



## IALA ARM COMMITTEE

# REPORT OF THE 13<sup>TH</sup> SESSION OF THE IALA ATON REQUIREMENTS AND MANAGEMENT (ARM) COMMITTEE

13 to 28 April 2021  
Virtual Meeting

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Committee Secretary

28 April 2021

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International Association of Marine Aids to Navigation and Lighthouse Authorities  
Association Internationale de Signalisation Maritime

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**Report of the 13<sup>th</sup> Session of the IALA  
AtoN Requirements and Management (ARM) Committee  
13 to 28 April 2021  
Executive Summary**

The 13<sup>th</sup> Session of the ARM Committee was held virtually from 13 to 28 April 2021 with Phil Day as Chair and Dave Lewald as Vice-Chair. The Secretary for the meeting was Thomas Southall.

94 Participants from 30 countries participated in ARM13. 26 participants attended for the first time.

The Committee continued the work for the 2018 - 2022 work period. Working in three working groups, the Committee considered 82 input papers and produced 36 output and working documents.

The meeting was carried out in accordance with the Virtual Committee Arrangements online. Approximately 32 meetings were arranged.

Key outputs completed included:

- Revised R0143 Provision of Virtual Aids to Navigation (O-143)
- Revised G1081 Provision of Virtual Aids to Navigation
- Revised Guideline G1143 Unique Identifiers for Maritime Resources
- New Guideline on Ship Reporting from a shore-based perspective

The following liaison notes were prepared:

- Liaison note to PAP on MASS – draft ENAV Recommendation and Guideline
- Liaison note to ITU WP 5B TD 73 on Revision of Recommendation ITU-R M.1371-5
- Liaison note to ENG on 3rd party Quality Control
- Liaison note to Secretariat regarding the ITU and IEC on AIS Status Bits
- Liaison note to all committees on the final draft of the IALA MBS
- ARM comments on the revision of IALA standards to PAP

**Overall status of the ARM Committee 2018-2022 Work Programme after ARM13:**

Task		Start Session	Planned End Session	Revised End Session	Progress Indicator			Status Overview
					Green	Yellow	Red	
<b>WG#1 – Navigational Requirements</b>								
1.1.1	Develop guidance on regulatory/legal framework for Aton Authorities							Task deleted following LAP advice
1.1.2	Revise G1054 Preparing for a Voluntary IMO Audit on Aids to Navigation Service Delivery (Nov 2006)	10	13	14				
1.4.1	Revised Guideline G1052 Quality Management in [Marine] Aids to Navigation Service Delivery (Dec 2013), removing ISO copied text.	10	12	14				
1.5.1	Reformat and review the IALA MBS incorporating MAtoN. Needs General Assembly approval.	8	12	14				
1.5.2	Assist ENAV with development of radio aspects of MAtoN and AMRD with IEC and ITU	8	11	12				Complete
1.5.3	Undertake gap analysis of IALA guidance associated with the MBS, including 1078 The Use of AtoN in the Design of Fairways (June 2011), identify further work to add to the task plan at ARM8. Includes SIGNI buoyage and submerged breakwaters.	8	12	14				
1.5.4	Develop guidance for navigators on the use of AtoN	13	14	16				Start postponed
1.5.5	Review G1096 Anticipated User e-Navigation Requirements from Berth to Berth, for AtoN Authorities (May 2013)	10	11					Deleted
1.5.6	Develop guidance on AtoN provision in polar regions (winter conditions; possibly complete following liaison with ENG)							Complete
1.5.7	Develop guidance on the provision of AtoN for autonomous vehicle/vessel operations (Maritime Autonomous Surface Ship, MASS)	14	16					To be commenced at ARM14
1.5.8	Review and update Recommendation R-0139 on the Marking of Man-Made Offshore Structures to reflect trends in the proliferation of wind farms and other offshore platforms.	10	12	14				
1.5.9	Identify options for the future use of DGNSS stations in conjunction with ENG review of Recommendation R0150.	10	12					ENG Completed
1.5.10	Develop Guideline on the Use of MAtoN	8	10					Complete at ARM12
1.6.1	Review R0143 Provision of virtual aids to navigation and G1081 Virtual AtoN to reflect developments	8	11	13				Completed at ARM13
2.1.1	In association with ENG review G1116 Selection of Rhythmic Characters and Synchronisation of Lights for [Marine] Aids to Navigation (Dec 2015)							Complete
5.3.1	Develop guidance on the symbology and portrayal of AtoN for charting	9	14					Postponed until 2022.
3.2.1	Review relevant sections of NAVGUIDE as requested by Secretariat	8	14	15				Ongoing
	Review IALA AtoN questionnaire							Complete
<b>WG#2 – Information Services and Portrayal</b>								
2.2.1	Review G1084 Procedure of the Authorisation of AIS AtoN	10	11					Incorporated in review of AIS documentation
2.2.2	Provide guidance on the management of requirements and requirements traceability							Completed at ARM9

Task		Start Session	Planned End Session	Revised End Session	Progress Indicator			Status Overview
					Green	Yellow	Red	
4.1.1	Review G1050 Management and Monitoring of AIS Information (Dec 2005)	9	11				Incorporated in review of AIS documentation	
4.2.1	Maritime Connectivity, Define User Requirements for Maritime Connectivity, Define User Requirements for the Maritime Internet of Things (Define Requirements for MRN Addressing) and Contribute to IALA submission to IMO	9	14	16			Ongoing	
5.1.1	Develop guidance on Maritime Services including the production of an 'e-Navigation Operational Service Description'	9	14				Completed at ARM12	
5.1.2	New Guideline on Operational considerations for S-200 (S-201 AtoN information and S-230 Application Specific Messages)	9	11	16			Ongoing	
5.1.3	Continue to Develop Product Specification S-201 in the Task Group already assigned							
5.1.4	Develop Annex C to S-201	9	11	16			Ongoing	
5.1.5	Develop Requirements for S-125	8	14	16			Ongoing	
5.1.6	Coordination with IHO/WMO for S-100, S-200, and MRN management (S-100/S-200 message coordination with other Committees on S-2xx development)	8	14	16			Ongoing	
5.1.7	Develop guidance on MRN for users	8	14				Complete at ARM13	
5.1.8	Develop MRN Registry Submission & Maintenance Guideline for IALA Secretariat	8	14				Ongoing	
5.1.9	Develop Recommendation to cover MRN Guidelines	9	10					
5.1.10	Coordinate Committee support for IALA representation at IHO working groups in cooperation with Secretariat (HSSC, S-100WG, NIPWG)	8	14	16			Ongoing	
5.1.11	Monitor the development of S-201 Testbed	8	14	16			Ongoing	
5.2.1	Review G1105 shore side portrayal ensuring harmonisation with e-Navigation related information	9	14	16			Ongoing	
5.2.2	Develop Guideline on ship reporting from the shore-side perspective						Completed at ARM13	
5.3.1	Develop guidance on the symbology and portrayal of AtoN for charting	9	14	16			Ongoing (with 5.2.1)	
6.2.1	Joint IMO IHO IALA Workshop regarding the management of S-100 PS	9					TBC	
6.2.2	Participate in ARM led joint workshop on cyber security	8	14	16			Ongoing	
<b>WG#3 – Risk Management</b>								
1.2.1	Review G1018 Risk Management to ensure compatibility with risk toolbox. Includes full review of underlying Risk Toolbox documentation G1123, G1124, G1138	8	13	14				
1.2.2	Review R0142 Maritime Data Sharing IALA Net to reflect new title "Maritime data sharing" and the storage and use of historical [AIS and other] data for risk analysis. New Guideline incorporating a Conceptual framework for data sharing, capture and analysis	10	14				Delayed due to developments in IALANET	
1.2.3	Review G1086 Global Sharing of Maritime Data (June 2012) in collaboration with task 1.2.2 (R0142 review)	9	14				Delayed due to developments in IALANET	
1.2.4	In cooperation with ENG (task 1.2.1) revise R0138 and G1058 and G1097 on simulation use by AtoN authorities	8	12	14				

Task		Start Session	Planned End Session	Revised End Session	Progress Indicator			Status Overview
					Green	Yellow	Red	
1.2.5	Develop Recommendation for marine data sharing for risk assessment analysis or incorporate with R0142 task 1.2.2							Task merged with 1.2.2
1.2.7	Develop document to promulgate IALA risk management tool box to IMO (SN circular)	13		15				Will be progressed at the completion of all other tasks.
3.1.1	Review G1020 Training Related to [Marine] Aids to Navigation (Dec 2005)	8	14					Complete
6.1.1	Cooperate with WWA in providing Risk Seminar(s)	8	14	16				Ongoing

**Legend:**

**Green** – progress as planned

**Yellow** – task needs more time, target time prolonged

**Red** – task delayed due to external issue

Grey - task completed / deleted

Blank – task not started

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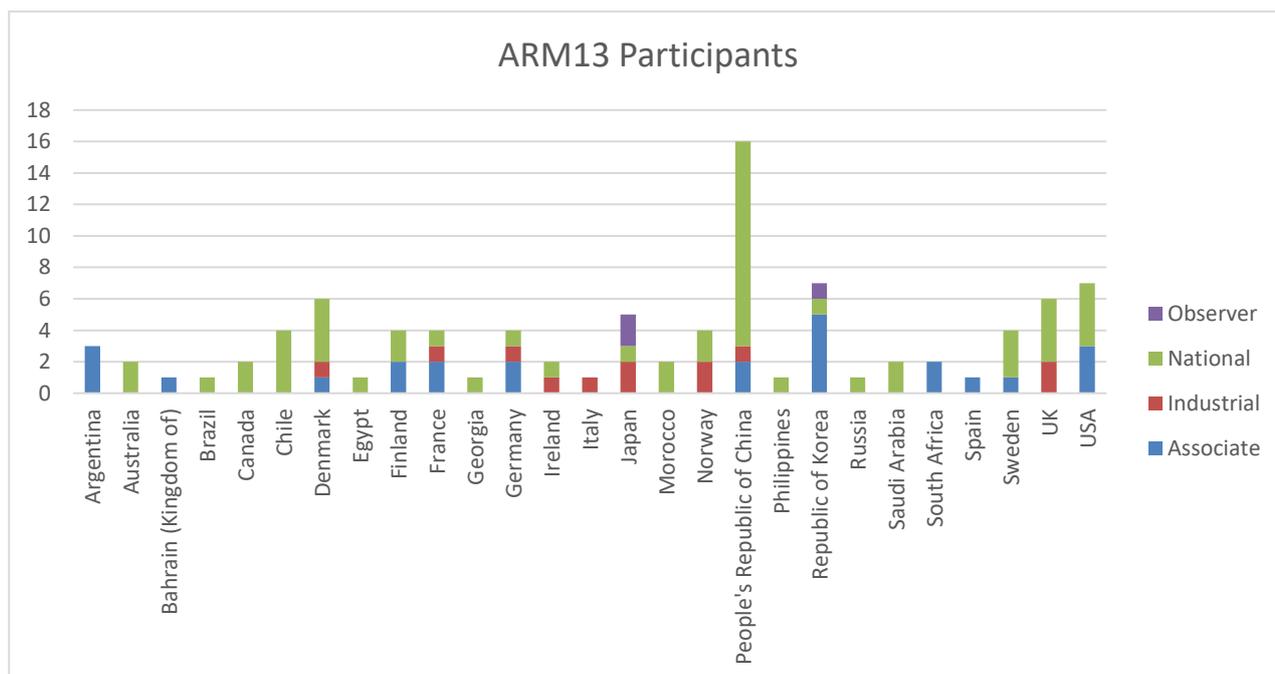
# Report of the 13<sup>th</sup> Session of the IALA

