



# 12<sup>th</sup> Meeting of the Hydrographic Services and Standards Committee

**Report of the NIPWG  
... towards to provision of S-100 compliant NPUB  
product specifications**

**Agenda Item 12.5a-c**



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# PRINCIPAL ACTIVITIES AND ACHIEVEMENTS

International  
Hydrographic  
Organization

1. Membership  
20 Member States, 10 industry members, 2 academia
2. Meetings  
NIPWG6 in Tallinn, hosted kindly by the Estonian HO  
several video conferences kindly hosted by the Secretariat
3. Consideration of NIPWG prod spec list as defined by HSSC5
4. Development of prod spec descriptions and scopes for  
Marine Physical Environment  
Marine Harbour Infrastructure
5. Maintenance of S-49
6. Provision of S-100 Architecture
7. DQWG cooperation
8. NtM XML development
9. IMO related work
10. Test of S-100 compliant prod spec

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# NPUB PROD SPECS STATUS

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Organizat

Product specs under development	MS Word Test data sample	Data model	Mapping Data sample vs. Data model	Application schema	Overall Working Status
S-122 Marine Protected Areas	Completed	Completed	Completed	Completed	Completed, next edition scheduled
S-123 Marine Radio Services	Completed	Completed	Completed	Completed	Completed, next edition scheduled
S-125 Marine Navigational Service	In progress	Drafted			Under IALA development
S-126 Marine Physical Environment	Stable	Drafted Revision			In progress, Continuation applied
S-127 Marine Traffic Management	Completed	Completed	Completed	Completed	Completed, Under 2/2007 revision cycle
S-128 Catalogue of Nautical Information	In progress	In progress		In progress	In progress
S-XXX Marine Harbour Infrastructure	Planned	In progress	Planned	Planned	In progress, Continuation applied



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# DEVELOPMENT OF PROD SPEC

International  
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Product specification	Budget	Schedule
Marine Harbour Infrastructure	55.000-65,000€ 30,000€ NIPWG preparation work 25,000-35,000€ development work	2020 start NIPWG work 2023 product specification development starts 2024 product specification version 1 ready and goes into 2/2007 circle
Marine Physical Environment	65.000-75,000€ 40,000€ NIPWG preparation work 25,000-35,000€ development work	2021 start NIPWG work 2024 product specification development starts 2026 product specification version 1 ready and goes into 2/2007 circle



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# DEVELOPMENT OF PROD SPEC

International  
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- S-1xx (all S-100 approved NIPWG Prod Specs)
  - Upgrade needed to be S-100 Edition 5 compliant
  - Provide portrayal instructions
- Priorisation of Work
  - Upgrade to S-100 Edition 5 and provision of portrayal (2021-22)
  - Continue work on Marine Harbour Infrastructure (2020-
  - Continue work on Marine Physical Environment (2021-



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## **MAINTAINANCE OF S-49**

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### ***Maintain Publication S-49 “Recommendations concerning Mariners’ Routeing Guides” (MRG)***

NIPWG recommends stop maintaining S-49 with version 2.1.0.

