



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

## Report of the Nautical Information Provision Working Group

### Agenda Item 05.3A

HSSC-16, Tokyo, Japan, 27 – 31 May 2024



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## PRINCIPAL ACTIVITIES AND ACHIEVEMENTS

International  
Hydrographic  
Organization

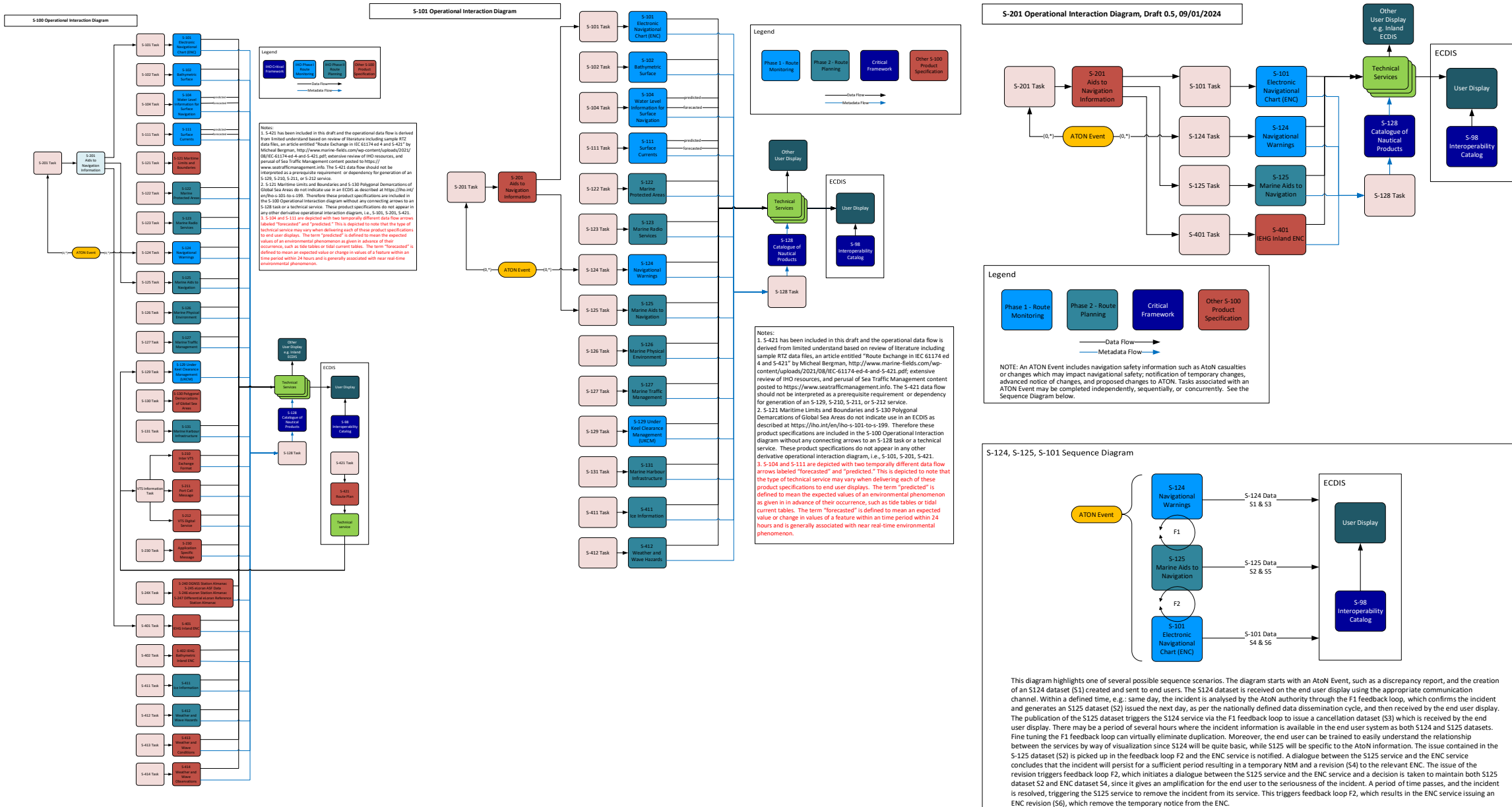
1. Action item HSSC15/36 (former HSSC14/44, HSSC13/35) is being worked on by IALA ARM. A draft of this system architecture is available in **Annex B**. A full delivery of the system architecture is expected with a liaison note once approved by IALA Council in June.
2. Action item HSSC15/37 (former HSSC 14/46, HSSC13/38) is ongoing and further details given later in the report.