## AtoN Requirements and Management (ARM) Committee

### 1. INTRODUCTION

The 13<sup>th</sup> Session of the ARM Committee was held virtually from 13 to 28 April 2021 with Phil Day as Chair and Dave Lewald as Vice-Chair. The Secretary for the meeting was Thomas Southall.

94 Participants from 30 countries participated in ARM13. 26 participants attended for the first time. A breakdown of the participants is shown in the graph below.



#### 1.1 Welcome from the Chair of the ARM Committee

The Committee Chair, Phil Day, welcomed the Committee to the thirteenth session of the ARM Committee (ARM13). The Chair introduced Dave Lewald, Vice-Chair of the ARM Committee and Thomas Southall who served as the Committee Secretary.

#### 1.2 Welcome from the Secretary-General

Francis Zachariae, Secretary-General of IALA welcomed all participants to ARM13; he stated:

*“Notwithstanding the COVID-19 pandemic restrictions IALA and the World-Wide Academy are on track with their respective work programmes and planned activities.*

*Each of the four Committees have met remotely once again, during March and April, in accordance with established procedures. These innovative working arrangements proved remarkably effective for the meetings in the latter part of last year. In total, 546 attendees from 35 countries and sister organisations logged on, and 139 participants attended for the first time. An updated version of the arrangements will be discussed later on the agenda.*

*This success is a great tribute to the flexibility of the committee participants, and I would thank all of you for your tremendous efforts and work in the well-known spirit of IALA.*

*Face-to-face meetings remain IALA’s preferred mode of operation, and the Secretariat is planning for the committee and panel meetings to take place with a physical element at the IALA Headquarters during second half of this year. A physical element because the meeting will most probably be in a new hybrid version with a combination of virtual and physical meetings. As we speak the Headquarters is being updated with new Wi-Fi and equipment for a more hybrid and virtual post pandemic method of working.*

*However, everything – especially long-term planning - is of course uncertain for the moment, and we have to follow the health situation very carefully. There is a risk that all meetings for the rest of 2021 will actually be virtual and the Council has decided to postpone the General Assembly and the Conference in Rio one year to 2023, which give you one more year to complete your work programme.*

*Yesterday was the opening of the IALA Symposium in Rotterdam. The Netherlands Ministry of Infrastructure and Water Management and the Secretariat have organized a very interesting programme and the on-line facilities are impressive. I know you are busy, but I hope some of you will have time to join the Symposium as well.*

*I would also like to mention that on the initiative of the Netherlands and Singapore PAP has established a cross committee MASS working group. The group will examine the way forward for IALA with regard to the MASS developments.*

*I am pleased to report that the Minister for Maritime Affairs of France, signed the Convention on the International Organization for Marine Aids to Navigation on 27 January 2021 on behalf of the French Republic. The Convention is now open for signature by interested States during the next 12 months. Thereafter, it will be open for accession by any State that is a member of the United Nations. I am confident of speedy progress as many of the 50 States who agreed to adopt the Convention at the Diplomatic Conference held in Kuala Lumpur in February 2020 indicated their readiness to sign it. The text is also ready in the six official languages of the UN on the web site.*

*I would also like to inform you that the Bulletin that has just been send out, will be the last printed version. Its long-established provision of important updates on IALA and WWA activities will however continue via the regularly e-mailed, electronic newsletter – the e-Bulletin. I encourage you all to send your ideas or articles to the Secretariat for the next editions.*

*You have a busy period ahead. I wish you good luck and thank you once again for your contribution to global safety of navigation.”*

### **1.3 Approval of the agenda**

The agenda was reviewed and approved (ARM13-1.2.1).

### **1.4 Introductions and Apologies**

The Chair welcomed the new participants of the Committee. Martin Bransby, GRAD, submitted his apologies to the Committee.

A list of participants and their contact details can be found in Annex B

### **1.5 Working Arrangements**

The following statement on the IALA General Data Protection Policy was made by the Committee Secretary:

*IALA complies with the General Data Protection Regulations of the European Union. IALA will include a list of participants with their contact information in the report of this meeting. Any participant who wishes to remove their contact details from the participants list should advise the Committee Secretary as soon as possible.*

The following question was asked by the Committee Secretary:

*If anyone present has knowledge of any patents, including pending Patents, held either by themselves or by other organisations or individuals, the use of which may be required to practice or implement the content of IALA Documents being developed or worked on in this Committee to inform the IALA Secretariat.*

No patents were noted.

### **1.6 Working arrangements**

The Committee Secretary provided all participants with a briefing on the *Virtual Committee Working Arrangements* document and tools available to them. This brief included an overview of the tasks, in the form of the ARM13 Action Plan, that had been agreed by the ARM Committee Management Team to be progressed during through virtual Task Groups (TG). Each task had a deadline for expressions of interest to participate to be sent to the specified Task Group Leader. Once participants wishing to work on a task had been identified, the timings of the meetings were arranged by the Task Group Leader in liaison with the Secretariat and displayed on a Committee dashboard.

Task items that were worked on at ARM13 were displayed in the ARM12 Action Plan, which can be found [here](#).

## 2. REVIEW OF ACTION ITEMS FROM LAST MEETING

### 2.1 Review of action items from ARM12

Input paper ARM13-2.1.1 refers.

The Committee Secretary confirmed that all Secretariat actions from ARM12 were completed.

## 3. REVIEW OF INPUT PAPERS

### 3.1 Input papers to ARM13

Input papers were noted as listed in ARM13-3.1.1.

### 3.2 Input papers not related to an existing task

The Chair highlighted the following papers:

#### 3.2.1 ARM13-3.2.4 Cross-committee work on ITU matters (PAP41-4.4.1) and associated papers

ARM13 reviewed the input it had received from both ARM and VTS. In collaboration with ENAV participants a task group finalized a liaison note to ITU WP 5B TD 73 on Revision of Recommendation ITU-R M.1371-5 which was approved and submitted to Council.

#### *Action item:*

*The Secretariat is requested to forward ARM13-11.3.1 Liaison note to ITU WP 5B TD 73 on Revision of Recommendation ITU-R M.1371-5 to IALA Council for approval and subsequently to the ITU as necessary.*

#### 3.2.2 ARM13-7.3.10 and 7.3.11 – ENAV draft recommendation and guideline on MASS

ARM13 reviewed the two input papers from the ENAV Committee and approved a liaison note to be forward to the PAP with the Committees comments on the draft recommendation and guideline.

Roger Barker, WG3 Chair, was nominated to be the ARM representative to the MASS Task Force that has recently been proposed by the PAP.

#### *Action item:*

*The Secretariat is requested to forward ARM13-11.1.1 Liaison Note to PAP on ARM Comments on draft ENAV MASS Recommendation and Guideline, ARM13-11.1.1.1 Draft MASS Rec-ENAV WG2 review (ENAV27-12.2.1) ARM comments and ARM11.1.1.2 Draft MASS Guideline- ENAV WG2 review (ENAV27-12.2.2) ARM comments to the PAP for its consideration.*

#### 3.2.3 ARM13-8.7.2 Liaison Note from VTS to ARM and ENAV on Cyber Security

The Chair highlighted that ARM had received a liaison note from VTS50 proposing ARM considers carrying out or arranging a GAP analysis in advance of the Workshop. ARM13 agreed that a cross-committee gap should be proposed to be carried out in the coming months.

## 4. REPORTS FROM OTHER BODIES

### 4.1 IALA

#### 4.1.1 Report on IALA Council

Minsu Jeon, IALA Technical Operations Manager, provided the Committee with a report from the Council. Council 72 had met since ARM13 and the Committee noted in particular that:

- The recommendations and guidelines that were approved by Council.
- The Council had requested the ARM Committee to discuss the draft Guideline on Ship Reporting from a Shore-based Perspective further. The Chair highlighted the cross-committee collaboration already conducted between the ARM and VTS Committee.

#### 4.1.2 Report of the IALA Policy Advisory Panel

Minsu Jeon, provided a report to ARM13 regarding the last PAP session. The following was highlighted to participants:

- The PAP had finalized and submitted an input to IMO MSC 103 on IMSAS.
- The PAP has established a task force on MASS chaired by the Netherlands and Singapore.

### 4.2 IMO

Minsu Jeon, IALA, updated the Committee on IMO matters. As with all sister organizations IMOs activities has been effected by the pandemic. The meetings that were held dealt only with urgent matters. The Committee noted the meetings that are planned to be held by IMO this year. It was highlighted that IALA documentation was referenced heavily in NCSR input papers. *NCSR 8-13-1 Report on Monitoring of ECDIS issues by IHO (IHO)* was highlighted to ARM13, which lays out the status of IHOs ECDIS related standards.

### 4.3. e-Navigation Underway / Digital@Sea

Digital@Sea is a broadened concept of e-Navigation Underway which will encompass a range of issues such as MASS. A seminar was held on this new initiative during ARM13 and the video of the event can be found [here](#).

