

**Nautical Information Provision Working Group (NIPWG) Meeting  
2<sup>nd</sup> March 2023 – VTC, Worldwide**

**1. Welcome**

- Chair opened the NIPWG VTC by welcoming new and returning members
- Chair introduced new working group Secretary: James Weston.

**2. Review of Action Items**

See Annex A.

**Action Item 01:** Related to Action Item 22 (NIPWG-9); SHOM to provide input on ENDS definition. YLF. 31<sup>st</sup> March 2023

**Action Item 02:** A dedicated meeting to further discuss the Gap Analysis Study (Action Item 7, VTC 03-22) for all NIPWG members; either week commencing 20<sup>th</sup> or 27<sup>th</sup> March 2023. Maybe also set aside time at VTC-02-2023 to discuss further. Chair Team. 3<sup>rd</sup> March 2023

**2.1 Review of NIPWG Work Plan 23/24**

**Action Item 03:** NIPWG members encouraged to review and comment on work plan. All NIPWG. 17<sup>th</sup> March 2023

**3. Review of other Working Group Reports**

- YG: NIPWG noted update on DQWG.

**Action Item 04:** Review List of action items from DQWG last meeting (held in Feb 7-9 2023) when released. Chair Team, All S-12x Task Group Leads. VTC-02 (Jun-23)

**Action Item 05:** Invite DQWG Chair to next meeting (VTC-02). EM. VTC-02 (Jun 2023)

- EM: S-124 product spec is very close to being released for review.

**3.1 Update on IMO Expert Group on Data Harmonization (EGDH)**

- SE will become a permanent IHO Rep at EGDH. Updates from EGDH will now be a permanent agenda item at NIPWG Meetings.
- NIPWG noted update on EGDH and have been encouraged to review input paper (3.1 – EGDH 8-Harmonization of the IHO GI Registry and the IMO Data Reference Model) made by SE separately.

**4. GML Way Forward Presentation**

- NIPWG noted the presentation.
- JP: Supports RM's paper and has put a paper forward to TSM for existing clarifications.
- RM: GML samples can be found in the Schema Server. [Link](#) can also be found in the presentation.
- EM: Recap: Current tools are not bespoke/aligned with current GML. Any input and lessons learned from products teams should be passed on to RM.

**Action Item 06:** Task Group leads to continue to discuss the topic of GML within their teams (who are working on GML products), for further refinement, and send ongoing input to RM. All Task Groups. VTC-02 (Jun 2023)

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## 5. IHO GI Registry Updates presentation

- NIPWG noted the presentation.

**Action item 07:** RM & BvS to discuss updates required in the GI Registry, which have been submitted and need to be clarified. RM & BvS. April 1<sup>st</sup> 2023

## 6. Concepts for Associations *(recommendations on how the association of information types should be managed in the production & user tools)*

- NIPWG noted presentation.

**Action item 08:** All to review NIPWG-VTC01-06.0A and provide ideas for best practice on how S-12x information should be presented in production and for end user. All NIPWG. VTC-02 (Jun 2023)

**Action item 09:** Submit the Concepts for Associations presentation to S100WG TSM for information. RM. 7<sup>th</sup> March 2023

## 7. Product Specification Updates

### 7.1 S-122 – Marine Protected Areas

#### 7.1.1 Task Group Update

- NIPWG noted update.
- EM: Timeline is part of S-100 strategic implementation plan. Keep in mind the scope for S-122 is for ECDIS viewing and any changes need to be put through HSSC.

### 7.2 S-123 – Marine Radio Services

#### 7.2.1 Task Group Update

- NIPWG noted update
- JP: S-164 is not part of the scope currently, but can be looked into at a later date so that S-123 and S-164 datasets are compatible.
- BG: Looking to have one of the proposals, noted in the presentation, ready for next VTC (02-2023)

### 7.3 S-125 – Marine Aids to Navigation

#### 7.3.1 Development Update

- NIPWG noted update
- CG: Question surrounding links between S-101, S-201, S-124 and S-125 updates.
- EM & SE: Update links have been previously discussed, with recommendations made during NIPWG-9 and IHO-IALA Workshop (2022). Regional differences were identified to be substantial, and a very general recommendation was made stating production among these needs to be coordinated regionally.

