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| From: ENG 14 | ENG14-12.0.1  02 November 2021 |
| To: MASS Task Group |
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LIAISON NOTE

Work & guidance within the Engineering & Sustainability Committee relevant to MASS

# INTRODUCTION

Committees are asked to inform the MASS task group of all current and planned work relevant to MASS to support their work in identifying future work requirements and to identify any potential duplication.

The ENG committee work that is relevant to MASS is principally in the area of

1. resilient PNT (rPNT) to enable a MASS to be sure of its position and
2. data transfer either by AIS or by the developing VDES.

Other support areas are in the work domain of power on floating AtoN which will enable them to support enhanced AtoN features that will be required for MASS

# Existing guidelines

Many guide lines already exist on PNT. Floating AtoN are fit for purpose for traditional use but will probably require enhancements to support MASS. See the IALA Technical Documents catalogue for current information.

# Current ENG work on MASS related topics.

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| **Technical domain** | **Topic** | **Current status and relevance to MASS** |
| **rPNT** | Enhanced Radar Positioning System | In initial development with trials undertaken; Initial workshop planned for November 2021 to identify standards requirements.  This will provide satellite independent & resilient position information within radar range of the AtoN.  Draft guideline nearing completion. |
| Terrestrial positioning systems: | R-Mode development (MF & VHF) Guideline produced, trials undertaken. This is in development.  This will provide rPNT over existing AtoN infrastructure (AIS & DGNSS stations). |
| Product Specifications for eLoran | Continued support for eLoran. Terrestrial alternative to GNSS |
| GNSS Augmentation systems | SBAS accreditation for Maritime receivers - Guideline being produced. |
| GBAS (DGNSS system) – maintenance of system standards. |
| **Timing** | Timing and synchronisation | Timing and synchronisation are important to the combined use of different navigation systems. MASS are likely to need to report their position accurately but also timely, and therefore time availability and synchronisation is expected to be important. |
| **Power** | Solar Panel specifications | Guidelines exist and are being developed.  It may be that floating AtoN can provide more energy to power additional equipment to support MASS. |
| Power storage & generation for floating AtoN | Guidelines exist & will be updated.  It may be that floating AtoN can provide more energy to power additional equipment to support MASS. |
| **Radar Visibility** | Radar Reflectors – revised guideline | May allow floating AtoN to be designed to be identified by MASS radar systems.. |
| **Visual Signals** | Machine Vision, Infrared | No work at present, however, used in aviation. |

# Action required

The MASS Task Group is invited to note this information.