### 4.3 IHO/IALA liaison

IALA is maintaining its important liaison with IHO. The last meeting was held in October 2020 and the topics discussed included MRN, updates on S-100 and S-200, S-124 and S-125. The next meeting was scheduled for 27 April 2021.

## 5. PRESENTATIONS

The following presentations were made during ARM13. The presentations are available on YouTube by clicking on the video link.

### 5.1 'IALA's Response to ITU WP 5B TD 73 on Revision of Recommendation ITU-R M.1371-5 / Jorge Arroyo

Jorge Arroyo, US Coastguard and ENAV Committee Vice-chair, updated ARM13 around the work carried out so far on IALA's response to the ITU WP 5B TD 73 on Revision of Recommendation ITU-R M.1371-5 (AIS Protocol).

### 5.2 IALA World-Wide Academy Update / Kevin Gregory

Update on the activities of the Academy during the period of COVID-19. Video link

## 6. WORK PROGRAMME (2018 - 2022)

### 6.1 ARM Task Plan

An updated Task Plan was noted by the Committee. The Task Plan (ARM13-11.1.2) will be forwarded to ARM14.

*Action item:*

*The **Secretariat** is requested to forward the Task Plan (ARM13-11.1.2) to ARM14.*

### 6.2 Action Plan for ARM13

The ARM13 Action Plan, which can be found [here](#), was noted by the Committee. The Secretary reminded participants that all meetings during ARM13 would be posted on the ARM13 Dashboard.

### 6.3 ARM task proposals for work programme 2022 – 2026

Owing to the postponement of the IALA Conference until 2023 this task has extra time for completion. Work items to be undertaken in the two extra sessions of the ARM Committee will be discussed at an extraordinary session of the PAP due to be held on 5 May 2021. Committee Participants are requested to submit proposals for task items to ARM14 by providing input to the meeting.

The Committee Management Team reviewed the proposed work plan forwarded from ARM12 and the input gratefully received from Sweden (ARM13-6.3.2). As a result new tasks were added to the document and this review is contained in ARM13-11.1.3 Draft ARM Task Plan 2022 – 26, that will be forwarded to ARM14 for further consideration.

*Action items:*

*That **Committee Participants** are requested to submit proposals for task items to ARM14 for the 2022-2026 Work Programme.*

*The **Secretariat** is requested to forward ARM13-11.1.3 draft ARM Task Plan 2022 - 2026 to ARM14.*

### 6.4 IALA Standards

The Committee Management team undertook to review all seven standards. The ARM comments on these documents are contained in output documents ARM13-11.1.4, ARM13-11.1.5, ARM13-11.1.6, ARM13-11.1.7, ARM13-11.1.8, ARM13-11.1.9 and ARM13-11.1.10. The Committee also highlighted that the strategy referred to in the standards will also be out of sync as a result of the postponement of the General Assembly and IALA will have to address this going forward.

*Action item:*

*The **Secretariat** is requested to forward ARM13-11.1.4 Draft revision S1010 AtoN Planning & Service Requirements ARM comments, ARM13-11.1.5 Draft revision S1020 AtoN Design and Delivery ARM comments, ARM13-11.1.6 Draft revision S1030 Radionavigation Services ARM comments, ARM13-11.1.7 Draft revision S1040 Vessel Traffic Services ARM comments, ARM13-11.1.8 Draft revision S1050 Training and Certification ARM comments, ARM13-11.1.9 Draft revision S1060 Digital Communication Technologies ARM comments and ARM13-11.1.10 Draft revision S1070 Information Services ARM comments to the PAP for its consideration.*

## 7. ESTABLISH WORKING GROUPS

Three working groups were established, with their respective Chairs and Vice-Chairs as outlined below.

Working Group (WG)	Working Group Chair / Vice Chair
WG1 – Navigational Requirements	Guttorm Tomren / Johan Westerlund
WG2 – Information Services and Portrayal	Dave Lewald
WG3 – Risk Management	Roger Barker / Cathrine Steenberg

## 8. WORKING GROUP 1 – NAVIGATIONAL REQUIREMENTS (WG1)

### 8.1 Response to input papers

The Working Group reviewed the list of input papers and allocated them to current tasks.

### 8.2 Reformat and review the IALA MBS incorporating MAtoN (Task 1.5.1)

Task group leader: Natasha McMahon

The task group continued the revision of the MBS, taking into consideration the initial gap analysis that was completed at ARM9. This included updates, incorporation of electronic & mobile applications and the inclusion of the autonomous world. The work will be shared by means of a draft word version, as well as a draft graphic layout version via a liaison note to the other committees.

Other tasks related to the MBS, such as tasks 1.5.3 (GAP for MBS) and 1.5.10 (MAtoN), are completed and have been considered in the revision of the current MBS.

The task group have proposals regarding the naming of the MBS that require wider Committee discussion. At the moment the group will propose a status quo and a proposed title with a minor change. This will be indicated in the liaison note sent to other committees and produced at ARM13. It is important to note that the MBS is referenced in the SOLAS Convention and of course the 1982 'Agreement on the IALA Maritime Buoyage System' and therefore that part of the title will definitely remain.

Given input from LAP, there will be no changes related to the graphical presentation in the MBS of regions A and B in polar regions for this revision.

#### *Action items:*

*The Secretariat is requested to forward ARM13-11.2.5 Liaison Note on the review of the IALA MBS - final draft, ARM13-11.2.5.1 draft WP R1001 Ed1 The IALA Maritime Buoyage System new format and ARM13-11.2.5.2 Envisioned visual layout of the MBS in PDF to all committees.*

*The Secretariat to provide input to ARM13 regarding the current title of the IALA Maritime Buoyage System to the Task Group working on this item.*

*The Secretariat is requested to forward ARM13-11.2.6 WP draft IALA Maritime Buoyage System as a working paper to ARM14 for further consideration.*

### 8.3 Undertake a gap analysis and review of Guideline 1078 The Use of AtoN in the Design of Fairways (June 2011). (Task 1.5.3)

Task group Leader: James Collocott

The gap analysis was completed at ARM12 (ARM12-11.2.2.2) and work continued on revising G1078 (ARM13-7.3.7.1 WP G1078). The work is now at 99% completion and a final draft should be produced at ARM14 for consideration by the ARM Committee.

A list comprising of 7 definitions (ARM13-7.3.7.2 WP Definitions) were compiled, intended for inclusion in the IALA Dictionary. A final draft should be produced at ARM14 for consideration by the Committee.

Some intersessional work may be necessary in order to ensure completion during ARM14.

*Action item:*

*The **Secretariat** is requested to forward ARM13-11.2.7 WP G1078 - The Use of AtoN in the Design of Fairways and Channels and ARM13-11.2.8 WP Definitions for IALA Dictionary as working papers to ARM14 for further consideration.*

*The **Committee Participants** are requested to confirm their interest in joining an intersessional group on review of Guideline 1078 The Use of AtoN in the Design of Fairways by submitting an email not later than 14 May 2021 to the Intersessional Group Leader, James Collocott (jcollocott@samsa.org.za), noting that the dates and times of the intersessional meetings will be published on the IALA Committee Dashboard.*

#### **8.4 Review Recommendation R-0139 on Marking of Man-made Offshore Structures (Task 1.5.8)**

Task group leader: Trevor Harris

The group had three meetings over the course of ARM13 and a lot of progress was made on the documents.

The input paper from the Republic of Korea (ARM13-7.3.8) was discussed during the meetings and fed into the review. Prior to ARM13 it was suggested that Recommendation O-113 The Marking of Fixed Bridges and Other Structures Over Navigable Waterways was brought in to the revised R0139 Recommendation and associated guidelines. This was discussed and at this current time not advanced.

A discussion involving ARM Chair, WG1 Chair and TG Leader was held around the future format of the documents. Prior to ARM13 R0139 was going to be a separate short recommendation accompanied by a longer guideline. The longer guideline was to have included new guidance on breakwaters following extensive work over previous sessions.

The decision was taken, and agreed by the task group, that the final output will be:

A Short concise Recommendation O-139 covering manmade structures which will be written so that future guidelines can be associated with it.

A new guideline on offshore structures consisting of the original content of R0139 reviewed and updated.

A new guideline on breakwaters coming from the extensive work so far undertaken by members of the group and previous input papers.

The group produced documents that are nearly complete and at ARM14 will need just a final polish and a final decision made on the titles.

*Action item:*

*The **Secretariat** is requested to forward ARM13-11.2.9 WP Track Changed copy of the proposed new Recommendation R0139, ARM13-11.2.10 WP Track Changed copies of the papers originating from the existing R0139 for the new recommendation and Guideline, ARM13-11.2.11 WP Track Change document for the proposed new guideline on Breakwaters, ARM13-11.2.12 WP Clean and Formatted copy of the new revised Recommendation R0139, ARM13-11.2.13 WP Clean and Formatted copy of the new Guideline from existing R0139 as working papers to ARM14 for further consideration.*

#### **8.5 Review Recommendation R O143 on Virtual Aids to Navigation (Task 1.6.1)**

Task group leader: Yves Jacques

IALA Recommendation R0143 has been revised and brought into line with the guidance provided in the new IALA Guideline G1081. Work on R0143 has accelerated because of the intersessional work undertaken during with members from Canada and Sweden participating. The changes were focused upon uniformity, better layout and structure and refreshing the content. The modified document was presented in detail during

ARM13 and approved by the ARM Committee. The G1081 on Virtual AtoN was approved at ARM12 with very minor subsequent editorials, not touching the technical content, adding some missing reference into two figures.

*Action item:*

*The Secretariat is requested to forward ARM13-11.2.1 R0143 Provision of Virtual Aids to Navigation (O-143) Ed1.3 April 2021 and ARM12-11.2.2.7 draft Guideline on the Provision of Virtual Aids to Navigation G1081 to IALA Council, together, for approval.*

## 8.6 Revise G1052 Quality Management in Aids to Navigation Service Delivery (Task 1.4.1)

Task group leader: Johan Westerlund

Work on this item was progressed during the session by adding the proposed changes from input paper ARM13-7.2.2 *Proposals on the revision of IALA Guideline G1052* from China MSA and some other minor editorials. The document is estimated to be 99% complete and will be finalised at ARM14. The task group also considered a liaison note from the ENG committee requesting a review of a new guideline being drafted on Quality Control of AtoN Third Party Service Providers. The task group considered the draft to be a good start on a guideline regarding the subject, and suggested that the draft reviewed Guideline 1052 is forwarded to the ENG Committee so the changes may be considered when they work on the new guideline.