**Action item 10:** Produce NIPWG input paper on draft product specification. SO and Chair Team. VTC-02 (Jun 2023)

### 7.4 S-127- Marine Traffic Management

#### 7.4.1 Task Group Update

- NIPWG noted update

### 7.5 S-128 – Catalogue of Nautical Products

#### 7.5.1 S-128 Test Bed update

- NIPWG noted update

#### 7.5.2 Sample Production of S-128 dataset by BSH

- NIPWG noted paper

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- SS: Have BSH considered 24/7 updates? And being able to access S-128 data at any given time?
- PS: Could be a future consideration, but doesn't line up with current update schedules.

**Action item 11:** Please download and view the German S-128 test data, and feedback comparisons and observations to PS. All NIPWG. VTC-02 (Jun 2023)

#### 7.5.3 Observations on S-128 & Tighter control of dataset import to S-100 ECDIS papers (S100TSM9)

- NIPWG noted the observation paper.

#### 7.5.4 WENDWG13 Meeting – S128 Presentation

- YG: NIPWG members requested to please review this presentation. It is with regards to an important update for HSSC Action Item 52.
- SM: Noted the proposal from IIC to add “equivalent S-57 ENCs” in the S-128 model and highlighted the RENC intention to produce S-128 datasets on behalf of their members, and that this would require another flag, maybe a metadata field within S-101 for this.

### 7.6 S-131 – Marine Harbor Infrastructure

#### 7.6.1 Project Update

- NIPWG noted update

#### 7.6.2 Product Spec. Update

- NIPWG noted update
- EM: Members who have already provided comments should also be included in the clarification/adjudication results discussion.

**Action Item 12:** NIPWG to prepare spreadsheet or table for discussion with IHO GI Registry Meeting. Chair Team. VTC-02 (Jun 2023)

**Action Item 13:** RM adjudicate the S-131 comments received and review with chair team. RM & Chair Team. 31<sup>st</sup> March 2023

**Action Item 14:** RM to update the S-131 product specification using substantive comments. RM 10<sup>th</sup> April 2023

### 8. UKC Definitions Proposal Discussion

- BvS: On behalf of UKHO, IHMA were requested to produce an image defining UKC that will be provided in UKHO's NP-100. Discussions on definitions and the image are still ongoing.
- SE: Some differences noted between definitions in the image produced by IHMA that need further discussion offline. Please read and review input paper “8.0 – NIPWG\_UKC\_Discussion\_v2” on the VTC webpage.

### 9. Brief on Canadian Mariners Workshop

- Not discussed due to time allowances.

Action Item: Include brief on Canadian Mariners Workshop in next VTC. Chair Team. VTC-02 (Jun 2023)

### 10. Next Meetings

**10.1 Next VTC:** 20<sup>th</sup> June 2023

**10.2 NIPWG-10:** 12<sup>th</sup> to 15<sup>th</sup> September 2023, Monaco

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**Table of names & initials:**

YLF	Yves le Franc
YG	Yves Guillam
EM	Eivind Mong
SE	Stefan Engström
JP	Jonathan Pritchard
RM	Raphael Malyankar
BvS	Ben van Scherpenzeel
BG	Bridget Gagné
CG	Chris Gill
SS	Svein Skjaeveland
PS	Phillip Schwedas
SM	Su Marks

**Table of Acronyms:**

EGDH	Expert Group on Data Harmonization
DQWG	Data Quality Working Group
TSM	Test Strategy Meeting
MRN	Maritime Resource Names
HSSC	Hydrographic Services and Standards Committee
OGC	Open Geospatial Consortium
WEND	Worldwide ENC Database
FAL	Facilitation Committee

**Annex A: Action Items**

#	Action Item	Agenda Item	Assigned	Status
<b>NIPWG 9, 2022 – Hybrid Meeting</b>				
04	NGA are invited to present the presentation on WPI to the S-130 PT, for their consideration, as the names of water bodies may not be included as such in the S-130 product specification (use of Unique Identifiers instead).	13.1	JS/MK	NIPWG-10
05	NGA is encouraged to ensure the interface for WPI is developed so that it guarantees harmonization with S-1xx products, specifically S-131 (to reduce/remove any possibility of duplicate efforts from users/providers).	13.1	JS/MK	NIPWG-10
06	NGA will update NIPWG when public facing website of the World Port Index is live.	13.1	JS	NIPWG-10
18	A review of which services should consider using S-128 products and services will be completed by SE and HP.	11.1	SE, HP	NIPWG-10