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# DRAFT S-100 SYSTEM ARCHITECTURE

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3. Action item HSSC15/38, HSSC15/45 (former HSSC 14/47, HSSC13/40) NIPWG chair presented his IALA Conference paper on how S-124 and S-125 can work together to S-100WG8 (see S100WG8-8/6.9). The meeting took note of the presentation.
4. Action item HSSC15/39 (former HSSC14/49, HSSC13/41) is being developed as part of HSSC15/36.



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## **PRINCIPAL ACTIVITIES AND ACHIEVEMENTS**

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5. Action item HSSC15/40 (former HSSC14/50) Efforts to upgrade all S-12x and S-131 to S-100 Ed.5.2 are ongoing. Funding has been provided by IC-ENC to speed up the upgrade of S-122.
  
6. Action item HSSC14/52 is complete



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## PRINCIPAL ACTIVITIES AND ACHIEVEMENTS

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7. Action item HSSC 15/86 NIPWG has discussed a draft to NCSR 11/12 provided by the IHO Secretariate. This review generated a list of questions that NIPWG consider important for IHO to consider in light the guideline that is up for discussion at NCSR11. The list of questions were drafted by the NIPWG chair group and presented at NIPWG's March VTC meeting. There was consensus about the questions, however, UKHO desired to comment on the questions and clarify their intent, including ensuring the questions are for IHO to consider, see **Annex C**.



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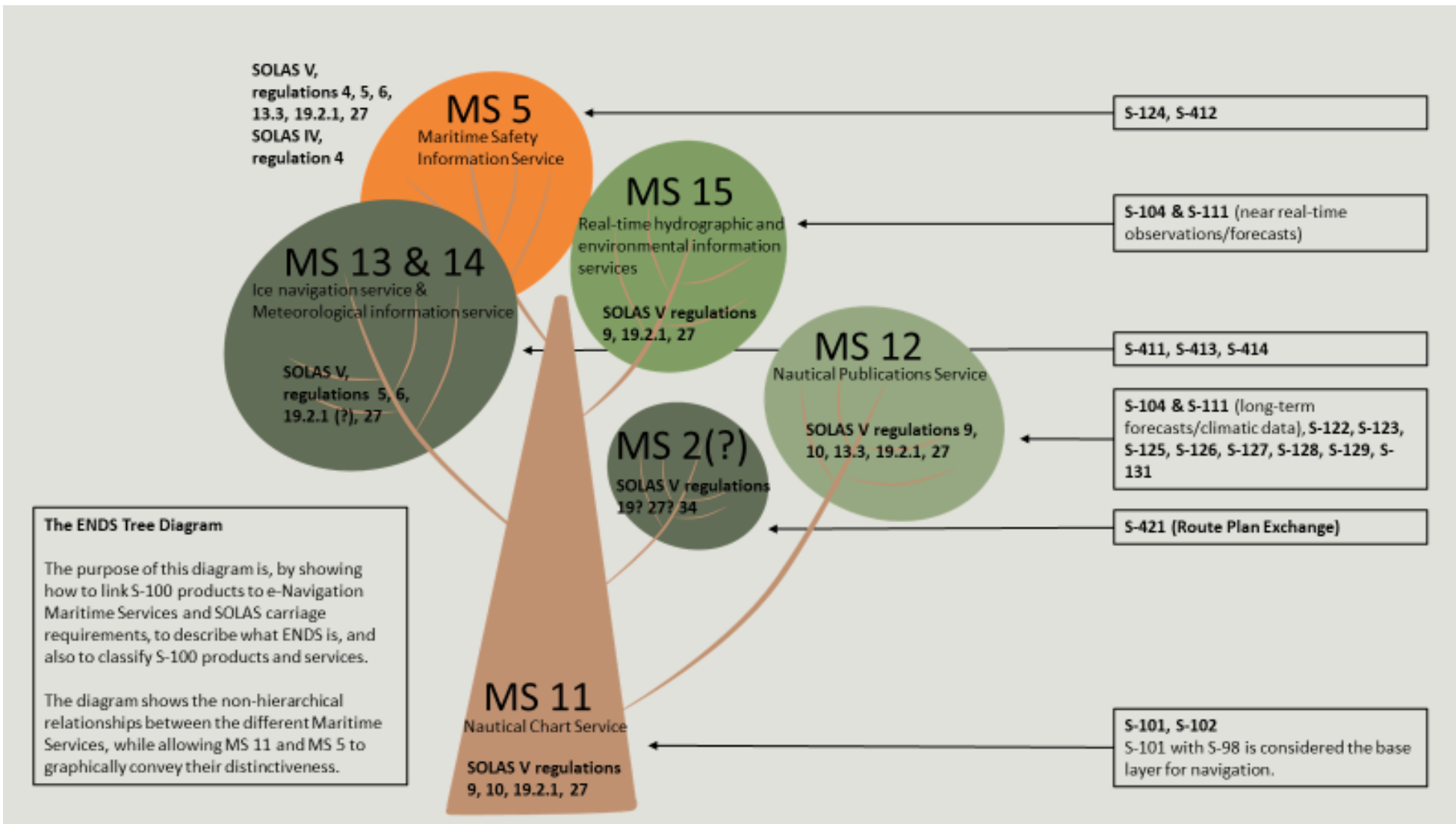
8. Action item HSSC15/88 NIPWG has taken note of the timeline constraints and have taken steps to progress the development of S-128, specifically month meetings were set up and attended by the chair team to help keep the development on track.
  
