scope of IALA administered S-100 products

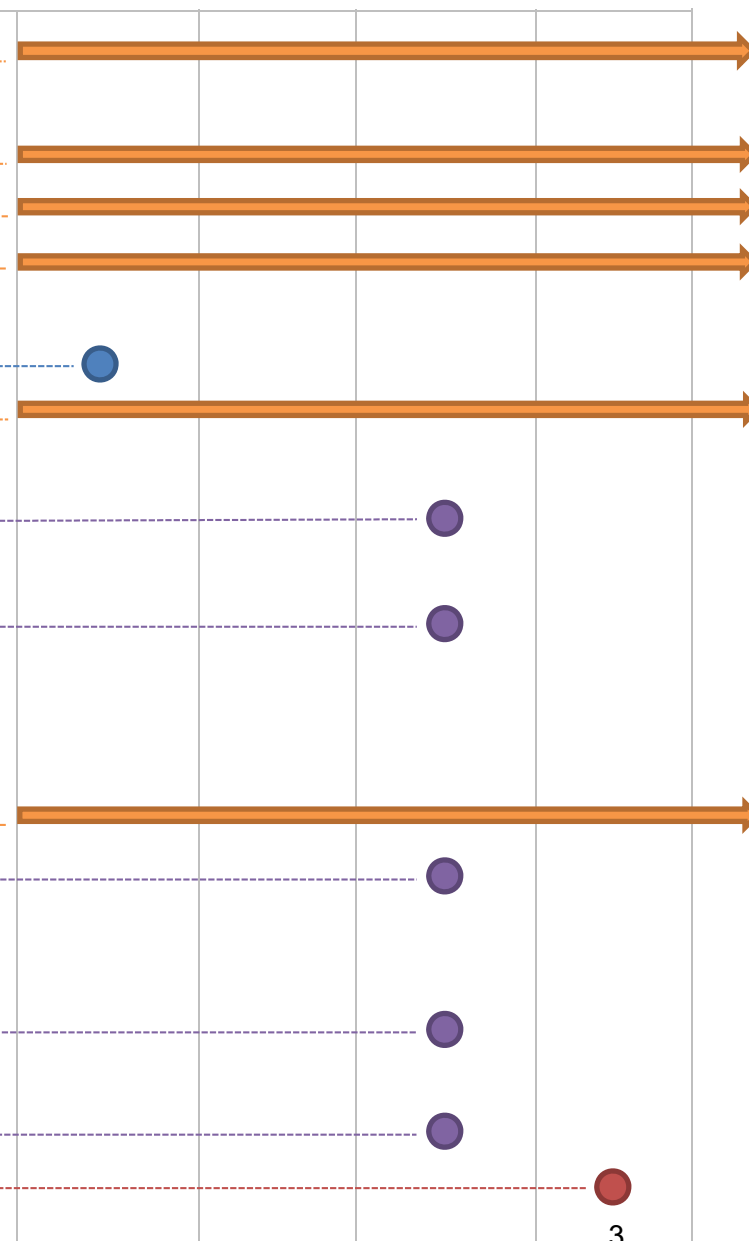
## 2 Scope IALA's share in the MSPs domain