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19	S-128 task group to review the link between task specific products and the model in S-128. And add 'B' work items, such as to 'investigate potential impacts on the data model when considering automatic creation of S-128 product from existing S-1xx and S-57 products. i.e. is there sufficient simplicity in the model so that you can take the coverage of one model and make it part of S-128 (look into automation tasks)'.	11.1	S-128 Working Group	VTC-03 (Dec-22) VTC-02 (Jun-23)
22	With reference to the action from HSSC14/87, NIPWG should prepare a clarification and definition of ENDS for HSSC-15, following the adoption of amendments to MSC.232(82) (which are up for approval at MSC in November).	11.2	ALL, YLF	VTC-01 (Mar-23) End of Mar-23
23	Request that SO (Dr. Oh) and his role as IALA/ARM...S-125 task group lead, and his involvement with the S-128 task group, to please review the introduction of S-125 and S-128 and try to replace the NPIO term with a better description of the product specifications intended use.	5.1	SO	NIPWG-10
24	Invite all task groups to consider the updated descriptions in S-125 and S-128 when conducting their next product specifications review.	5.1	ALL	NIPWG-10
26	Chair team to provide an input to HSSC15 reporting on the outcomes of the workshop, with regards to how S-201, S-101, S-125 and S-124 will work in relation to each other.	5.1	Chair Team	HSSC-15 (June 2023) (6-weeks before) In progress
27	RM to create a space within the NIPWG wiki, to commence dialogue on best practices in creation of S-12x data.	10.3	RM	VTC-03 (Dec-22) In progress
28	NIPWG members to make use of the NIWPG wiki in the dialogue on improving the DCEG on all S-12x products.	10.3	ALL	NIPWG-10
30	China invited to submit sample test to MK (NGA) so that NP2 data samples can be updated.	14.1	LY	VTC-03 (Dec-22) COMPLETED
32	China was invited to submit S-127 change proposals to EA.	14.1	LY	VTC-01 (Mar-23) COMPLETED
<b>NIPWG VTC-03</b>				

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1	JP to prepare an input paper on how an MRN should be formatted to identify data producers and other roles within the scope of the IHO data protection scheme, by the scheme administrator; the IHO secretariat.	3.2	JP	Mar 4 <sup>th</sup> 2023 VTC-02 (Jun-2023)
2	Prepare input paper for NIPWG to review in preparation for next TSM (Mar-23).	3.2	RM, JP, SS	Feb 17 <sup>th</sup> 2023 In Progress
3	Draft input paper requesting HSSC guidance on how to improve the dialogue with other national entities for the purpose of including the most up to date information.	4	NIPWG Chair Team, PS, SS, YG & MB	VTC-01 (Mar-2023) COMPLETED
4	NIPWG members have till January 31 <sup>st</sup> to comment on new and updated definitions (those in red). If no comments received, definitions will be submitted to GI Registry by RM.	5	All NIPWG	Jan 31 <sup>st</sup> 2023 COMPLETED
5	Chair team to organise first meeting with volunteers (Hannah Szeja (UKHO), Kevin Rigg (UKHO), JP and RM). NIPWG members to volunteer, or provide names, before then.	6.1.1	Chair Team, All NIPWG	Jan 20 <sup>th</sup> 2023 COMPLETED
6	Members are encouraged to review and comment on the presentation and pass them onto Raphael by email.	6.7.2	All NIPWG	VTC-01 (Mar-2023) COMPLETED
7	The gap analysis study should be discussed in more detail at the next VTC. All interested members to provide their own individual findings.	6.8	All NIPWG	VTC-01 (Mar 2023) COMPLETED
8	NIPWG members to review papers and presentation provided as Agenda items 7, 8 & 9 (that were unfortunately unable to be discussed during meeting) and to provide feedback by email to Raphael.	7, 8, 9	All NIPWG	Jan 31 <sup>st</sup> 2023 COMPLETED
<b>NIPWG VTC-01 (2023)</b>				
1	Related to Action Item 22 (NIPWG-9); SHOM to provide input on ENDS definition.	2	YLF	31 <sup>st</sup> March 2023
2	A dedicated meeting to further discuss the Gap Analysis Study (Action Item 7, VTC 01-23) to be organised for all NIPWG members. Time to also be set aside at VTC-02-2023 to discuss further	2	Chair Team	3 <sup>rd</sup> March 2023
3	NIPWG members encouraged to review and comment on NIPWG Work Plan	2.1	All NIPWG	17 <sup>th</sup> March 2023
4	Review List of action items from DQWG last meeting (held in Feb 7-9, 2023) when released. Chair Team, All S-12x Task Group Leads.	3	Chair Team, S-12x Task Group Leads	VTC-02 (Jun 2023)