9. Action item HSSC15/93 NIPWG stood up a task group to refine the initial pyramid shape mapping ENDS products to IMO Maritime Services. The revised mapping is attached in **Annex D.**



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# REVISED MAPPING BETWEEN S-100 PRODUCTS AND IMO MARITIME SERVICES

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\* MS 2 has been renamed to AtoN Service with recent changes to MSC Circ 1610 and should probably be changed to MS 1 - VTS services.





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## S-122 (MARINE PROTECTED AREA) (WORK PLAN SECTION F)

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- During the work period the S-122 Task Group continued to meet looking at the way ahead for S-122 development. It has been noted fragmented national MPA issuing processes makes it complicated to establish a single point of contact in Member States.
- There is an ongoing debate about how close S-122 should be aligned with findings from recent OGC testbeds, but for now the NIPWG Chair Team has instructed the Task Group to focus on the navigational aspects of Marine Protected Areas.
- Funding has recently been made available by IC-ENC and a contractor has been hired to update the product specification to align with the upcoming Edition 5.2.0 of S-100.



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## S-123 (RADIO SERVICES) (WORK PLAN SECTION F)

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- S-123 Task Group has submitted the list of proposed changes for the S-123 Product Specifications to NIPWG for review at the 1st NIPWG VTC of 2024 (March 5, 2024). The deadline for NIPWG members to provide feedback was April 26, 2024 (roughly 7 weeks for members to review).
- The proposed changes will also include new feature types and information objects to capture “connectivity subscription” to support autonomous and remotely operated shipping.
- There are industry stakeholders who have volunteered to test S-123 data with connectivity information
- However, due to lack of resources, work on updating the S-123 Product Specifications to a newer version may only start in 2025.



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# S-125 (NAVIGATIONAL SERVICES) (WORK PLAN SECTION F, J)

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- The S-125 product specification development continues with IALA support. NIPWG Letter 3/2023 was issued to request a review of the latest S-125 draft. Comments received were compiled and sent to IALA ARM Committee's 17th meeting as input paper where these were discussed.
- Additionally, China MSA conducted trials of S-125 and provided lessons learned and suggestions for improvements to the same IALA meeting. IALA ARM Committee plans to draft a 0.0.4 version of the product specification, but due to the link between S-125 and S-201, some improvements are needed in S-201 before S-125 0.0.4 can be completed.
- The IALA DTEC committee is developing the S-125 service specification which will describe a method for machine-to-machine exchange of S-125 datasets using the Maritime Connectivity Platform concepts along with IEC 63173-2 SECOM principles for secure communication. Trials of such a service is already underway by General Lighthouse Authorities of the United Kingdom and Ireland Research And Development (GRAD).
- NIPWG Chair and vice-chair continues to engage with IALA. Chair regularly attend the ARM committee. Vice chair attended DTEC2 and VTS55 committee meetings.



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## **S-126 (PHYSICAL ENVIRONMENT) (WORK PLAN SECTION F)**

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- Work on the S-126 product specification is on hold as per HSSC 15/42. Resources to lead and work on the product specification are still lacking and NIPWG is therefore not seeking any change to the status of S-126 work.



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# S-127 (TRAFFIC MANAGEMENT) (WORK PLAN SECTION F)

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- Conversion of S-127 version 1.0 to S-100 edition 5.2 conformant PS is in progress with the target date of December 2024.
- Review of all version 1.0 related comments has been completed and the outcome needs to be integrated into the new PS version.
- Review of all proposal submitted to date has been completed and the outcome needs to be integrated into the new PS version.
- New draft Feature Catalogue has been developed and is being reviewed by the task group.
- Overall, the work is progressing however the progress is slow due to limited resources including their availability.