**MRG information will be provided by S-100 compliant product specifications in a near future.**

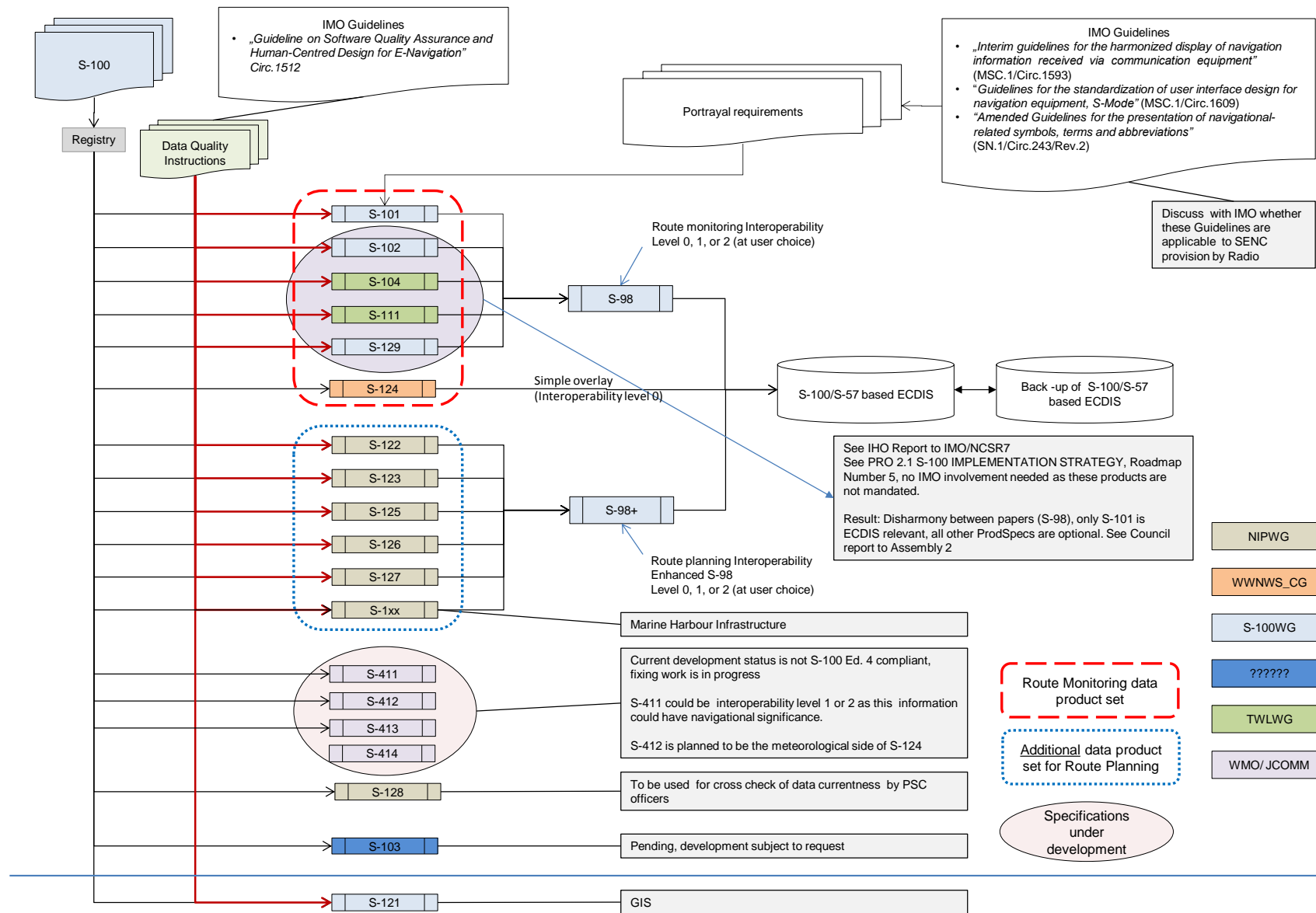
It is expected that no new printed MRG will be issued.



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# OVERARCHING ARCHITECTURAL ANALYSIS

International Hydrographic Organization

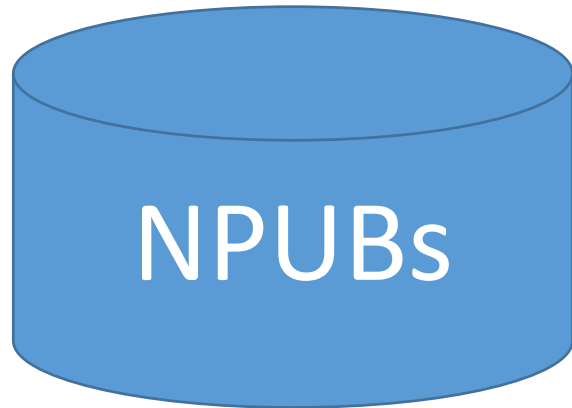




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# ON TO S-124 REPORT

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## FROM CORRESPONDENCE GROUP TO PROJECT TEAM

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- WWNWS11 agreed to transition S-124 Correspondence Group into a Project Team (WWNWS11 Action 20).
- Draft Terms of Reference (ToR) developed by the Correspondence Group membership.
- ToR approved by WWNWS chair on December 20, 2019.
- New name of the group is S-124 Navigational Warning Project Team or S124NW PT for short.



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# PRODUCT SPECIFICATION DEVELOPMENT

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- Overall progress is decent but some momentum lost due to COVID-19
- Missing definitions being drafted for PT review.
- Elena Maria Gnehm (Germany) volunteered to become the submitter for S-124 to the GI Registry.
- Ed Weaver (GeoNavigation Technologies) volunteered to create the S-124 feature catalogue using the Feature Catalogue builder.
- A new draft GML schema has been developed with support from the Julius Muller (OFFIS) and Maritime Connectivity Platform (MCP) Consortium.