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5	Invite DQWG Chair to next meeting (VTC-02).	3	EM	VTC-02 (Jun 2023)
6	Task Group leads to continue to discuss the topic of GML within their teams (who are working on GML products), for further refinement, and send ongoing input to RM.	4	All Task Groups	VTC-02 (Jun 2023)
7	RM & BvS to discuss updates required in the GI Registry, which have been submitted and need to be clarified	5	RM & BvS	1 <sup>st</sup> April 2023
8	All to review NIPWG-VTC01-06.0A and provide ideas for best practice on how S-12x information should be presented in production and for end user.	6	All NIPWG	VTC-02 (Jun 2023)
9	Submit the Concepts for Associations presentation to S100WG TSM for information.	6	RM	7 <sup>th</sup> March 2023
10	Produce NIPWG input paper on draft product specification	7.3.1	SO & Chair Team	VTC-02 (Jun 2023)
11	Please download and view the German S-128 test data, and feedback comparisons and observations to PS	7.5.1	All NIPWG	VTC-02 (Jun 2023)
12	NIPWG to prepare spreadsheet or table for discussion with IHO GI Registry Meeting. Chair Team.	7.6.2	Chair Team	VTC-02 (Jun 2023)
13	RM adjudicate the S-131 comments received and review with chair team.	7.6.2	RM & Chair Team	31 <sup>st</sup> March 2023
14	RM to update the S-131 product specification using substantive comments.	7.6.2	RM	April 10 <sup>th</sup> 2023

**Annex B: NIPWG List of Decisions & Action Items Arising from HSSC-14**

<b>5.3 Nautical Information Provision (NIPWG)</b>					
5.3A	S-100 System Architecture, IMO’s Maritime Services	HSSC14/44 (former HSSC13/35)	Noting different expectations, <b>HSSC</b> welcomed the offer made by <b>NIPWG</b> in liaison with <b>S-100WG</b> to complement the S-100 System Architecture by a submission paper addressing the what/how/when the S-100 based products should work together in a future S-100 ECDIS environment.	<b>HSSC-15</b>	In progress with Canadian Coast Guard.
5.3A	Maritime Services, e-navigation	HSSC14/45 (former HSSC13/37, HSSC12/32, HSSC11/36)	<b>HSSC</b> tasked the responsible <b>HSSC WGs</b> [and will invite also the <b>IRCC/WWNWS-SC</b> ] to review the initial descriptions of “ <i>Maritime Services in context of e-navigation</i> ” under their remit and to provide them to <b>NIPWG</b> for further action if appropriate.  <b>NIPWG</b> to send reminders as appropriate.	<b>Permanent</b>  <b>Deadline to be confirmed by NIPWG</b>	

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5.3A	Maritime Services, e-navigation	HSSC14/46 (former HSSC13/38)	<b>HSSC</b> tasked <b>NIPWG</b> to act as the responsible IHO WG to monitor and contribute to the IMO Expert Group on Data Harmonization (EGDH).	<b>Permanent</b>	
5.3A	Scale Dependent (SD)/Scale Independent (SI)	HSSC14/47 (former HSSC13/40)	After having considered an IALA outline paper describing how S-201, S-124, S-125 may work together, <b>HSSC</b> tasked <b>NIPWG</b> to provide a paper discussing SD/SI data handling aspects.	<b>HSSC-15</b>	In progress
5.3A	S-125	HSSC14/48	<b>HSSC</b> approved the name change for S-125 from “ <i>Navigational Services</i> ” to “ <i>Marine Aids to Navigation (AtoN)</i> ”.  <b>IHO Secretariat</b> to change the name on the IHO website accordingly, and leave the content as is.  <b>HSSC</b> tasked <b>NIPWG</b> in liaison with IALA to provide a timeline for the development of S-125.	<b>End of June 2022</b>	Decision
5.3A	S-100 Whole Picture	HSSC14/49 (former HSSC13/41)	<b>HSSC</b> welcomed the offer by <b>NIPWG</b> to develop an outline paper, in liaison with <b>S-100WG</b> , describing the whole S100 picture in close cooperation with stakeholders, inside and outside the IHO community and with IMO in particular.	<b>HSSC-15</b>	In progress
5.3A	S-12x (S-122, S-123, ...)	HSSC14/50	<b>HSSC</b> noted the status report on the development of the new Edition of these Product Specifications to be aligned with S-100 Ed. 5.0.0 and the remaining challenges (Portrayal, etc.).	<b>HSSC-15</b>	
5.3B	S-128	HSSC14/51	<b>HSSC</b> approved the S-128 draft Edition 1.0.0 dated 11 March 2022- <i>Catalogue of Nautical Products</i> for implementation and testing.  <b>NIPWG</b> to provide amendments to the executive summary of the scope of S-128 for the Registry and the website (S-100 Products Specifications) to the <b>IHO Secretariat</b> , when appropriate.  <b>IHO Secretariat</b> to issue an IHO CL informing the IHO MS on the publication of Ed.1.0.0 of S-128 and encouraging stakeholders ( <b>Industry partners, RENCs</b> ) on behalf of HSSC to establish S-128 testbeds and share experiences with <b>NIPWG</b> .	<b>End of June 2022</b>	Decision