*Action item:*

*The Secretariat is requested to forward ARM13-11.2.14 WP draft G1052 Quality Management in Aids to Navigation Service Delivery as a working paper to ARM14 for further consideration.*

*The Secretariat is requested to forward ARM13-11.2.3 Liaison note to ENG on 3rd party Quality Control to the ENG Committee for their consideration.*

## 8.7 Revise G1054 Preparing for a Voluntary IMO Audit on Aids to Navigation Service Delivery (Task 1.1.2)

Task group leader: Yang Jun

Work on this task was progressed at this session and will continue at ARM14. The whole document was reviewed, sections on Introduction, IMSAS Overview, Preparing For An IMSAS Audit and Reference, as well as some grammar and spelling mistakes of the description, were revised and corrected according to received comments. The next stage will be waiting for the revision of the IMSAS Manual by IMO MSC103 and then implement appropriate adjustment and update accordingly.

Intersessional work will continue by correspondence and necessary virtual meetings after the IMO MSC103. The group extends their sincere thanks to participants who had made intersessional contributions on this task but did not attend ARM13: Mahesh Alimchandani, Ajay Palayil and Joris Brouwers.

*Action item:*

*The Secretariat is requested to forward ARM13-11.2.15 WP draft Guideline 1054 Preparing for an IMO Audit on Aids to Navigation Service Delivery as working paper to ARM14 for further consideration.*

*The Committee Participants are requested to confirm their interest in joining an intersessional group on revising Guideline 1054 Preparing for an IMO Audit on Aids to Navigation Service Delivery by submitting an email not later than 14 May 2021 to the Intersessional Group Leader, Yang Jun (523724224@qq.com), noting that the dates and times of the intersessional meetings will be published on the IALA Committee Dashboard.*

## 8.8 Develop Guidance for Navigators on the use of AtoN (Task 1.5.4)

Task group leader: Guttorm Tomren

The task group had two meetings at ARM13. The first task is to find the initial request for establishing the task. The IALA WWA will provide support on this item. The task group has reviewed (briefly) the sister guideline relating to the same topic on VTS. After addressing the initial request, the Task Group has focused

upon collecting examples of AtoN guidance to mariners. Additional focus should be on avoiding duplication of existing information found at naval academies, and providing added value to the mariner (both those at sea and those in training). Inputs are collected and forwarded to James Collocott, who will prepare a draft document for discussion at the first intersessional work meeting (end June). The task group invites members of ARM to participate in intersessional work prior to ARM14.

*Action item:*

*The **Secretariat** is requested to forward ARM13-11.2.16 WP Scoping/gap of task 1.5.4 as a working paper to ARM14 for further consideration.*

*The **Committee Participants** are requested to confirm their interest in joining an intersessional group on developing guidance for Navigators on the use of AtoN by submitting an email not later than 14 May 2021 to the Intersessional Group Leader, Guttorm Tomren (guttorm.tomren@kystverket.no), noting that the dates and times of the intersessional meetings will be published on the IALA Committee Dashboard.*

## **8.9 Review and update A-126 regarding MAtoN (Task 1.5.10.1)**

Task group leader: Guttorm Tomren

Initial requests for this task came from the development of MAtoN. A new status bit needs to be developed to enable MAtoN to be visible on ECDIS/radar monitors. This work is also related to the current work of updating IEC62288. A virtual meeting took place, where the way forward with status bits was agreed and a brief scoping/GAP analysis was also carried out. The task group invites participants of ARM to join intersessional work prior to ARM14. A liaison note to the Secretariat regarding the ITU and IEC on AIS Status Bits approved during ARM13.

*Action item:*

*The **Secretariat** is requested to bring the contents of ARM13-11.2.4 Liaison note to Secretariat regarding the ITU and IEC on AIS Status Bits to the attention of IALA members who attend the ITU and IEC.*

*The **Committee Participants** are requested to confirm their interest in joining an intersessional group on the review and update of A-126 regarding MAtoN by submitting an email not later than 14 May 2021 to the Intersessional Group Leader, Guttorm Tomren (guttorm.tomren@kystverket.no), noting that the dates and times of the intersessional meetings will be published on the IALA Committee Dashboard.*

## **9. WORKING GROUP 2 – INFORMATION SERVICES AND PORTRAYAL (WG2)**

As elsewhere, WG2 attendance was virtual and because of this, the Chair decided on a selection of high-priority tasks to be conducted during the meeting. Despite the virtual nature of the meeting, the WG plenary attracted some 25 participants. The Chair expressed his appreciation for the hard work and enthusiasm of the Working Group.

A review of the following Input Papers & Liaison Notes (not considered within Task Groups) was conducted by the WG Plenary:

- ARM 13-3.2.5 Automated Mandatory Ship Reporting Systems Service – Noted with presentation provided by submitters (Jarle Hauge & Todd Schuett) to WG2 Plenary Session 22 April 2021.
- ARM 13-8.2.1 Draft IMT (3GPP) – Recommendation – WG2 review-rev2 (ENAV27-12.2.3) – Noted.
- ARM 13-8.2.2 Draft IMT (3GPP) – Guideline – WG2 review-rev2 (ENAV27-12.2.4) – Noted.

### **9.1 Develop guidance on cyber security for AtoN authorities in collaboration with all other Committees. (Task 1.2.6.)**

Task group leader: Martijn Ebben

The group deliberated on this task and are unclear as to the way forward with development of cross committee recommendations and guidelines. WG2 Chair as ARM Vice-chair, will request clarification from PAP.

*Action item:*

That the **ARM Chair and Vice-chair** relay Task Group 1.2.6 deliberations and questions to PAP regarding the way forward with development of cross committee recommendations and guidelines on cyber security.

## **9.2 Develop guidance on Maritime Services including the production of an 'e-Navigation Operational Service Description' (Task 5.1.1)**

Task group leader: Peter Hooijmans

The Task Group (TG) completed work during ARM 12 and the draft Guideline on e-Navigation Operational Description was forwarded to Council 72. Council approved the Guideline and G1155 edition 1 was posted on 20 December 2020. Task complete.

### **9.2.1 Develop guidance on Maritime Services (Task 5.1.1)**

Task group leader: Michael Strandberg

This task was taken up in early work program sessions but has not been completed due to disruptions to the original team composition. Mr. Michael Strandberg has agreed to take on the role of Task Group Leader and work will recommence at ARM14. Discussion during WG2 Plenary included developments regarding the status of the proposed MS17 (ATON Services) and MS19 (PNT Services). Furthermore, clarification of how coordination with ENG Committee regarding MS19 was to be conducted.

*Action item:*

The **Secretariat** is requested to provide an update regarding the proposed MS17 (ATON Services) and MS19 (PNT Services) for the task on developing guidance on Maritime Services (Task 5.1.1).

## **9.3 Develop a Product Specification S-201 (Task 5.1.3)**

The task group reviewed the proposed amendments for the S-201 data model. The amendments included the addition mooring components feature types and additional attribute types.

*Action items:*

The **Committee Participants** are requested to confirm their interest in joining an intersessional group on developing a product specification S-201 by submitting an email not later than 14 May 2021 to the Intersessional Group Leader, Dave Lewald (Robert.D.Lewald@uscg.mil), noting that the dates and times of the intersessional meetings will be published on the IALA Committee Dashboard.

That **Sewoong Oh and Eivind Mong** update the UML model, DCEG, feature catalogue and GML Schema. The updated packages will be reviewed at the next intersessional meeting.

The **Secretariat** is requested to forward all documents in the related Committee File Share folder to ARM14 as working papers.

## **9.4 Develop Annex C to S-201 (Task 5.1.4)**

Task group leader: Dr. Sewoong Oh

The group discussed the flow diagram to add in the S-201 implementation guideline. The revised flow chart considering how to search historical data for new system and technical service specification for AtoN provision will be discussed at ARM14. Participants will refine the flow diagram and update the S-201 implementation guideline.

*Action item:*

The **Secretariat** is requested to forward all documents in the related Committee File Share folder to ARM14 as working papers.

## **9.5 Develop Requirements for S-125 (Task 5.1.5)**

Task group leader: Dr. Sewoong Oh

The group noted the response to the liaison note for S-125 vision outline from IHO NIPWG. The group agreed to have intersessional meetings to improve the S-125 vision outline paper. Additional discussions regarding the drafting of the S-125 data model concluded that filtering of the S-201 data model and adding additional information type(s) for AtoN operating status must be considered and will be necessary to complete the model.

*Action item:*

The **Committee Participants** are requested to confirm their interest in joining an intersessional group on improving the S-125 vision outline paper and drafting the S-125 data model based by submitting an email not later than 14 May 2021 to the Intersessional Group Leader, Sewoong Oh ([osw@kriso.re.kr](mailto:osw@kriso.re.kr)), noting that the dates and times of the intersessional meetings will be published on the IALA Committee Dashboard.

The **Secretariat** is requested to forward all documents in the related Committee File Share folder to ARM14 as working papers.

## 9.6 Develop guidance on MRN for users (Task 5.1.7)

Task group leader: LeeAnne Gordon

The Task Group met on several occasions intersessionally and during the ARM13 Committee session. The task group developed an annex to the guideline describing use of country codes. (ANNEX C – COUNTRY CODES WITH IALA MRN NAMESPACE). ARM determined no additional action was needed and recommends submitted the revised *G1143 Unique Identifiers for Maritime Resources* to Council and therefore the closure of this task item.

*Action item:*

The **Secretariat** is requested to forward the ARM13-11.3.3 revised *G1143 Unique Identifiers for Maritime Resources* to Council for approval.

## 9.7 Develop MRN Registry Submission & Maintenance Guideline for IALA Secretariat (Task 5.1.8)

Task group leader: LeeAnne Gordon

The Task Group met on several occasions intersessionally and during the ARM13 Committee session. A draft guideline was developed and will be forwarded to ARM14 as a working paper.

*Action item:*

The **Secretariat** is requested to forward ARM13-11.3.2 *Guideline on Management of Maritime Resource Name Organisation Identifiers* as a working paper to ARM14 for further consideration.

