



# NIPWG VTC (2023)

## S-128 Ed 1.2.0 Work Status

NIPWG VTC03/23 (6 December 2023)



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# S-128 REGARDING TO NIPWG ACTION ITEMS

International  
Hydrographic  
Organization

- NIPWG8 Minutes and Action Items
  - **(Action Item 23)** Product Type attribute; check PS 1.1.0 for the inclusion of traditional paper products (List of Light, SDs etc.) and other different use cases
  - **(Action Item 24)** DCEG guidance for the different uses to be reviewed in preparation of PS 1.1.0. S-128PT. Mid-October
  - **(Action Item 25)** NIPWG is invited to provide comments on product type when PS is open for review. All. November 2023
  - **(Action Item 26)** NIPWG invited to test S-128 1.1.0 when ready for review and to provide feedback to S-128 PT. All. November 2023



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# S-128 REGARDING TO NIPWG ACTION ITEMS

International  
Hydrographic  
Organization

- NIPWG8 Minutes and Action Items
  - **(Action Item 27)** Dedicated S-128 VTC to be held monthly. Strict focus on finalizing PS development. All. 3rd week October.
  - **(Action item 30)** Consider and feedback to NIPWG if a simple portrayal catalogue will delay draft of PS 1.1.0. S-128PT. 15th Sept 2023
  - **(Action Item 32)** Review S-128 and find any gaps between Data model and registry.



# IHO S-128 ED 1.2.0 WORK STATUS

International Hydrographic Organization

- Action Item 23 : Use case scenario of product Type
  - Long discussion regarding to present S-128 data model
  - Limits for carriage requirements, IMO MS, traditional publications

| S-128 Category    | Product                   |                                | Product Type               |
|-------------------|---------------------------|--------------------------------|----------------------------|
| PaperChart        | Paper chart               |                                | 1: paper nautical chart    |
|                   | INT                       |                                | 4: INT Chart               |
|                   | Raster navigational chart |                                | 3: raster nautical chart   |
| ElectronicChart   | ENC                       | S-57                           | 2: ENC                     |
|                   |                           | S-101                          | 2: ENC                     |
|                   |                           | S-102                          | 2: ENC                     |
|                   |                           | S-10X                          | 6. S-100 compliant product |
|                   | Digital chart             |                                | 8: special purpose charts  |
|                   | Special chart             | Fishery chart                  | 8: special purpose charts  |
|                   |                           | Location chart                 | 8: special purpose charts  |
|                   |                           | Territorial chart              | 8: special purpose charts  |
| World route chart |                           | 8: special purpose charts      |                            |
| NauticalProduct   | S-100 compliant product   |                                | 6: S-100 compliant product |
|                   | 항해서지                      | List of lights and fog signals | 5: nautical publication    |
|                   |                           | Pilot guide                    | 5: nautical publication    |
|                   |                           | Tidal currents table           | 5: nautical publication    |
|                   |                           | Ocean currents chart           | 5: nautical publication    |
|                   |                           | Nautical distance table        | 5: nautical publication    |
|                   | e-Navigation Service      |                                | 9: e-Navigation service    |

«enumeration»  
productType

paper nautical chart = 1  
ENC = 2  
raster nautical chart = 3  
INT Chart = 4  
nautical publication = 5  
S-100 compliant product = 6  
electronic application for safety navigation = 7  
special purpose charts = 8  
e-Navigation service = 9  
others = 10



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# S-128 ED 1.2.0 WORK STATUS