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5.3B	S-128	HSSC14/52	HSSC advised <b>NIPWG</b> to liaise with <b>S-100WG</b> on issues identified regarding responsibility of stakeholders in producing and distributing S-128 and for <b>NIPWG</b> to provide an input paper to WENDWG13.	<b>WENDW G-13/HSSC-15</b>	
7.1B	S-124	HSSC14/53	HSSC noted the progress made by the S-124PT under the WVNWS-SC in the development of S-124.  HSSC agreed on the way forward (candidate Ed.1.0.0 to be directly submitted by the WVNWS-SC to HSSC for approval by correspondence).	<b>November 2022 /HSSC-15</b>	Decision
<b>7.7 OGC</b>					
HSS C14/96	HSSC thanked <b>OGC</b> for their comprehensive update report and highlights on pilot projects related to IHO/HSSC work items.		Decision		
HSS C14/97	HSSC invited <b>OGC</b> to consider the possibility of reporting on S-122 implementation experimentation (pilot projects) and IGIF Roadmap in Baltic and North Sea to <b>NIPWG</b> and <b>WENDWG</b> at their next meetings.	<b>NIPWG-9 / WENDWG -13</b>			

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## Annex C: Agenda

Draft agenda v1.4

<b>1.0</b>	<b>Welcome</b>	Chair	
<b>2.0</b>	<b>Review of Action Items</b>	Chair	10min
<b>2.1</b>	<b>Review of NIPWG Work Plan 23/24</b>	Chair	5min
<b>3.0</b>	<b>Review of other Working Group reports</b>	Chair	10min
<b>3.1</b>	<b>Update on IMO Expert Group on Data Harmonization (EGDH)</b>	Stefan	5min
<b>4.0</b>	<b>GML Way Forward presentation</b>	Raphael Malyankar	10min
<b>5.0</b>	<b>IHO GI Registry Updates presentation</b>	Raphael Malyankar	10min
<b>6.0</b>	<b>Recommendations on how the association of information types should be managed in the production and user tools</b>	Raphael Malyankar	15min
<b>7.0</b>	<b>Product Specification updates</b>		
<b>7.1</b>	<b>S-122 – Marine Protected Areas</b>		
7.1.1	Task Group Update	Jonathan Pritchard	10min
<b>7.2</b>	<b>S-123 – Marine Radio Services</b>		
7.2.1	Task Group update	Bridget Gagné	10min
<b>7.3</b>	<b>S-125 – Marine Aids to Navigation</b>		
7.3.1	Development update	Dr Sewoong Oh	10min
<b>7.4</b>	<b>S-127 – Marine Traffic Management</b>		
7.4.1	Task Group update	Ed Kuwalek	10min
7.4.2	Proposals on addition of Hydrometeorological Conditions in S-127...product spec (2.0.0)	Lyu Yuxiao	5min
<b>7.5</b>	<b>S-128 – Catalogue of Nautical Products</b>		
7.5.1	S-128 Test Bed update	Izzy Kim	10min
7.5.2	Sample Production of S-128 dataset by BSH	Philipp Schwedas	10min
7.5.3	Observations on S-128 & Tighter control of dataset import to S-100 ECDIS papers (S100TSM9)	Jonathan Pritchard	10min
7.5.4	WENDWG13 Meeting – S128 Presentation	Chair	5min
<b>7.6</b>	<b>S-131 – Marine Harbour Infrastructure</b>		
7.6.1	Project update	Sarah Rahr	10min
7.6.2	Product Spec. update	Raphael Malyankar	10min
<b>8.0</b>	<b>UKC Definitions Proposal Discussion</b>	Ben van Scherpenzeel / Stefan Engström	15min
<b>9.0</b>	<b>Brief on the Canadian Mariners Workshop</b>	Eivind Mong	10min
<b>10.0</b>	<b>Next meetings</b>	Chair	
<b>10.1</b>	Next VTC: 20 <sup>th</sup> June 2023		
<b>10.2</b>	NIPWG 10: 12 <sup>th</sup> to 15 <sup>th</sup> September 2023, Monaco		