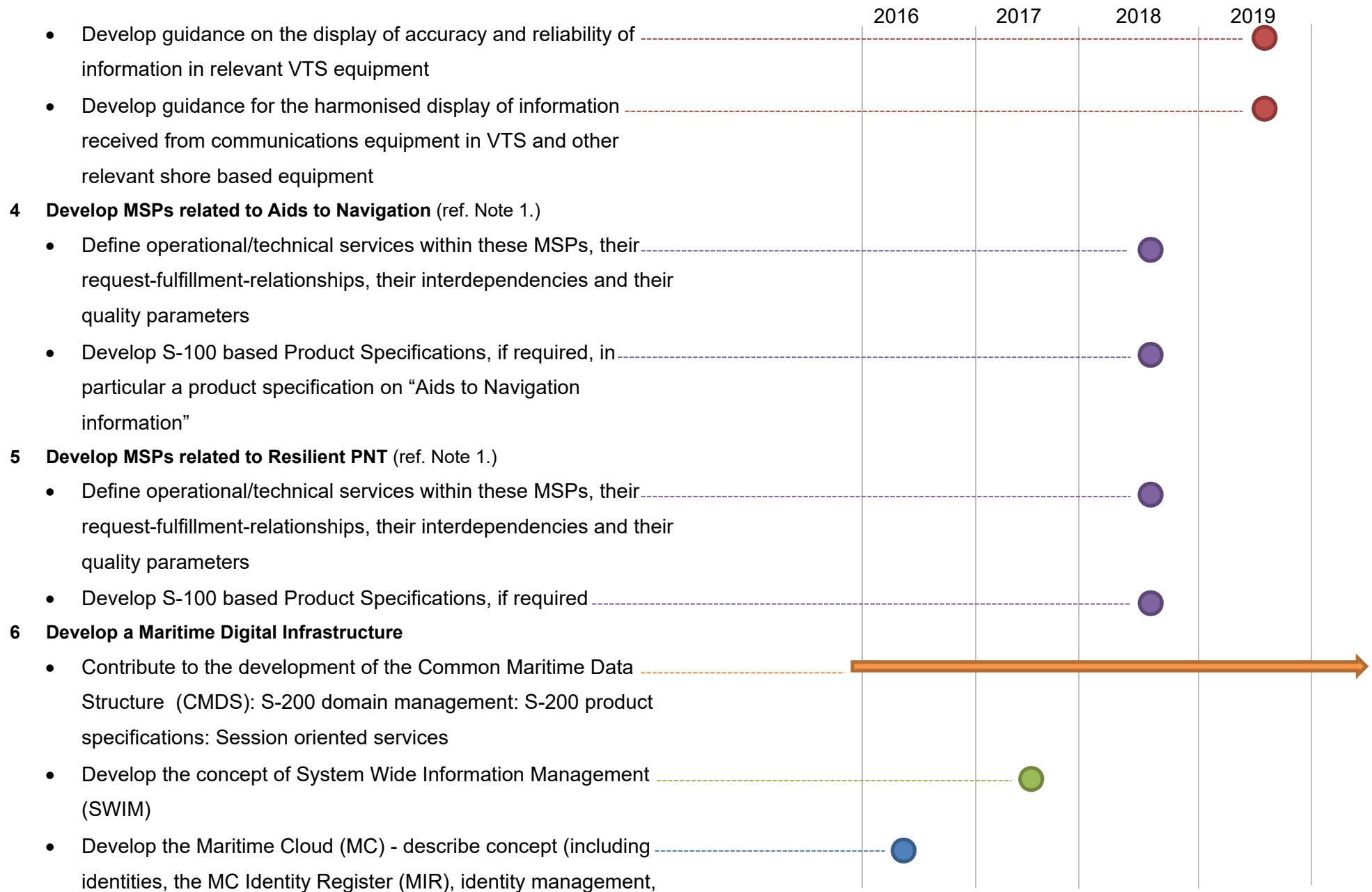
- Identify those MSPs to be developed and administered by IALA
- Liaise with relevant organisations where IALA has a supporting role
- Develop objective, scope and description of MSPs within IALA's remit
- Define the generic request-fulfillment-relationships amongst operational and/or technical services, their generic interdependencies and their generic quality parameters