# IHO S-124 PORTRAYAL

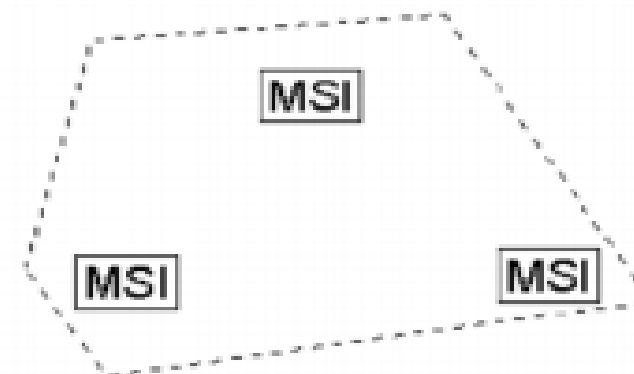
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- Discussions at S-100WG and TSM meetings revealed that the MSI symbol present in IMO SN.1/Circ.243/Rev.2 would present a challenge in developing portrayal for navigational warnings.
- To address this an input paper that was submitted as a Canadian input to IMO NCSR7 (NCSR 7-22-2).
- Discussions resulted in agreement in the sub-committee on recommending Maritime Safety Committee remove the MSI symbol from the circular.
- This act will remove the limits imposed by the circular on the S-124 portrayal discussions and development.