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# S-127 (TRAFFIC MANAGEMENT) (WORK PLAN SECTION F)

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- Member states have started testing S-127 product specification and are providing this input to the task group. Most recently BSH has created test data in German waters making use of the tools available.
- A significant finding from the BST tests is that “To generate test datasets manual workarounds are currently still necessary. This might lead to an integration of human error”. NIPWG continues to work with tools manufacturers to encourage the creation of software suits that aid in the creation of data.

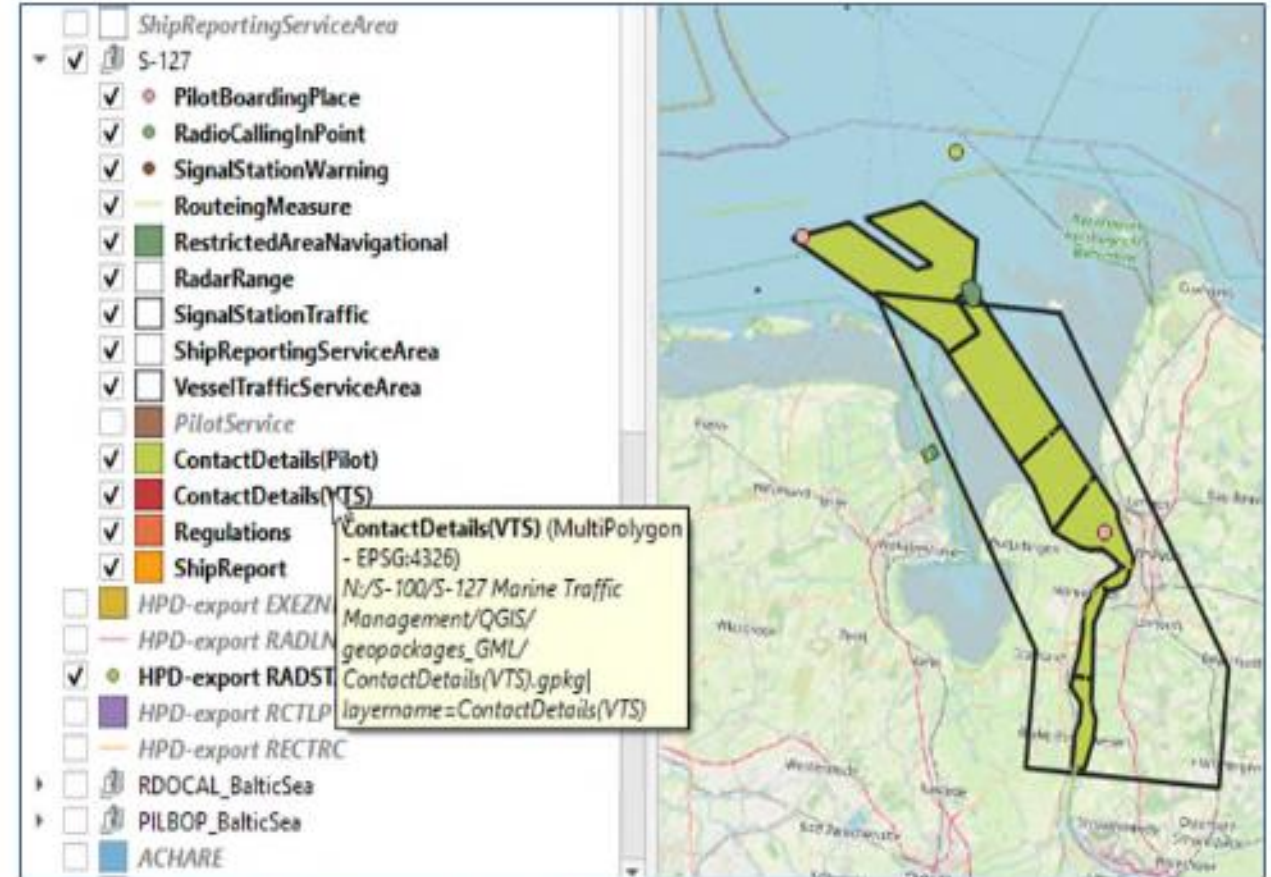


Figure 2: Display of intermediate results (QGIS)



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# S-128 (CATALOGUE OF NAUTICAL PRODUCTS) (WORK PLAN SECTION F)