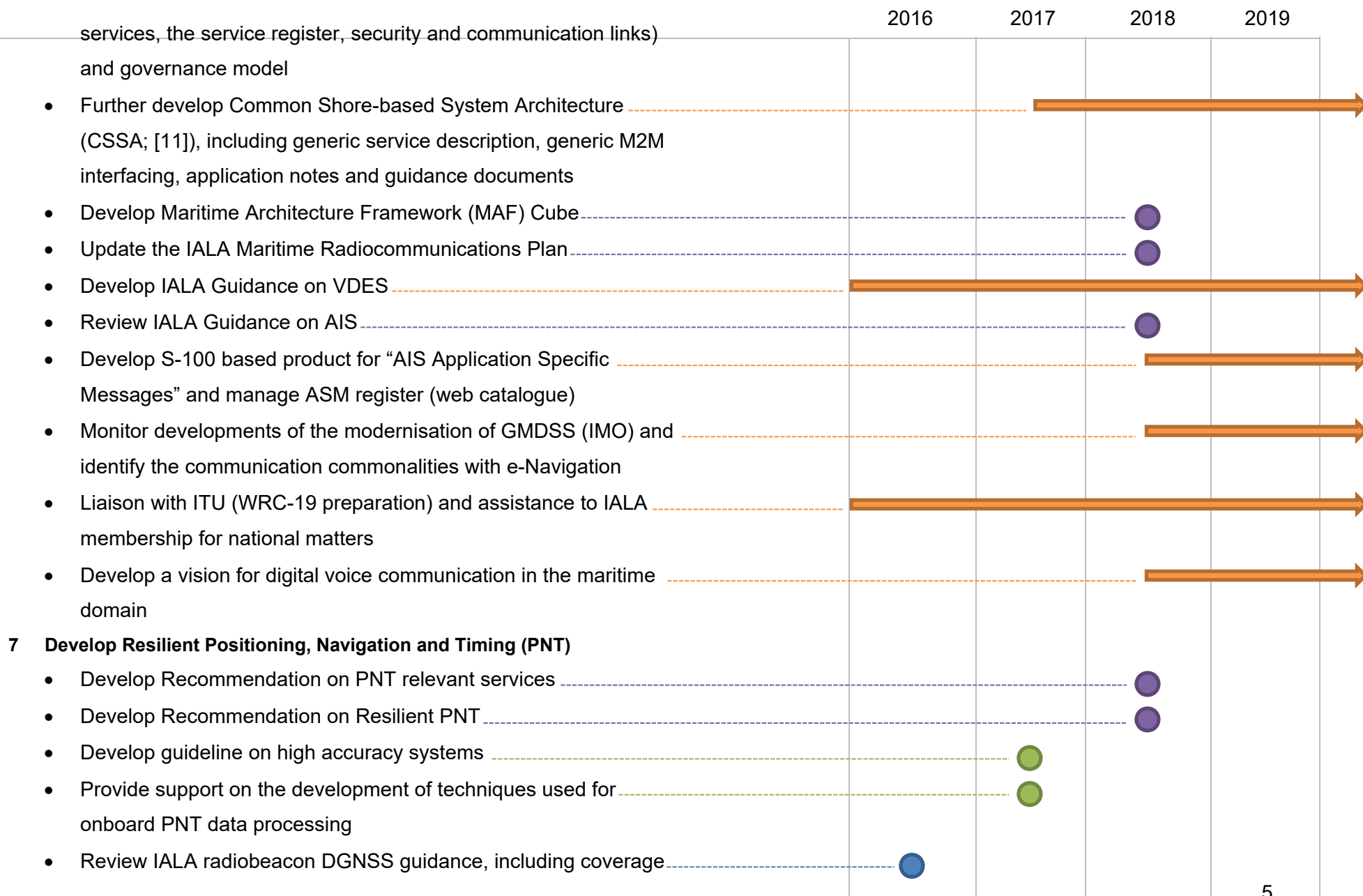
## 3 Develop MSPs for Vessel Traffic Services