Example of point symbol

MSI

Example of area symbol

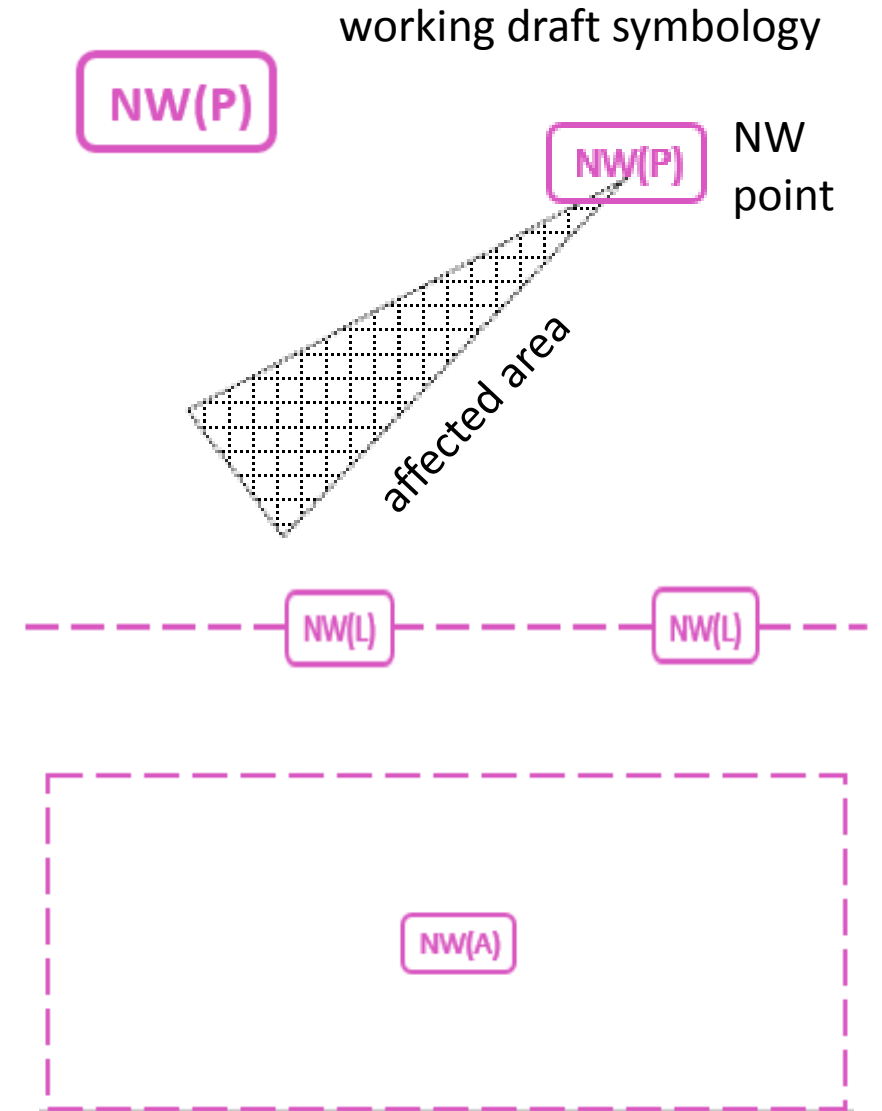




# IHO S-124 PORTRAYAL

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- Portrayal discussions led to the formation of a group to work on portrayal rules.
- Drafting of symbols and portrayal operation descriptions is underway.
- Some of the envisioned portrayal functions will likely need change to S-100 Portrayal.
- Submission planned for TSM meeting in the fall.
- NCWG input has not been received.





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# PRODUCT SPECIFICATION DEVELOPMENT

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- Distribution paradigm still in development
  - Grey zone between producer and communication technology. Investigating how far into the communication technology S-124 must go to ensure secure reception on ECDIS.
  - MCP & SECOM
    - Candidate solution for distribution from producer to user.
    - Development not dependent on S-124; S-421 route exchange is main driver. I.e. low effort for S-124PT.
    - Maybe there are other options, but seems no others being specified by IMO recognized bodies in the context of E-Navigation (e.g. IALA, IEC, etc..). VDES & NAVDAT may become potential solutions but need file delivery protocols and operational status.

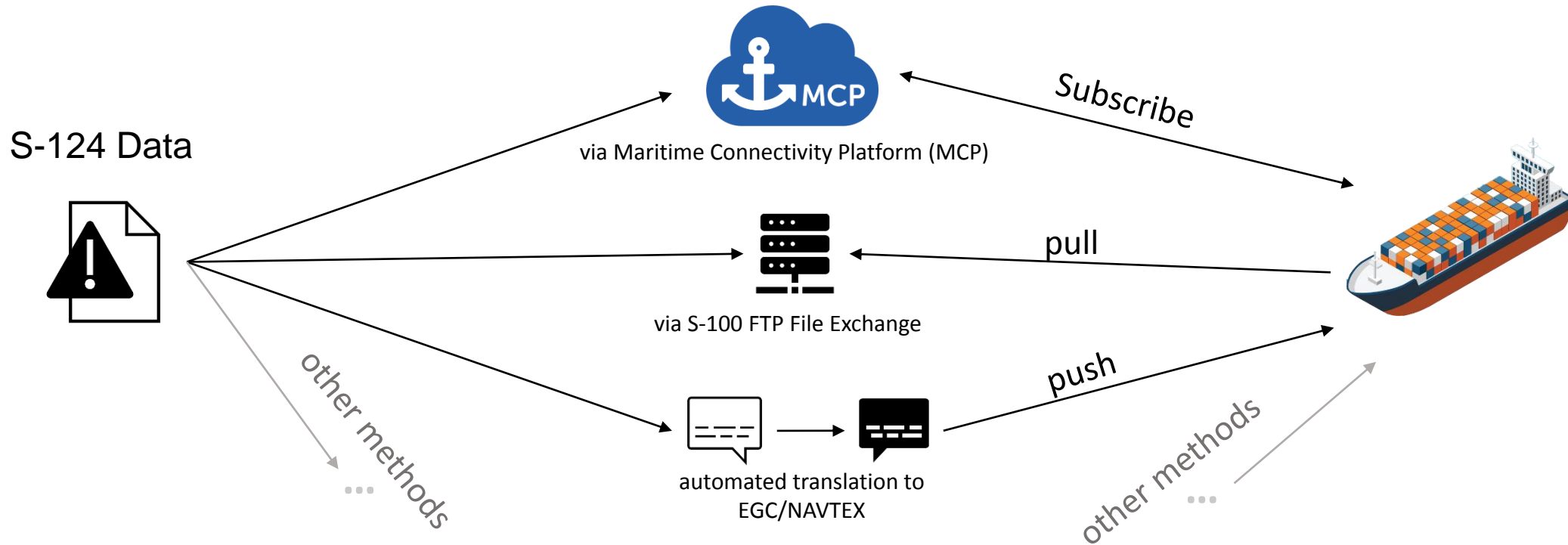


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# INDEPENDENT COMMUNICATION OF S-124

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- User systems will understand S-124 independently from where it is coming from.
- S-124 could also be automatically translated (using e.g. CSS or XSLT) to EGC/NAVTEX messages.
- The MCP/SECOM could help with the **secure** and efficient transmission of S-124 data.

