GUIDELINE

G1153
TEMPLATE FOR THE REVIEW OF EMERGING TECHNOLOGIES FOR POSSIBLE USE BY MEMBERS

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DOCUMENT REVISION

Revisions to this document are to be noted in the table prior to the issue of a revised document. The latest edition of the Guideline is the only version in force unless the Guideline is explicitly revoked by the Council.

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1. INTRODUCTION

The development of digital technologies continues to be rapid and impacts almost all aspects of the maritime industry, including maritime communications and Marine Aids to Navigation (AtoN). Digital technologies deal with the creation and practical use of digital or computerized information using devices, methods, or systems.

Therefore, it is important to evaluate emerging digital technologies in consideration of user requirements and the needs of Members of the International Organization for Marine Aids to Navigation (IALA). Such an evaluation will be a preliminary, high-level, desktop study. It will identify the key features and capabilities, advantages/disadvantages, limitations, and application to AtoN.

For this purpose, a simplified set of assessment criteria has been established to provide a consistent review approach. However, it is recognized that innovation and new technologies cannot always be easily measured by extant processes. Accordingly, the review process is to be considered an initial step in determining further steps that may be taken to confirm that technology is appropriate and feasible for the use of Members.

2. STAGED APPROACH

The template provided in this Guideline can be used by Members and other stakeholders in conducting assessments of developing technologies. There may also be benefit in sharing the results of an initial review with IALA for consideration in the appropriate Committee.

2.1. STAGE 1: PROPOSE TECHNOLOGY

The proposers of a new candidate technology are requested to answer the questions in “Technology Candidate Response” column within the table in Annex A.

2.2. STAGE 2: REVIEW

Once the table has been completed, IALA will review the findings and identify next steps, including providing an indication if the candidate technology appears to be suitable for further, more detailed analysis.

Each element provided in the table will be reviewed and marked as red, amber, or green, depending on the expert opinion as to the suitability of the technology to address that criteria.

3. OUTCOME OF REVIEW

When a review is completed, a rating of red, amber, or green will be identified. Technologies rated as red are not considered suitable for use within a given context; technologies rated amber could be considered for use with possible changes or developments; technologies rated green could be considered suitable for use within a given context.

ANNEX A EMERGING TECHNOLOGIES – REVIEW TABLE

	Question	Technology Candidate Response (complete as appropriate)		Response of reviewing entity	Green Amber Red
		Infrastructure	User		Status
1.	Where has the referral come from?				
2.	What is the name of technology/product?				
3.	Provide a functional description.				
4.	What is the proposed user group?				
5.	What are its Key limitations?				
6.	Where is it currently used (geographic and/or industry)?				
7.	How is it currently used?				
8.	How could it be used within the maritime sector?				

	Question	Technology Candidate Response (complete as appropriate)		Response of reviewing entity	Green Amber Red
		Infrastructure	User		Status
9.	Who developed it?				
10.	Is it commercial, non-commercial, or military?				
11.	Is there an existing technology that meets the same requirements? If so, what makes this different?				
12.	What is the ease of implementation?				
13.	What are the constraints for implementation?				
14.	What is the capability of the technology? (i.e., nominal range; data throughput; support for audio/video?)				
15.	What is the scalability of the technology?				
16.	Is the technology backward compatible?				

	Question	Technology Candidate Response (complete as appropriate)		Response of reviewing entity	Green Amber Red
		Infrastructure	User		Status
17.	Is the technology dependent on another technology? If so, identify the technology.				
18.	Can the technology be demonstrated?				
19.	Are there any results of studies or testbeds? If so, provide a list.				
20.	Is there a compliance summary? If so, provide the compliance summary.				
21.	Are there legal issues associated with the implementation of the technology? If so, provide a summary of the issues.				
22.	Are there any intellectual property rights (essential patents) associated with the technology? If so, please describe.				
23.	Is the technology safe to use?				

	Question	Technology Candidate Response (complete as appropriate)		Response of reviewing entity	Green Amber Red
		Infrastructure	User		Status
24.	What are the known or potential risks related to the technology?				
25.	Does the use of the technology require extra training?				
26.	Are there environmental considerations with the technology? If so, identify these considerations.				
27.	What are the financial considerations for implementation and use?				
28.	How is cybersecurity addressed (i.e,. protected against hacking; privacy of data)?				
29.	What is the Technology Readiness level (EU Technology Readiness level - TRL) (level of maturity of technology)				
30.	Can you provide independent references?				