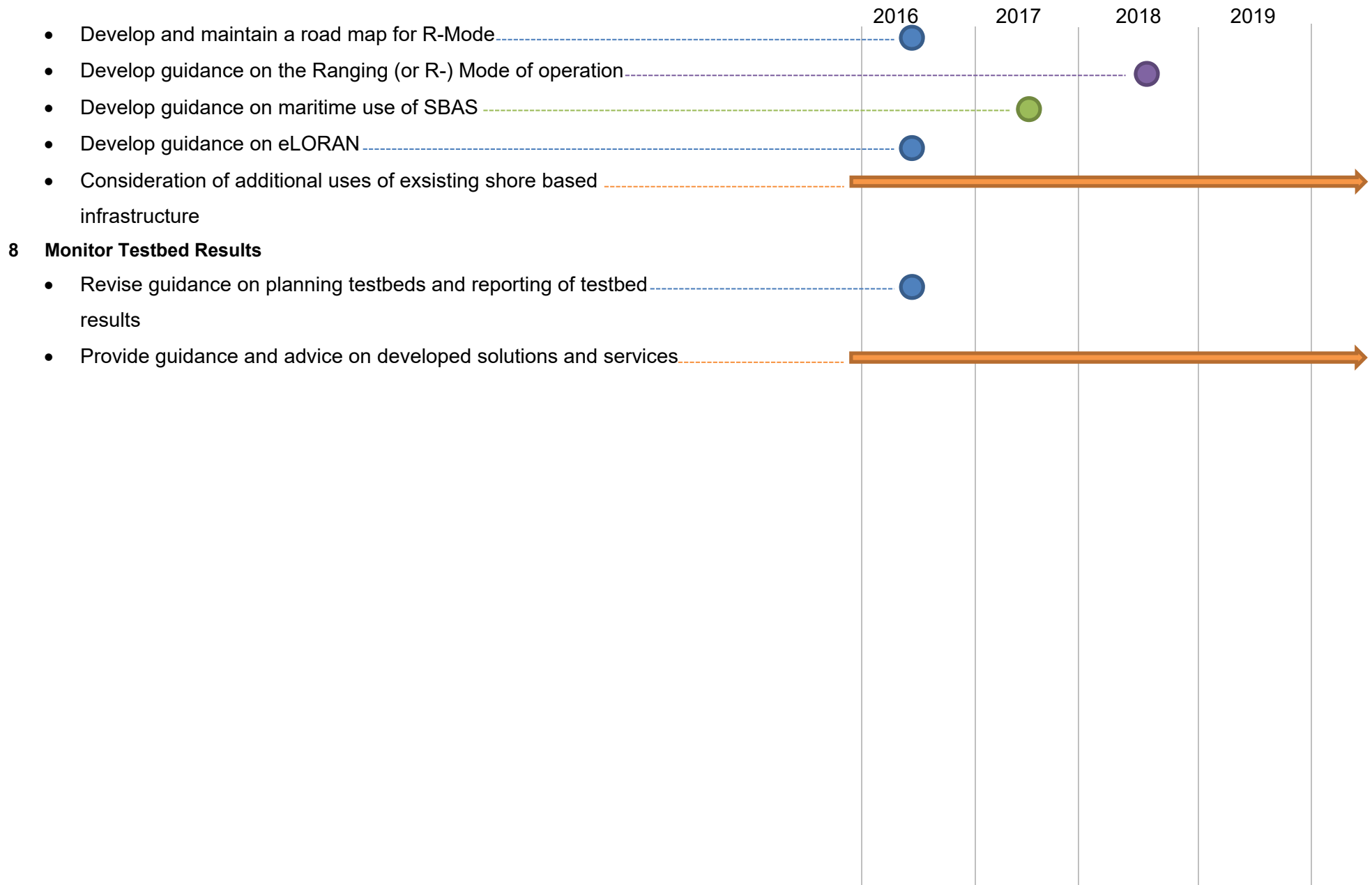
- Develop guideline on the development of MSPs
- Define operational/technical services within these MSPs, their request-fulfillment-relationships, their interdependencies and their quality parameters
- Develop S-100 Product Specifications, if required, in particular on "Inter VTS Exchange Format"
- Determine VTS's relationship with the Single Window concept
- Develop the concept of electronic manuals for VTS equipment

2016 2017 2018 2019











## References

- [1] The Secretary-General of IMO, Mr Koji Sekimizu. *A Concept of a Sustainable Maritime Transportation System*. (Sustainable Development: IMO's Contribution beyond Rio+20). September 2013 (World Maritime Day).
- [2] IMO. 'Strategy for the Development and Implementation of e-Navigation.' In: IMO Maritime Safety Committee. *Report of the Maritime Safety Committee on its 85th Session*. MSC 85/26/Add.1, Annex 20, 6 January 2009.
- [3] IMO. 'Draft IMO e-Navigation Strategy Implementation Plan (SIP).' In: IMO Sub-Committee on Navigation, Communication and Search and Rescue. *Report to the Maritime Safety Committee*. NCSR 1/28, Annex 7. 16 July 2014. Adopted by IMO MSC 94, 17-21 November 2014.
- [4] IMO. 'Development and implementation of e-navigation.' In: IMO Maritime Safety Committee. *Report of the Maritime Safety Committee on its Ninety-fifth Session*. MSC95/22, para 19.12. 19 June 2015. Refers to MSC95/19/8, as applicable.
- [5] IHO. *S-100 – Universal Hydrographic Data Model*. First released January 2010, as amended.
- [6] IALA's STRATEGIC VISION 2014-2026. (Approved by IALA Council 56-2013-12-11).
- [7] Australia et al (including IALA). 'Implementing e-navigation to enhance the safety of navigation and protection.' MSC95/19/8. 03 March 2015; together with IALA co-sponsored submission to IMO MSC96 (May 2016).
- [8] IALA. 'Vessel Traffic Services in a rapidly changing World.' IMO NCSR3/INF.10. 17 December 2015.
- [9] IALA. IALA Guideline 1113 on Design and Implementation Principles for Harmonised System Architectures of Shore-based Infrastructure; Ed. 1; May 2015
- [10] IALA. IALA Guideline 1106 on Producing an IALA S-100 Product Specification, Ed. 1, December 2013
- [11] IALA. IALA Guideline 1114 on A Technical Specification for the Common Shore-based System Architecture (CSSA), Ed. 1, May 2015
- [12] ACCSEAS Project. ACCSEAS e-Navigation Architecture Report; May 2015; also submitted to IALA Committees, e.g. as ENAV18-10.8.2