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Input paper for the following Committee(s): check as appropriate Purpose of paper:

**□** ARM X ENG **□** PAP X Input

**□** ENAV **□** VTS **□** Information

Agenda item [[2]](#footnote-2) n.n

Technical Domain / Task Number 2 …………………………………

Author(s) / Submitter(s) …………………………………

High Accuracy Systems Guidelines

# Summary

The purpose of this document is to present the new High Accuracy Systems Guidelines, which admen or supersedes current IALA G1127 Guidelines. These new guidelines will provide an overview about systems and services enabling high‐accuracy positioning or ranging in specific areas such as waterways, traffic separation schemes, traffic zones with limited manoeuvring space, ports and harbours, and congested waters with increased risks of collisions or groundings.

Each high‐accuracy system or service may require its own Guideline to clarify the different architecture, system parameters or specific processing aspects. This guideline will provides a high level view of the most important HA system features and a framework for such guidelines to support their consistency.

The guidelines will provide guidance to stakeholders, operators, and end users regarding principal aspects, which should be considered for deployment and operation of systems as well as utilisation of services. These include applications, performance requirements, functional principles, and generic descriptions concerning the main aspects that have to be considered during implementation and operation.

## Purpose of the document

The purpose of this document is to present the new High Accuracy Systems Guidelines, which will admen or supersedes current IALA G1127 Guidelines.

## Related documents

IALA G1127 systems and services for High Accuracy positioning and ranging

# Background

By using one of the first GNSS (GPS, GLONASS) it was possible to determine horizontal position with an accuracy of several tens of metres. In the 1990s, GNSS augmentation systems such as IALA Beacon DGNSS were developed and established to provide correction data for GPS or GLONASS signals. These services made it possible to meet the IMO requirements for position accuracy and integrity for navigation in coastal areas. Where GNSS is not able to provide sufficient positioning accuracy and integrity for more demanding applications, enhanced GNSS augmentation services as well as alternative and complementary localisation systems are suitable approaches for high accurate positioning and ranging.

The demand for systems and services for high‐accuracy positioning and ranging results from specific navigational manoeuvres (e.g. automatic docking) as well as specific nautical applications (e.g. automatic track control in critical areas, dynamic positioning, pilotage). Due to the safety critical aspects of such situations and areas the system and data integrity should be monitored and evaluated.

# References

1. IALA G1127 Systems and services for High Accuracy Positioning and Ranging Guidelines
2. IMO Resolution A.1046(27): Revised Report on the study of a World-Wide Radionavigation System Normative (Resolution) 20 November 2011
3. IMO Recommendation A.915(22): Revised maritime policy and requirements for a future Global Navigation Satellite System (GNSS) Normative (Recommendation) 29 November 2001
4. IMO Resolution MSC.401(95): performance standards for multi-system shipborne Radionavigation receivers

# Action requested of the Committee

The Committee is requested to:

1. Take into consideration this paper and collaborate with the High Accuracy Systems Guidelines development.
2. ........
3. Appendix heading 1
   1. Appendix heading 2
      1. Appendix heading 3

1. Input document number, to be assigned by the Committee Secretary [↑](#footnote-ref-1)
2. Leave open if uncertain [↑](#footnote-ref-2)