## 9.8 Develop Guideline on ship reporting from the shore-side perspective (Task 5.2.2)

Task group leader: Fred Pot

The Ship Reporting Task Group (SRTG) had 5 meetings during ARM13

- SRTG20 April 14
- SRTG21 April 16
- SRTG22 April 19
- SRTG23 April 21
- SRTG24 April 27

A number of ARM13 participants joined SRTG for the first-time including representatives from EMSA and from the VTS and ENAV Committees.

SRTG reviewed Liaison Notes from the VTS and ENAV Committees and continued work on version 2.0 of the Guideline on Ship Reporting from a Shore-based Perspective (Task 5.2.2).

ARM submitted the Guideline to Council for approval.

*Action item:*

The **Secretariat** is requested to forward ARM13-11.3.4 Guideline on Ship Reporting to Council for approval.

## 10. WORKING GROUP 3 – RISK MANAGEMENT (WG3)

Once again, the work was carried out by virtual meetings instead of physical attendance at the IALA HQ in Saint Germain-en-Laye. Based on the experience from the last Committee meeting, and as WG3 is a rather small working group, it was decided by the Chair and Vice-chair prior to commencement of ARM13 to complete all meetings as a rolling working group plenary.

This time, a number of new participants attended WG3, hence, the WG Chair started by giving an introduction to the Working Group and emphasized the importance of the work carried out by the WG participants within the field of risk management with the aim of improving safety at sea for all mariners.

Thereafter, each WG participant gave an introduction of themselves and their background.

Chair: Roger Barker

Vice-chair: Cathrine Steenberg

Task Group Leaders: Ernst Bolt, Edward Rogers and Jakob Bang

Task Group participants: Raul Escalante, Antonella Mancere, J Valtteri Laine, Ke Ranxuan, Xu Haibo, Emeric Bidenbach, Kang Hyunseok, Kidam Kim, Vincent Nineuil, Yiqin Sun, Pieter-Chris Blom, Filipe Vieira.

The WG commenced its work by agreeing on an agenda based on Task Plan 2018-2022:

- Review of G1018 Risk Management and also review of G1123, G1124, and G1138 (Task 1.2.1)
- Review of R0142 Maritime Data Sharing IALA Net (Task 1.2.2)
- Review of G1086 Global Sharing of Maritime Data (Task 1.2.3)
- Review of R0138, G1058 and G1097 (Task 1.2.4)
- Develop Recommendation for marine data sharing for risk assessment analysis (Task 1.2.5)
- Develop document to promulgate IALA risk management tool box to IMO (Task 1.2.7)
- Review of G1020 in collaboration with WWA (Task 3.1.1)
- Review relevant sections of the NAVGUIDE (Task 3.2.1)
- Cooperation with WWA in providing Risk Seminars (Task 6.1.1)

The agenda for ARM13 was primarily to progress the on-going work on the over-arching guideline G1018 and the underlying guidelines for SIRA, IWRAP and simulation.

Despite some of the underlying guidelines being ready to enter into the approval process, the Chair and Vice-chair decided to wait until G1018 is fully completed to make sure that there is consistency between the over-arching guideline G1018 and the underlying guidelines for IWRAP, SIRA, PAWSA and Simulation before seeking Committee approval.

### 10.1 Review G1018 Risk Management to ensure compatibility with risk toolbox. Includes full review of underlying Risk Toolbox documentation G1123, G1124, G1138 (Task 1.2.1)

Task group leader: Ernst Bolt

The WG continued the thorough and comprehensive revision of the current risk management guideline G1018, by making a full review of the document, section by section in plenary. The core structure is now in place and the level of information provided to the users are clear and succinct without unnecessary duplication in the guidelines for PAWSA, IWRAP, SIRA, and Simulation.

However, the Guideline needs to undergo a final review of particularly the Terminology section at ARM14, after which it should be finalised to enter into the silent approval process.

#### 10.1.1 The review of the Guideline for SIRA (G1138)

Task group leader: Edward Rogers

The review of the Guideline for SIRA (G1138) continued in plenary in the WG.

IRMAS/OPRA, which is a simpler version of SIRA has been developed intersessionally and has been embedded in G1018.

Furthermore, a questionnaire has been conveyed among the ARM Committee members with the aim to provide more insight into how the Risk Management Toolbox is used. The working group has received a limited number of responses, approximately 12-14. Hence, the Committee participants are once again encouraged to reply to the questionnaire.

Some work will be progressed intersessionally particular in regard to accuracy of the document. The work on G1138 will continue to finalisation at ARM14.

#### 10.1.2 The review of the Guideline for IWRAP (G1123)

Task group leader: Jakob Bang

The review of the Guideline for IWRAP (G1123) continued in plenary. Further minor revisions have been made and a clean draft as well as a version with tracked changes have been presented to the WWA Dean who found the content of the Guideline accurate and adequate.

The revision of G1123 is almost ready for publication but a final cross check to the other risk management documents is required. It is expected to be finalised during ARM14.

#### 10.1.3 The review of the Guideline for PAWSA (G1124)

Regarding the Guideline for PAWSA (G1124), further work is required through the IALA WWA on the PAWSA operational manual and then further to this work, amendments to the Guideline will be finalised. Assistance with the WWA and experts in delivery of PAWSA at the IALA risk management workshops will assist in ensuring the Guideline is fit for purpose.

#### *Action items:*

*The **Secretariat** is requested to forward ARM13-11.4.1 WP\_Guideline\_1018\_Risk\_Management (ARM12-9.1.1), ARM13-11.4.2 WP Guideline 1123 Ed1 The use of IWRAP MKII\_20210415, ARM13-11.4.3 WP Guideline 1124 Ed.1 The use of PAWSA MkII and ARM13-11.4.4 WP Guideline 1138 Ed.1 The use of SIRA Dec2017 as working papers to ARM14 for further consideration.*

*That **Committee Members** are requested to complete the questionnaire ARM12-11.4.2.5 ARM 12 Risk Management Toolbox Questionnaire – 211020 and send their answers to both Roger Barker (Roger.Barker@trinityhouse.co.uk) and Cathrine Steenberg (cms@force.dk) by 30th June 2021.*

## 10.2 Review R0142 Maritime Data Sharing IALA Net to reflect new title “Maritime data sharing” and the storage and use of historical [AIS and other] data for risk analysis (Task 1.2.2) and Review G1086 Global Sharing of Maritime Data (June 2012)

Task group leader: Roger Barker

The Dean of the WWA, who has the specific competence in IALANET, and the Chair, have discussed the way ahead. Unfortunately, progress to further develop IALANET has been affected by the Pandemic and this task and specific work on R0142 and G1086 will be progressed in future sessions of the group but the Chairman will maintain close contact with the WWA and the Dean on this important area of work.

#### *Action items:*

The **Secretariat** is requested to forward the ARM13-11.4.5 WP Recommendation R0142 On Maritime Data Sharing IALANET and ARM13-11.4.6 WP Guideline 1086 Ed.1 Global Sharing of Maritime Data & Information (ARM12-9.1.8) as working papers to ARM14 for further consideration.

### **10.3 In cooperation with ENG (Task 1.2.1) revise R0138, G1058 and G1097 on simulation use by AtoN authorities (Task 1.2.4)**

Task group leader: Cathrine Steenberg

The Guideline for simulation G1058 had been reviewed and modified during ARM10 and is close to being finalised. However, further improvements have been made during ARM13 in conjunction with the review of G1018. Similar to the other underlying guidelines, a draft version of G1058 will be forwarded as input for ARM14 as a working paper.

Review of the Guideline G1097 has been initiated. The current Guideline is rather technical with a level of high detail, which makes it more or less outdated as soon as it is approved due to the fast development in technology. Therefore, the aim for the review of the Guideline is to make it more generic and as such it is now the direction being taken by ARM. Unfortunately, there was not enough time to continue the work during ARM13, as a result the work will have to continue during ARM14.

Review of Recommendation R0138 will be postponed until the next Committee meeting ARM 14.

#### *Action items:*

The **Secretariat** is requested to forward ARM13-11.4.7 WP Recommendation R0138 Ed.1 The Use of GIS and Simulation by Aids to Navigation Authorities (ARM12-9.1.6), ARM13-11.4.8 WP Guideline 1058 Ed.2 (ARM12-9.1.7) Use of Simulations a Tool for Waterway Design and AtoN Planning and ARM13-11.4.9 WP Draft Guideline 1097 Ed.1.1 Technical Features and Technology Relevant for Simulation of AtoN as working papers to ARM14 for further consideration.

### **10.4 Develop document to promulgate IALA risk management toolbox to IMO (SN circular) (Task 1.2.7)**

Task 1.2.7 will be started when the full review of Guideline G1018 together with the supporting toolbox guidelines have been brought to a significant level of maturity (Task 1.2.4).

### **10.5 Review G1020 Training Related to [Marine] Aids to Navigation (Dec 2005) (Task 3.1.1)**

A draft version of the IALA Model Course L1.3 on Risk Management Tool Ed 2 was sent to WWA for final amendment after ARM9. The Model Course has since been approved by Council.

### **10.6 Review relevant sections of NAVGUIDE as requested by Secretariat (Task 3.2.1)**

In conjunction with other WGs, WG3 has been assigned to various sections to be included in the revised NAVGUIDE and commenced early assessment of the requirements. In addition, on completion of the revision of G1018 suggested amendments to the NAVGUIDE text will be provided.

### **10.7 Cooperate with WWA in providing Risk Seminar(s) (Task 6.1.1)**

Coordination and cooperation between the WWA, its lecturers and WG3 is essential for providing guidance to National members as well as education through the Risk Management Courses provided by WWA.

The WG Chair confirmed that WG3 are continuing to fully support, where appropriate, the WWA in delivery of Risk Management Seminars.

## **11. REVIEW OF OUTPUT AND WORKING PAPERS**

The Working Group Chairs reported on the work carried out by their Working Groups.

The output from ARM12 was approved by the Committee using the silent approval procedure. The output documents are listed in Annex D.

The Committee Chair then thanked the Working Group Chairs, Vice-Chairs and participants of the working groups for all their efforts during the ARM13 session.