International Hydrographic Organization

- Action Item 23 : Use case scenario of product Type
  - S-128 Internal VTC was hold on November 1<sup>st</sup> and 7<sup>th</sup>
  - Members suggested a lot of good opinions to cover many parts
  - New data model has been designed to support various of use cases

| S-128 Category            | Product                         | Product Type                          |
|---------------------------|---------------------------------|---------------------------------------|
| Paper Chart               | Paper chart                     | 1. Paper Nautical Chart               |
|                           | INT                             | 4. INT Chart                          |
|                           | Paper special purpose chart     | 8. Special purpose chart              |
| Electronic Chart          | ENC                             | 2. ENC                                |
|                           | S-101                           | 6. S-100 compliant product            |
|                           | S-102                           | 2. ENC ( / 6. S-100 compliant product |
|                           | S-10X                           | 6. S-100 compliant product            |
| Digital Chart             |                                 | 8. Special purpose chart              |
| Raster Navigational Chart |                                 | 3. Raster Nautical Chart              |
| Special Chart             | Fishery Chart                   | 8. Special purpose chart              |
| Special Chart             | Location Chart                  | 8. Special purpose chart              |
| Special Chart             | Territorial Chart               | 8. Special purpose chart              |
| Special Chart             | World Route Chart               | 8. Special purpose chart              |
| NauticalProduct           | S-100 Compliant Product         | 6. S-100 compliant product            |
|                           | e-Navigation Service            | 9. e-Navigation service               |
|                           | Paper Nautical Publication      | 5. nautical publication               |
|                           | Electronic Nautical Publication | 5. nautical publication               |

| S-128 Category        | S-128 Type            | Classification                | Purpose | Carriage requirements | Example   |
|-----------------------|-----------------------|-------------------------------|---------|-----------------------|---|
| Nautical charts       | Printed               | INT Chart                     | SOLAS   | All                   |   |
|                       |                       | Paper nautical chart          | SOLAS   | All                   |   |
|                       | Special purpose chart | Defense, Leisure, Cruise, ... |         |                       |   |
| Electronic            | ENC                   | S-101 Compliant product       | SOLAS   | All                   | S-57, S-101, S-102  |
|                       |                       | Raster nautical chart         | SOLAS   | All                   | S-104, S-111  |
|                       | Special purpose chart | Defense, Leisure, Cruise, ... |         |                       |   |
| Nautical publications | Printed               | Paper nautical publication    |         |                       | Fishery chart, location chart, ...                            |
|                       |                       |                               |         |                       | List of lights, Tidal currents table, Sailing directions, ... |
|                       | Electronic            | S-124                         | SOLAS   | All                   |   |
|                       | S-125                 |                               |         |                       |   |
|                       | S-131                 |                               |         |                       |   |



# IHO S-128 ED 1.2.0 WORK STATUS

International Hydrographic Organization

- Action Item 25 : Comments about S-128 PS Package
  - Total 104 comments were submitted on November 25<sup>th</sup>
  - Comment review paper will be submitted with new data model