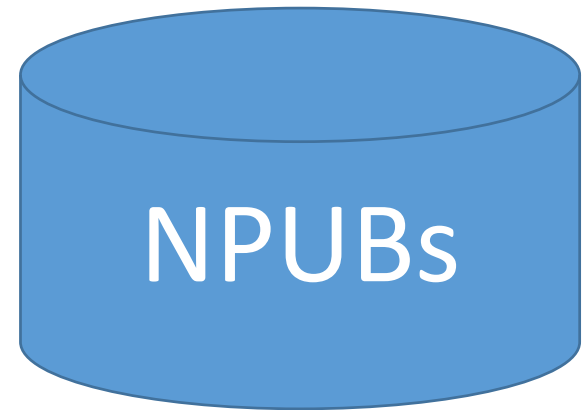




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# **BACK TO NIPWG REPORT**

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Organization





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# DQWG COOPERATION

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- Outcome

- Test of data models used in various NIPWG prod specs
- List of results to be used to update relevant prod specs

- Results

- Emphasis of the importance of harmonised data model elements when interoperability is an issue.
- Provision of feedback to DQWG aiming to improve the test tool.





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# NTM XML DEVELOPMENT

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- NIPWG experts enhanced the current version of the common XML structure
  - enabling the exchange of tables in corrections.
- Further 1.5 days' workshop
  - approved by HSSC11
  - will be held if more HOs are able to provide an NtM output according to the common XML
  - Italian HO kindly offered Genoa as the location.
  - No date determined yet.



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## IMO RELATED WORK

International  
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- Continuation of monitoring development of the IMO e-navigation strategy.
- Coordination of relevant IHO submission regarding enhancement of Maritime Services in context of e-navigation description under IHO.
- Contribution to the IMO EGDH needs to be coordinated



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# TEST OF S-100 COMPLIANT PROD SPEC

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Organization

- S-122 (Marine Protected Area) data are available for US and DE waters for testing purposes.
- S-123 (Marine Radio Services) product specification is in testing phase
- Survey to seek Member State information on their intention to produce S-122 and S-123 data sets
  - Discussed at NIPWG7 in more detail.
  - Lack of sufficient production environment
  - Considered statements and timeline provided in IHO CL54/2019
  - Suggest postponement



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# **NIPWG WORK PROGRAMM TOP 3 PRIORITIES**

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1. initiate prototype implementation of existing S-12x products in an S-100 based environment to explore governance architecture and service delivery mechanism.
2. develop S-12x nautical information product specifications.
3. coordinate the IHO contributions to the definition and harmonisation of maritime services in context of e-navigation as defined by IMO within the remit of IHO.



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# ACTIONS REQUESTED FROM HSSC

International  
Hydrographic  
Organization

HSSC12 is invited to endorse:

1. the activity of NIPWG;
2. the freezing of S-49 Edition 2.1.0 or agree to discontinue S-49 the maintenance.

HSSC12 is further invited to confirm:

1. the revised list of Product Specifications under the remit of NIPWG;
2. the NIPWG responsibility to maintain the Architectural Display of Product Specifications under the remit of the IHO.
3. that responsible WGs should review the initial descriptions of “Maritime Services in context of e-navigation” under their remit if appropriate and to provide them to NIPWG for further action.
4. that NIPWG should coordinate IHO input to IMO’s EGDH.

HSSC12 is further invited to note this report and to endorse:

1. the continuance of the revised 2019-20 Work Plan as annexed.

HSSC 12 is further invited to allocate:

an S-1xx number to Marine Harbour Infrastructure Product Specification.



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# NIPWG RESPONSE ON CA PAPER

International  
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- 1. NIPWG took note of the CA paper and appreciated the initiative;
- 2. NIPWG recognise the relation to IMO Maritime Services in context of e-nav initiative;
- 3. NIPWG checked various options on how to provide guidance/best practice:
  - 3.1 M-3 resolutions of electronic NPUB updates to be checked by NIPWG; and
  - 3.2 S-4 is considered the appropriate place and the CA initiative will be forwarded for further consideration to NCWG