## **12. DATE AND VENUE OF NEXT MEETING**

ARM14 is planned to be held between 18 - 22 October 2021 at IALA Headquarters, Saint Germain-en-Laye, France. The Secretariat will continue to monitor global events of the COVID-19 pandemic and advise its Members of any changes that may be instigated.

Other IALA events will be publicised on the IALA website.

## **13. CLOSING OF THE MEETING**

The Committee Chair thanked the Committee and working group chairs for their hard work and effective output during the session.

He also hoped that everyone could take the IALA survey that is sent out after every Committee session in order to receive feedback for continuous improvements.

Finally, the Chair asked if there were any final comments that members wished to make; there were none, at which he hoped to meet all participants once again during ARM14.

## **14. LIST OF ANNEXES**

- 1     Agenda  
      A copy of the agenda is in Annex A.
- 2     Participants  
      A list of participants is in Annex B.
- 3     Input Papers  
      A list of input papers is in Annex C.
- 4     Output and Working papers  
      A list of output and working papers is in Annex D.
- 5     Action items  
      A list of action items is in Annex E.



## 13th Meeting of the AtoN Requirements and Management Committee (ARM13)

The 13<sup>th</sup> meeting of the **ARM Committee** will be held from 13 April – 28 April 2021 virtually.

The opening plenary will commence at 1100 – 1300 UTC on Tuesday 13 April 2021, and the closing plenary will begin at 1100 – 1300 UTC on Wednesday 28 April 2021.

### Agenda

1. Introduction
  - 1.1. Welcome address from the Secretary-General
  - 1.2. Approval of agenda
  - 1.3. Apologies and introductions
  - 1.4. Working arrangements
    - 1.4.1. ARM Social Programme
2. Review of action items
3. Review of input papers
  - 3.1. Input papers to ARM 13
  - 3.2. Input papers not related to an existing task
4. Reports from other bodies
  - 4.1. IALA
    - 4.1.1. IALA Council Minsu Jeon
    - 4.1.2. IALA Policy Advisory Panel (PAP) Minsu Jeon
  - 4.2. IMO Minsu Jeon
  - 4.3. e-Navigation Underway / Digital@Sea Minsu Jeon
  - 4.4. IHO/IALA liaison Minsu Jeon
5. Online presentations (via webinars on specific dates and times to be announced)
6. Work Programme (2018 - 2022)
  - 6.1. ARM Task Plan
  - 6.2. Action plan for ARM13
  - 6.3. ARM task proposals for work programme 2022 – 2026
  - 6.4. IALA Standards
7. Establish WG1 - Navigational requirements
  - 7.1. Obligations and regulatory compliance
  - 7.2. Quality management
  - 7.3. AtoN planning

- 7.4. Virtual marking
- 7.5. Visual signalling
- 7.6. Capacity building (NAVGUIDE)
8. Establish WG2 - Information services and portrayal
  - 8.1. Design, implementation and maintenance
  - 8.2. Wide/Medium bandwidth systems (AIS & VDES)
  - 8.3. Harmonised maritime connectivity framework (CMDS) Maritime IoT ( Intelligent sensors, Aton monitoring)
  - 8.4. Data models and data encoding (IVEF, S-100, S-200, ASM)
  - 8.5. Data exchange systems (Traffic Information)
  - 8.6. Terminology, symbology, and portrayal
  - 8.7. Workshop(s)
9. Establish WG3 - Risk management
  - 9.1. Risk management
  - 9.2. Training and certification
  - 9.3. Seminar
10. Any other business
11. Review of output and working papers
  - 11.1. Committee wide (Task Plan)
  - 11.2. WG1
  - 11.3. WG2
  - 11.4. WG3
12. Review of session report
13. Date and venue of next meeting
14. Close of the meeting

## ANNEX B

## LIST OF PARTICIPANTS

The following list of participants is grouped by their organization in alphabetical order:

Surname	Name	Organization	E-mail
Cairns	William	American Pilot's Association Inc	bcairns@americanpilots.org
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Yang	Fan	China Maritime Safety Administration	526718417@qq.com
Yang	Jun	China Maritime Safety Administration	523724224@qq.com
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Bang	Jakob	Danish Maritime Authority	
Dam	Peter	Danish Maritime Authority	ped@dma.dk
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Surname	Name	Organization	E-mail
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All papers are posted on the Committee section of the IALA website.

Meeting	Paper Number	Input Paper Title	Source	Presented by / WG
ARM13-	1.2.1	ARM13 Agenda	IALA Secretariat	All
ARM13-	1.4.2	IALA Virtual Committee Working Arrangements Feb 2021	IALA Secretariat	All
ARM13-	1.4.3	IALA Style Guide Ed 1.0 January 2021	IALA Secretariat	All
ARM13-	2.1.1	Action Items from ARM12	ARM12	All
ARM13-	2.1.2	Report of ARM12	ARM12	All
ARM13-	3.1.1	Input Paper List	IALA Secretariat	All
ARM13-	3.2.1	Liaison note to ARM on 3rd party Quality Control	ENG12	WG1
ARM13-	3.2.1.1	WP Task 1.2.1 Draft Guideline QC for 3rd Party AtoN Service Providers	ENG12	WG1
ARM13-	3.2.2	IALA Strategic Vision 2018-2026	IALA Secretariat	All
ARM13-	3.2.2.1	IALA Current drivers and trends ed1.2	IALA Secretariat	All
ARM13-	3.2.2.2	IALA Position Document on the Development of Marine AtoN Services 2019	IALA Secretariat	All
ARM13-	3.2.3	Technical documents Catalogue 12 Feb 2021	IALA Secretariat	All
ARM13-	3.2.4	Cross-committee work on ITU matters (PAP41-4.4.1)	Chair, ENAV Committee	All
ARM13-	3.2.4.1	Liaison to IMO IALA CIRM on revision Rec ITU-R M1371-5 (PAP41-4.4.1.1)	Chair, ENAV Committee	All
ARM13-	3.2.5	Automated Mandatory Ship Reporting Systems Service	Jarle Hauge & Todd Schuett	WG2
ARM13-	3.2.6	Liaison Note to ARM for the response to ITU on the revision of ITU-R M.1371-5_Rev1 (VTS50-13.1.2.2)	VTS50	All
ARM13-	3.2.7	Draft IALA response to WP 5B TD 73 on Revision of Recommendation ITU-R M.1371-5 20210318 (ENAV27-12.3.1)	ENAV27	All
ARM13-	4.1.1.1	Report Council 72 Final	IALA Secretariat	All
ARM13-	4.1.2.1	Report of PAP41	IALA Secretariat	All
ARM13-	6.1.1	ARM Task Plan (ARM12-11.1.1)	ARM12	All
ARM13-	6.1.2	Committee Work Programme for 2018-2022 (PAP41-5.9.1.1)	PAP41	All
ARM13-	6.1.3	Cross-committee Work 1st half 2021	IALA Secretariat	All
ARM13-	6.3.1	WP Draft ARM Task Plan 2022 - 2026 (ARM12-11.1.2)	ARM12	All
ARM13-	6.3.2	Proposed tasks ARM 2022-2026_Sweden	STA & SMA	Chair / Vice-chair

Meeting	Paper Number	Input Paper Title	Source	Presented by / WG
ARM13-	6.4.1	Draft revision S1010 AtoN Planning & Service Requirements	IALA Secretariat	CMT
ARM13-	6.4.2	Draft revision S1020 AtoN Design and Delivery	IALA Secretariat	CMT
ARM13-	6.4.3	Draft revision S1030 Radionavigation Services	IALA Secretariat	CMT
ARM13-	6.4.4	Draft revision S1040 Vessel Traffic Services	IALA Secretariat	CMT
ARM13-	6.4.5	Draft revision S1050 Training and Certification	IALA Secretariat	CMT
ARM13-	6.4.6	Draft revision S1060 Digital Communication Technologies	IALA Secretariat	CMT
ARM13-	6.4.7	Draft revision S1070 Information Services	IALA Secretariat	CMT
ARM13-	7.1.1	WP Draft Preparing for a voluntary IMO audit on Aids to Navigation Service delivery (ARM12-7.1.1.1)	ARM12	WG1
ARM13-	7.1.2	Report from Int.sess. Group on the review of IMSAS Manual	Chair, VTS Committee	WG1
ARM13-	7.1.3	Proposals for revision of Guideline G1054 --Report of the intersessional work on the task 1.1.2	China MSA	WG1
ARM13-	7.1.3.1	Draft revised guideline G1054 Preparing for an IMO audit on aids to navigation service delivery	China MSA	WG1
ARM13-	7.2.1	WP draft Guideline G1052 Quality-Management-Systems-for-AtoN-Service-Delivery (ARM12-11.2.2)	ARM12	WG1
ARM13-	7.2.2	Proposals on the revision of IALA Guideline 1052 QUALITY MANAGEMENT SYSTEMS FOR AIDS TO NAVIGATION SERVICE DELIVERY	China MSA	WG1
ARM13-	7.3.1	WP Draft Recommendation 0-139 Marking of man made offshore structures (ARM12-7.3.4.1)	ARM12	WG1
ARM13-	7.3.2	WP for ARM12 Draft guideline on man made structures (ARM12-7.3.4)	ARM12	WG1
ARM13-	7.3.3	WP Gap analysis Guideline 1078 The Use of AtoN in the Design of Fairways (ARM12-11.2.2.2)	ARM12	WG1
ARM13-	7.3.3.1	WP G1078 - The Use of AtoN in the Design of Fairways (ARM12-11.2.2.3)	ARM12	WG1
ARM13-	7.3.4	WP Task 1.5.3 - Descriptions for IALA Dictionary (ARM12-11.2.2.4 )	ARM12	WG1
ARM13-	7.3.5	WP R1001 Ed1 The IALA Maritime Buoyage System_XXX (1) - new track changes only (ARM12-7.3)	ARM12	WG1
ARM13-	7.3.6	Liaison Note to ARM on IALA regions at the Poles	LAP21	WG1
ARM13-	7.3.7	WP G1078 The Use of AtoN in the Design of Fairways and Channels	James Collocott	WG1
ARM13-	7.3.7.1	WP G1078 - The Use of AtoN in the Design of Fairways_20210312	James Collocott	WG1
ARM13-	7.3.7.2	WP Task 1.5.3 - Descriptions for IALA Dictionary_20210312	James Collocott	WG1
ARM13-	7.3.8	Marking of Breakwaters	Korea Institute of	WG1