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- Following NIPWG10, monthly meeting have been held to focus and push the S128 development forward to meet the deadlines of phase 1 of S-100 ECDIS implementation.
- Two rounds of reviews have been conducted on two versions of the product specification, each time refining the documents based on the outcomes of the reviews.
- Discussions have revealed that the S-128 producer and distribution diagram that was included in NIPWG report to HSSC have remained largely intact, meaning the principles proposed remain true.
- Once the last parts of the data model have been finalized, submissions to GI registry will be undertaken.
- A draft 2.0.0 is undergoing last finalizations before going to stakeholder review. Work is on schedule to be ready for HSSC endorsements towards the late parts of summer.
- An impact study has been completed and is attached to the working group report as **Annex E.**





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# S-131 (MARINE HARBOUR INFRASTRUCTURE) (WORK PLAN SECTION F)

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- The product specification testing continues by member states reviewing their data and considering S-131 implementation. Comments are being collected and evaluated for impact on the product specification documents.
  - For example, a review gap analysis between S-131 and Norwegian port data was done by the Norwegian Hydrographic Service.
- Closely related is the S-131 Project at the IHO-Singapore Lab. Efforts are underway to get the database installed and operational at the Lab. The project team is also working on the criteria for port data upload. As part of the project, digitization of Singapore port guide data have been done and being used as the test data for the service.





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# MAINTAINING IHO STANDARDS UNDER NIPWG RESPONSIBILITY (WORK PLAN SECTION D)

International  
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- **Maintain Publication S-12 “Standardization of List of Lights and Fog Signals”**; No requests to amend S-12 were raised in 2023. The content provided in S-12 is considered as appropriate and fit for purpose.
- **Amendments to M-3**; The NIPWG did start considering the impact of S-12x, Maritime Services and their interdependencies on NP3 inclusion within M3 Resolution 5/2002. A draft change is attached in **Annex F** and **HSSC guidance is requested** on the appropriateness of this change.



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## IMO RELATED WORK (WORK PLAN SECTION G)

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- The IMO Expert Group on Data Harmonization, EGDH 9, met in London 23-27.10.2023. IHO attended the hybrid meeting in person (NIPWG Vice-chair, Stefan Engstöm), together with around 15 participants in person and a similar amount online during the first day. EGDH is responsible for maintenance of the IMO Compendium.
- IHO presented the document EGDH 9/4 on the outcome of the IHO S- 100 and IMO Reference Model mapping exercise. The exercise indicated, that producing S-100 compliant product specification(s) based on the IMO Compendium would be technically feasible but would also include a substantial amount of work. It was noted by IHO, that machine readable versions of the IMO Compendium and versioning would make it easier for developers to use the Compendium and reflect changes in developers' implementations.



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## IMO RELATED WORK (WORK PLAN SECTION G)

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- In parallel to the work with EGDH, NIPWG has been working with IHMA on a Guidelines for Harmonized Communication and Electronic Exchange of Nautical Data for Port Calls (See Annex G). This guideline and related work focuses on harmonizing terms and definitions between port authorities and hydrographic authorities, aiming to reduce confusion with regards to data exchanged in relation to port calls. IHMA has requested that input on how to ensure the guideline is made operational, who the custodian of this will be and who can make it enforceable and an officially implementable procedure. Is this IHMA or IMO? Currently this is unclear.
- The work with IHMA continues the earlier efforts done jointly to improve and harmonize UKC definitions, for both dynamic and static UKC, and have since been folded into the Guideline.
- NIPWG is seeking guidance on the road ahead for the Guideline.



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# PROPOSED CHANGE TO M3 RESOLUTION 5/2002

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Delete the following

*~~Note: Data Specifications for NP3 have yet to be finalised and therefore are not specifically referred to in this document.~~*

Add the following

5.

Digital datasets (NP3) will inevitably cover the gap between traditional publications and real-time services, and thus also expand the concept of Nautical Publications. Information that, due to a need for frequent updates, is not usually available in traditional publications might be available in Digital datasets. Where traditional publications (NP1 and NP2) would include only availability information of such frequently updated external services, it is possible to include also the actual information produced by such service as ECDIS-compatible Digital datasets. The concept of Nautical Publications should, in these cases, include also those Digital datasets.



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## ACTIONS REQUESTED FROM HSSC

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1. Note the activity of NIPWG;
2. Endorse the continuance of the revised 2024-25 Work Plan as annexed (Annex H) to the report;
3. Give advice on amending M3 Resolution 5/2002;
4. Give advice on how to move forward with the work on Guidelines for Harmonized Communication and Electronic Exchange of Nautical Data for Port Calls.