| 1         | 2                | 3   | 4   | 5                            | 6   | 7   |  |
|-----------|------------------|---|---|------------------------------|---|---|--|
| Component | CO <sup>1</sup>  | Clause No./ Subclause No./ Annex (e.g. 3.1) | Paragraph/ Figure/ Table/ Note (e.g. Table 1) | Type of comment <sup>2</sup> | Comment (justification for change) by the CO <sup>3</sup>   | Proposed change by the CO   | Secretariat observations on each comment submitted |
| PS, etc.  | RMM              | PS clause 4.2, etc.                         |   | te                           | More information about S-104 (Water Level Information) data:<br>(3) The nature of the spatial coverage. Water level information is provided as: Time series at fixed stations; Stationwise time series at fixed stations, on Regular grids; on Ungeorectified grids; and on TINs. This will also be used with other data products.  | Add attribute in NauticalProduct: dataCodingFormat<br>Spatial coverage types are listed in S-100 Part 10c (including other types of coverages not used in S-104). Ref. S100 5.1.0 Part 17 Table 10c-20 (Data coding format enumeration) for attribute definition and listed values. |  |
| PS, etc.  | DK               | 4.2   | Figure 4.2                                    | ge                           | The NauticalProduct drawing doesn't match the model - ex. keywords is without 's' in the model.   | Update the drawing.   |  |
| PS, etc.  | DK               | 4.2   | Figure 4.2                                    | ge                           | In the documentation of CatalogueElements maximumDisplayScale and minimumDisplayScale is of a type of same name, but in the model both attributes is defined as integers.   | Adjust the documentation to integer types.  |  |
| PS        | NL               | Product typeTable                           | S-128 Type                                    | ge                           | The need for the differentiation between Electronic and Service is not clear. Does this mean that RENCVAR should provide S-128 type within S-128 unique per ship based on service level agreement? This might over complicate it. A product is either physical or Electronic. The method of data transfer for electronic products shouldn't make it a different type.   |   |  |
| PS        | NL               | Product typeTable                           | Prod. Spec./ Classification                   | te                           | Within S-100 products "Other product" should also be included. There is a need to be able to encode all other S-100 and future products. This will also help compatibility between versions.  | Include Other S-100 products. This can be used for all products which prod. Spec. haven't been included in the table (yet)  |  |
| PS        | IIC Technologies |   |   |                              | Can we standardise the geometry just to the GML coverage objects proposed by S100WG for Part 17. It would simplify hugely the representation of geometry in S-128. Additionally this means that section 4.1 can be reduced in size drastically. This should be added in Section 5.6   |   |  |
| PS        | IIC Technologies | Full document                               |   | ge                           | There is a lot of duplication from S_100 which is not required and could be taken out and referred to by section. In particular:<br>-Section 4.3.2 replicates what is described in S-100 and can be deleted.<br>-4.3.4 and 4.3.5 can be deleted.<br>-4.3.5 adds little and can be deleted.<br>-4.4 is not required, S-100 can be referred to<br>-5.4 is not required – there is no vertical component in the positions in S-128 |   |  |
| PS        | IIC Technologies | Full document                               |   | ge                           | Data Quality, Section 6.1. There are no specific data quality attributes in s-128. This should be stated. S-128 is unusual in this respect so this observation should be made in the PS   |   |  |
| PS        | IIC Technologies | Full document                               |   | ge                           | Section 8 should be replaced with references to S-100 as no restrictions specifically for S-128 are noted.  |   |  |
| PS        | DK               | 8.3   |   | ge                           | For how long should a cancelled dataset be in the S-128 dataset?  |   |  |
| PS        | DK               | 8.4   |   | ge                           | Currently there is a discussion in the S-100WG regarding support files and a new concept of extension files which might impact this model.  | Notice S100WG8-36   |  |

Comments regarding the S-128 Data model revision v2, provided by Canada 20231122

1. InformationType PriceInformation complexAttribute price appears to be associated with the price itself in CatalogueElement. It seems that just InformationType makes more sense so that a nation can define the price for the productType, and reuse that PriceInformation
2. PriceInformation is identified as a private attribute, but think it should be a public attribute
3. NavigationalProduct compilationScale is not a part of the S-101 FC, just minimumDisplayScale and maximumDisplayScale (and tentative optimalDisplayScale in S-101 version 1.2.0), thus NavigationalProduct compilationScale is only viable for S-57 and cannot be a mandatory attribute
4. editionDate: GI Registry defines as 'Date of publishing for example of a publication, chart, or product.', with no entry for issueDate in the GI Registry. What are we defining issueDate as for ElectronicProduct, and what is its difference from editionDate for PhysicalProduct?
5. editionDate is in FC PhysicalProduct, but not in FC ElectronicProduct. Raster would require editionDate as an ElectronicProduct. Is there the potential to have all coded as optional complex attributes to simplify editionDate, editionNumber, issueDate. If this method is used, then it would need to be recorded how to use each attribute for the various product types.
6. What are the differences between CatalogueElement producingAgency, CatalogueElement producerCode, and NavigationalProduct producerNation that is available for ElectronicProduct and PhysicalProduct, but not S100 Service?
7. typeOfTimeIntervalUnit, believe that value time = 1 should be hour = 1
8. We are curious as to the intent of the S100\_SupportFile purpose? I would assume that all files provided in an exchange set would be all inclusive of the necessary files.
9. CatalogueElement sourceIndication – is this for when the data is acquired from somewhere other than the producing nation?