Meeting	Paper Number	Input Paper Title	Source	Presented by / WG
			Aids to Navigation	
ARM13-	7.3.9	Liaison Note to ARM on MBS (VTS50-13.1.1.7)	VTS50	WG1
ARM13-	7.3.10	Draft MASS Guideline- ENAV WG2 review (ENAV27-12.2.2)	ENAV27	WG1
ARM13-	7.3.11	Draft MASS Rec-ENAV WG2 review (ENAV27-12.2.1)	ENAV27	WG1
ARM13-	7.4.1	WP Guideline G1081 Provision of Virtual Aids to Navigation	ARM12	WG1
ARM13-	7.4.2	WP R0143 Provision of Virtual Aids to Navigation (O-143) Ed1.3 March 2021	ARM12	WG1
ARM13-	8.2.1	Draft_IMT_(3GPP)_Reco-WG2 review-rev2 (ENAV27-12.2.3)	ENAV27	WG2
ARM13-	8.2.2	Draft_IMT_(3GPP)- Guideline_WG2 review-rev2 (ENAV27-12.2.4)	ENAV27	WG2
ARM13-	8.4.1	WP ARM Maritime Service Guideline development V1.3 (ARM12-8.4.6)	ARM12	WG2
ARM13-	8.4.2	Response on IALA Liaison paper on S-125_FINAL	IHO	WG2
ARM13-	8.4.3	WP ARM Maritime Service Guideline development V1.3 (ARM12-8.4.6)	ARM12	WG2
ARM13-	8.4.4	S-201 Implementation Guideline(fin)	KRISO, CCG, MOF/ROK	WG2
ARM13-	8.4.4.4	S-201 Implementation guideline - Annex C	KRISO, CCG, MOF/ROK	WG2
ARM13-	8.4.5	Update and Plan of S-201 test bed(fin)	KRISO	WG2
ARM13-	8.4.6	Service scenario for the provision of AtoN information(fin)	KRISO, CCG, MOF/ROK	WG2
ARM13-	8.4.7	Proposed amendments for S-201 from ARM12-8-5-1_v3	CCG, KRISO	WG2
ARM13-	8.4.8	Drafting the S-125 data model(fin)	KRISO, CCG, MOF/ROK	WG2
ARM13-	8.4.8.1	Drafting the S-125 data model(fin)	KRISO, CCG, MOF/ROK	WG2
ARM13-	8.4.9	Proposed permitted values for the S-201 data model(fin)	KRISO, CCG, MOF/ROK	WG2
ARM13-	8.4.9.1	Proposed permitted values for the S-201 data model(fin) PPT	KRISO, CCG, MOF/ROK	WG2
ARM13-	8.4.10	Liaison note to ARM and Sec. on Maritime Services post plenary (VTS50-13.1.1.4)	VTS50	WG2
ARM13-	8.4.11	Liaison Note to ARM on technical service specifications for the provision of AtoN information (ENAV27-12.1.3)	ENAV27	WG2
ARM13-	8.5.1	Draft Guideline on Ship Reporting from a shore-based perspective (C72-11.2.6)	C72	WG2
ARM13-	8.5.2	Liaison Note to ARM on ship reporting guideline (VTS50-13.1.1.6)	VTS50	WG2
ARM13-	8.5.3	Liaison to ARM from ENAV re Ship Reporting-WG2 rev (ENAV27-12.2.5)	ENAV27	WG2
ARM13-	8.7.1	Liaison note Cyber Security	ENAV26	WG2
ARM13-	8.7.2	Liaison Note to ARM ENAV on Cyber Security	VTS50	WG2
ARM13-	9.1.1	Risk Management Toolbox Questionnaire - 211020	ARM12	WG3

Meeting	Paper Number	Input Paper Title	Source	Presented by / WG
ARM13-	9.1.2	WP Guideline_1018_Risk_Management (ARM12_9.1.1)	ARM12	WG3
ARM13-	9.1.3	WP Guideline 1123 Ed1 The use of IWRAP MKII-Oct 2020_with TC_20201023 (ARM12-9.1.2)	ARM12	WG3
ARM13-	9.1.4	WP Guideline 1138 Ed.1 The use of SIRA Dec2017 (ARM12-9.1.4)	ARM12	WG3
ARM13-	9.1.5	WP Draft Guideline 1097 Ed.1.1 Technical Features and Technology Relevant for Simulation of AtoN	ARM12	WG3
ARM13-	9.1.6	WP Guideline 1124 Ed1 The use of PAWSA MKII June 2017 (ARM12-9.1.3)	ARM12	WG3
ARM13-	9.1.7	WP Recommendation RO138 (O-138) Use of GIS and Simulation by AtoN Authorities (ARM12-9.1.6)	ARM12	WG3
ARM13-	9.1.8	WP Guideline G1058 Ed.2 (ARM12-9.1.7)	ARM12	WG3
ARM13-	9.1.9	WP 1086 Ed1 Global Sharing of Maritime Data_22Jun2012 (ARM12-9.1.8)	ARM12	WG3

Output documents are submitted for review/action by a body other than the Committee initiating the document.

Meeting	Paper Number	Output Paper Title	Source	Action
ARM13-	11.1.1	Liaison Note to PAP on ARM Comments on draft ENAV MASS Recommendation and Guideline	ARM13	PAP
ARM13-	11.1.1.1	Draft MASS Rec-ENAV WG2 review (ENAV27-12.2.1) ARM comments	ARM13	PAP
ARM13-	11.1.1.2	Draft MASS Guideline- ENAV WG2 review (ENAV27-12.2.2) ARM comments	ARM13	PAP
ARM13-	11.1.2	Post ARM13 Task Plan	ARM13	ARM14
ARM13-	11.1.4	Draft revision S1010 AtoN Planning & Service Requirements ARM comments	ARM13	PAP
ARM13-	11.1.5	Draft revision S1020 AtoN Design and Delivery ARM comments	ARM13	PAP
ARM13-	11.1.6	Draft revision S1030 Radionavigation Services ARM comments	ARM13	PAP
ARM13-	11.1.7	Draft revision S1040 Vessel Traffic Services ARM comments	ARM13	PAP
ARM13-	11.1.8	Draft revision S1050 Training and Certification ARM comments	ARM13	PAP
ARM13-	11.1.9	Draft revision S1060 Digital Communication Technologies ARM comments	ARM13	PAP
ARM13-	11.1.10	Draft revision S1070 Information Services ARM comments	ARM13	PAP
ARM13-	11.2.1	R0143 Provision of Virtual Aids to Navigation (O-143) Ed1.3 April 2021	ARM13	Council
ARM13-	11.2.3	Liaison note to ENG on 3rd party Quality Control	ARM13	ENG14
ARM13-	11.2.3.1	Draft IALA Guideline G1052	ARM13	ENG14
ARM13-	11.2.4	Liaison note to Secretariat regarding the ITU and IEC on AIS Status Bits	ARM13	Secretariat
ARM13-	11.2.5	Liaison note to all committees on the final draft revision of MBS R1001	ARM13	All committees and PAP / LAP
ARM13-	11.2.5.1	draft WP R1001 Ed1 The IALA Maritime Buoyage System new format	ARM13	All committees and PAP / LAP

Meeting	Paper Number	Output Paper Title	Source	Action
ARM13-	11.2.5.2	Envisioned visual layout of the MBS in PDF	ARM13	All committees and PAP / LAP
ARM13-	11.3.1	Draft IALA response to WP 5B TD 73 on Revision of Recommendation ITU-R M.1371-5	ARM13	Council & ITU
ARM13-	11.3.3	Revised G1143 Unique Identifiers For Maritime Resources	ARM13	Council
ARM13-	11.3.4	Guideline on Ship Reporting from a shore-based perspective	ARM13	Council

Working Papers are documents that will remain within the committee for further review.

Meeting	Paper Number	Working Paper Title	Source	Action
ARM13-	11.1.3	Draft ARM Task Plan 2022 – 26	ARM13	to ARM14
ARM13-	11.2.6	WP draft IALA Maritime Buoyage System	ARM13	to ARM14
ARM13-	11.2.7	WP G1078 - The Use of AtoN in the Design of Fairways and Channels	ARM13	to ARM14
ARM13-	11.2.8	WP Definitions for IALA Dictionary	ARM13	to ARM14
ARM13-	11.2.9	WP Track Changed copy of the proposed new Recommendation R0139	ARM13	to ARM14
ARM13-	11.2.10	WP Track Changed copies of the papers originating from the existing R0139 for the new recommendation and Guideline	ARM13	to ARM14
ARM13-	11.2.11	WP Track Change document for the proposed new guideline on Breakwaters	ARM13	to ARM14
ARM13-	11.2.12	WP Clean and Formatted copy of the new revised Recommendation R0139	ARM13	to ARM14
ARM13-	11.2.13	WP Clean and Formatted copy of the new Guideline from existing R0139	ARM13	to ARM14
ARM13-	11.2.14	WP draft G1052 Quality Management in Aids to Navigation Service Delivery	ARM13	to ARM14
ARM13-	11.2.15	WP draft Guideline 1054 Preparing for an IMO Audit on Aids to Navigation Service Delivery	ARM13	to ARM14
ARM13-	11.2.16	WP Scoping/gap of task 1.5.4	ARM13	to ARM14
ARM13-	11.3.2	Draft Guideline on Management Of Maritime Resource Name Organisation Identifiers	ARM13	To ARM14

Meeting	Paper Number	Working Paper Title	Source	Action
ARM13-	11.4.1	WP_Guideline_1018_Risk_Management (ARM12-9.1.1)	ARM13	to ARM14
ARM13-	11.4.2	WP Guideline 1123 Ed1 The use of IWRAP MkII_20210415	ARM13	to ARM14
ARM13-	11.4.3	WP Guideline 1124 Ed.1 The use of PAWSA MkII	ARM13	to ARM14
ARM13-	11.4.4	WP Guideline 1138 Ed.1 The use of SIRA Dec2017	ARM13	to ARM14
ARM13-	11.4.5	WP Recommendation R0142 On Maritime Data Sharing IALANET	ARM13	to ARM14
ARM13-	11.4.6	WP Guideline 1086 Ed.1 Global Sharing of Maritime Data & Information (ARM12-9.1.8)	ARM13	to ARM14
ARM13-	11.4.7	WP Recommendation R0138 Ed.1 The Use of GIS and Simulation by Aids to Navigation Authorities (ARM12-9.1.6)	ARM13	to ARM14
ARM13-	11.4.8	WP Guideline 1058 Ed.2 (ARM12-9.1.7) Use of Simulations a Tool for Waterway Design and AtoN Planning	ARM13	to ARM14
ARM13-	11.4.9	WP Draft Guideline 1097 Ed.1.1 Technical Features and Technology Relevant for Simulation of AtoN	ARM13	to ARM14