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## Annex D: List of Attendees

Name	Country	Organization / Company	Y/N
<b>IHO MEMBER STATES</b>			
Alper CELEBI	Australia	Australian Hydrographic Office	Y
Vitor ROMANO	Brazil	Directorate of Hydrography and Navigation (DHN)	Y
Bridget GAGNÉ	Canada	Canadian Hydrographic Service (CHS)	Y
Sarah RAHR	Canada	Canadian Hydrographic Service (CHS)	Y
Eivind MONG	Canada	Canadian Hydrographic Service (CHS) - Chair	Y
Lyu YUXIAO	China	China Maritime Safety Administration (China MSA)	Y
Jakob CHRISTENSEN	Denmark	Danish Geodata Agency/Geodatastyrelsen (GST)	Y
Jen Søe CHRISTIANSEN	Denmark	Danish Geodata Agency/Geodatastyrelsen (GST)	Y
Stefan ENGSTRÖM	Finland	Finnish Transport Agency Hydrographic Office	Y
Roderick BERA	France	Service Hydrographique et Oceanographique de la Marine (SHOM)	Y
Yves LE FRANC	France	Service Hydrographique et Oceanographique de la Marine (SHOM)	Y
Philipp SCHWEDAS	Germany	Bundesamt für Seeschifffahrt & Hydrographie (BSH)	Y
Elena ARMANINO	Italy	Istituto Idrografico Della Marina	Y
Paolo MONDINELLI	Italy	Istituto Idrografico Della Marina	Y
Kosei TAKAHASHI	Japan	Japan Hydrographic and Oceanographic Department (JHOD)	N
Wilfred VAN TOOM	Netherlands	Hydrographic Service - Royal Netherlands Navy (NLHO)	Y
Richard FLAPPER	Netherlands	Hydrographic Service - Royal Netherlands Navy (NLHO)	Y
John-Morten KLINGSHEIM	Norway	Hydrographic Service - Royal Netherlands Navy (NLHO)	Y
Jon ERVIK	Norway	Hydrographic Service - Royal Netherlands Navy (NLHO)	N
Matilde Skæveland SKÅR	Norway	Norwegian Hydrographic Service	Y
Piotr PASZTELAN	Poland	Hydrographic Office of the Polish Navy	N
Miguel Angel LOBEIRAS DE LA CRUZ	Spain	Instituto Hidrografico de la Marine	Y
Christopher GILL	UK	UK Hydrographic Office (UKHO)	Y
James WESTON	UK	UK Hydrographic Office (UKHO) - Secretary	Y
Jo MARKS	UK	UK Hydrographic Office (UKHO)	Y
Laura HALL-KING	UK	UK Hydrographic Office (UKHO) - Secretary	Y
Marcy KLIMEK	UK	UK Hydrographic Office (UKHO)	N
Jason STROM	USA	National Geospatial-Intelligence Agency (NGA)	Y
<b>INDUSTRY &amp; TECHNICAL EXPERTS</b>			
Raphael MALYANKAR		Portolan Sciences	Y
Ed KUWALEK		IIC Technologies	Y

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Ben VAN SCHERPENZEEL		International Harbour Master Association	Y
Svein SKJAEVELAND		PRIMAR	Y
Yves GUILLAM		International Hydrographic Office (IHO)	Y
Seewong OH		Korea Research Institute of Ships & Ocean Engineering (KRISO)	Y
Shwu-Jing CHANG		National Taiwan Ocean University (NTOU)	Y
Su MARKS		IC-ENC	Y
Jonathan PRITCHARD		IIC Technologies	Y
Yann Corlay		GEOMOD	Y
<b>OTHER ATTENDEES</b>			
Dane UKRYTE			Y

Note: FOR REASONS OF ECONOMY, THE DELEGATES ARE KINDLY REQUESTED TO BRING THEIR OWN COPIES OF THE DOCUMENTS TO THE MEETING