## ANNEX E ACTION ITEMS

### *Action Items for Secretariat*

1. The **Secretariat** is requested to forward ARM13-11.3.1 Liaison note to ITU WP 5B TD 73 on Revision of Recommendation ITU-R M.1371-5 to IALA Council for approval and subsequently to the ITU as necessary. 10
2. The **Secretariat** is requested to forward ARM13-11.1.1 Liaison Note to PAP on ARM Comments on draft ENAV MASS Recommendation and Guideline, ARM13-11.1.1.1 Draft MASS Rec-ENAV WG2 review (ENAV27-12.2.1) ARM comments and ARM11.1.1.2 Draft MASS Guideline- ENAV WG2 review (ENAV27-12.2.2) ARM comments to the PAP for its consideration. 10
3. The **Secretariat** is requested to forward the Task Plan (ARM13-11.1.2) to ARM14. 12
4. The **Secretariat** is requested to forward ARM13-11.1.3 draft ARM Task Plan 2022 - 2026 to ARM14. 12
5. The **Secretariat** is requested to forward ARM13-11.1.4 Draft revision S1010 AtoN Planning & Service Requirements ARM comments, ARM13-11.1.5 Draft revision S1020 AtoN Design and Delivery ARM comments, ARM13-11.1.6 Draft revision S1030 Radionavigation Services ARM comments, ARM13-11.1.7 Draft revision S1040 Vessel Traffic Services ARM comments, ARM13-11.1.8 Draft revision S1050 Training and Certification ARM comments, ARM13-11.1.9 Draft revision S1060 Digital Communication Technologies ARM comments and ARM13-11.1.10 Draft revision S1070 Information Services ARM comments to the PAP for its consideration. 12
6. The **Secretariat** is requested to forward ARM13-11.2.5 Liaison Note on the review of the IALA MBS - final draft, ARM13-11.2.5.1 draft WP R1001 Ed1 The IALA Maritime Buoyage System new format and ARM13-11.2.5.2 Envisioned visual layout of the MBS in PDF to all committees. 13
7. The **Secretariat** to provide input to ARM13 regarding the current title of the IALA Maritime Buoyage System to the Task Group working on this item. 13
8. The **Secretariat** is requested to forward ARM13-11.2.6 WP draft IALA Maritime Buoyage System as a working paper to ARM14 for further consideration. 13
9. The **Secretariat** is requested to forward ARM13-11.2.7 WP G1078 - The Use of AtoN in the Design of Fairways and Channels and ARM13-11.2.8 WP Definitions for IALA Dictionary as working papers to ARM14 for further consideration. 14
10. The **Secretariat** is requested to forward ARM13-11.2.9 WP Track Changed copy of the proposed new Recommendation R0139, ARM13-11.2.10 WP Track Changed copies of the papers originating from the existing R0139 for the new recommendation and Guideline, ARM13-11.2.11 WP Track Change document for the proposed new guideline on Breakwaters, ARM13-11.2.12 WP Clean and Formatted copy of the new revised Recommendation R0139, ARM13-11.2.13 WP Clean and Formatted copy of the new Guideline from existing R0139 as working papers to ARM14 for further consideration. 14
11. The **Secretariat** is requested to forward ARM13-11.2.1 R0143 Provision of Virtual Aids to Navigation (O-143) Ed1.3 April 2021 and ARM12-11.2.2.7 draft Guideline on the Provision of Virtual Aids to Navigation G1081 to IALA Council, together, for approval. 15
12. The **Secretariat** is requested to forward ARM13-11.2.14 WP draft G1052 Quality Management in Aids to Navigation Service Delivery as a working paper to ARM14 for further consideration. 15
13. The **Secretariat** is requested to forward ARM13-11.2.3 Liaison note to ENG on 3rd party Quality Control to the ENG Committee for their consideration. 15
14. The **Secretariat** is requested to forward ARM13-11.2.15 WP draft Guideline 1054 Preparing for an IMO Audit on Aids to Navigation Service Delivery as working paper to ARM14 for further consideration. 15
15. The **Secretariat** is requested to forward ARM13-11.2.16 WP Scoping/gap of task 1.5.4 as a working paper to ARM14 for further consideration. 16

16. The **Secretariat** is requested to bring the contents of ARM13-11.2.4 Liaison note to Secretariat regarding the ITU and IEC on AIS Status Bits to the attention of IALA members who attend the ITU and IEC. 16
17. The **Secretariat** is requested to provide an update regarding the proposed MS17 (ATON Services) and MS19 (PNT Services) for the task on developing guidance on Maritime Services (Task 5.1.1). 17
18. The **Secretariat** is requested to forward all documents in the related Committee File Share folder to ARM14 as working papers. 17
19. The **Secretariat** is requested to forward all documents in the related Committee File Share folder to ARM14 as working papers. 17
20. The **Secretariat** is requested to forward all documents in the related Committee File Share folder to ARM14 as working papers. 18
21. The **Secretariat** is requested to forward the ARM13-11.3.3 revised G1143 Unique Identifiers for Maritime Resources to Council for approval. 18
22. The **Secretariat** is requested to forward ARM13-11.3.2 Guideline on Management of Maritime Resource Name Organisation Identifiers as a working paper to ARM14 for further consideration. 18
23. The **Secretariat** is requested to forward ARM13-11.3.4 Guideline on Ship Reporting to Council for approval. 19
24. The **Secretariat** is requested to forward ARM13-11.4.1 WP\_Guideline\_1018\_Risk\_Management (ARM12-9.1.1), ARM13-11.4.2 WP Guideline 1123 Ed1 The use of IWRAP MKII\_20210415, ARM13-11.4.3 WP Guideline 1124 Ed.1 The use of PAWSA MkII and ARM13-11.4.4 WP Guideline 1138 Ed.1 The use of SIRA Dec2017 as working papers to ARM14 for further consideration. 20
25. The **Secretariat** is requested to forward the ARM13-11.4.5 WP Recommendation R0142 On Maritime Data Sharing IALANET and ARM13-11.4.6 WP Guideline 1086 Ed.1 Global Sharing of Maritime Data & Information (ARM12-9.1.8) as working papers to ARM14 for further consideration. 21
26. The **Secretariat** is requested to forward ARM13-11.4.7 WP Recommendation R0138 Ed.1 The Use of GIS and Simulation by Aids to Navigation Authorities (ARM12-9.1.6), ARM13-11.4.8 WP Guideline 1058 Ed.2 (ARM12-9.1.7) Use of Simulations a Tool for Waterway Design and AtoN Planning and ARM13-11.4.9 WP Draft Guideline 1097 Ed.1.1 Technical Features and Technology Relevant for Simulation of AtoN as working papers to ARM14 for further consideration. 21

#### *Action Items for Participants*

27. That **Committee Participants** are requested to submit proposals for task items to ARM14 for the 2022-2026 Work Programme. 12
28. The **Committee Participants** are requested to confirm their interest in joining an intersessional group on review of Guideline 1078 The Use of AtoN in the Design of Fairways by submitting an email not later than 14 May 2021 to the Intersessional Group Leader, James Collocott (jcollocott@samsa.org.za), noting that the dates and times of the intersessional meetings will be published on the IALA Committee Dashboard. 14
29. The **Committee Participants** are requested to confirm their interest in joining an intersessional group on revising Guideline 1054 Preparing for an IMO Audit on Aids to Navigation Service Delivery by submitting an email not later than 14 May 2021 to the Intersessional Group Leader, Yang Jun (523724224@qq.com), noting that the dates and times of the intersessional meetings will be published on the IALA Committee Dashboard. 15
30. The **Committee Participants** are requested to confirm their interest in joining an intersessional group on developing guidance for Navigators on the use of AtoN by submitting an email not later than 14 May 2021 to the Intersessional Group Leader, Guttorm Tomren

- (guttorm.tomren@kystverket.no), noting that the dates and times of the intersessional meetings will be published on the IALA Committee Dashboard. 16
31. The **Committee Participants** are requested to confirm their interest in joining an intersessional group on the review and update of A-126 regarding MAtoN by submitting an email not later than 14 May 2021 to the Intersessional Group Leader, Guttorm Tomren (guttorm.tomren@kystverket.no), noting that the dates and times of the intersessional meetings will be published on the IALA Committee Dashboard. 16
32. That the **ARM Chair and Vice-chair** relay Task Group 1.2.6 deliberations and questions to PAP regarding the way forward with development of cross committee recommendations and guidelines on cyber security. 17
33. The **Committee Participants** are requested to confirm their interest in joining an intersessional group on developing a product specification S-201 by submitting an email not later than 14 May 2021 to the Intersessional Group Leader, Dave Lewald (Robert.D.Lewald@uscg.mil), noting that the dates and times of the intersessional meetings will be published on the IALA Committee Dashboard. 17
34. That **Sewoong Oh and Eivind Mong** update the UML model, DCEG, feature catalogue and GML Schema. The updated packages will be reviewed at the next intersessional meeting. 17
35. The **Committee Participants** are requested to confirm their interest in joining an intersessional group on improving the S-125 vision outline paper and drafting the S-125 data model based by submitting an email not later than 14 May 2021 to the Intersessional Group Leader, Sewoong Oh (osw@kriso.re.kr), noting that the dates and times of the intersessional meetings will be published on the IALA Committee Dashboard. 18
36. That **Committee Members** are requested to complete the questionnaire ARM12-11.4.2.5 ARM 12 Risk Management Toolbox Questionnaire – 211020 and send their answers to both Roger Barker (Roger.Barker@trinityhouse.co.uk) and Cathrine Steenberg (cms@force.dk) by 30th June 2021. 20



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Association Internationale de Signalisation Maritime