# IHO S-128 ED 1.2.0 WORK STATUS

International  
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- Action Item 26 : Test and feedback about S-128
  - INTOGIS supports input catalogue.xml based on S-100 Ed 5.0
  - Users can create S-128 data by loading S-10X data's catalogue
  - INTOGIS has been tested by Canada, UK, Australia and ROK

IHO Web Manager Supported by KHOA Hello T-S128

S-128 Catalogue of Nautical Product

ExchangeSet To S-128 S-128 Share

Supporting Product S-111

CATALOG\_111\_kr.xml Convert

GML Download

100.0 %

S-128 Catalogue of Nautical Product

ExchangeSet To S-128 S-128 Share

Supporting Product Select the product

Select the product

- S-101
- S-102
- S-104
- S-111
- S-124
- S-129

Catalog File Name

Republic of Korea

Nautical Product

IHO Web Manager Supported by KHOA Hello T-S128

S-128 Catalogue of Nautical Product

ExchangeSet To S-128 S-128 Share

Supporting Product S-101

CATALOG.xml Convert

GML Download

100.0 %

Republic of Korea

Electronic Chart





# IHO S-128 ED 1.2.0 WORK STATUS

International  
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- Action Item 30 : S-128 portrayal catalogue (draft)
  - Portrayal catalogue was created based on XSLT format
  - Validated through KHOA Viewer with S-128 TDS creating by INTOGIS

LayerManager

| No. | Type  | Name      | On/Off |
|-----|-------|-----------|--------|
| 1   | S-128 | S.128_TDS | On     |

Feature Information List

|                            |   |
|----------------------------|---|
| Main Panel                 | true  |
| Chart Number               | 1001  |
| Compilation Scale          | 2000000                                     |
| Producer Code              | KR  |
| Copyright                  | Korea Hydrographic and Oceanographic Survey |
| Edition Date               | 2018-10--                                   |
| Edition Number             | 2   |
| Issue Date                 | 2018-10--                                   |
| Product Type               | 1, paper nautical chart                     |
| Print Information          |   |
| Print Nation               | KR  |
| Print Agency               | Korea Hydrographic and Oceanographic Survey |
| Print Year                 | 2018  |
| Print Size                 | Unknown                                     |
| Producer Nation            | KR  |
| Specific Usage             | Unknown                                     |
| Horizontal Datum Reference | WGS84                                       |
| Feature Name               |   |
| Display Name               | true  |
| Name                       | 대한민국  |
| Language                   | kor   |
| Information                |   |
| Language                   | kor   |
| Headline                   | 대한민국  |

Current Selection

| ID | Name        | Geometry | Lat       | Long       |
|----|-------------|----------|-----------|------------|
| 2  | Paper Chart | surface  | 27.166261 | 120.000000 |

LayerManager

| No. | Type  | Name      | On/Off |
|-----|-------|-----------|--------|
| 1   | S-128 | S.128_TDS | On     |

Feature Information List

|                            |                            |
|----------------------------|----------------------------|
| Copyright                  | KHOA                       |
| Edition Date               | 2020-11-13                 |
| Edition Number             | 1                          |
| Issue Date                 | 2020-11-13                 |
| Product Type               | 6, S-100 compliant product |
| Publication Number         | 102KR00N4F1P2000020        |
| Type Of Product Format     | 7,HDF-5                    |
| Horizontal Datum Reference | EPSG                       |
| Purpose                    | Unknown                    |
| Feature Name               |                            |
| Name                       | 102KR00N4F1P2000020        |
| Dataset Name               | 102KR00N4F1P2000020        |
| Product Specification      |                            |
| Date                       | 2020-11-13                 |
| Name                       | S-102                      |
| Version                    | 1.0                        |

Current Selection

| ID | Name             | Geometry | Lat       | Long       | Relation Crit | Type    |
|----|------------------|----------|-----------|------------|---------------|---------|
| 3  | Nautical Product | surface  | 36.500000 | 123.500000 | 0             | Feature |
| 2  | Paper Chart      | surface  | 27.166261 | 120.000000 | 0             | Feature |





# IHO S-128 ED 1.2.0 WORK STATUS

International Hydrographic Organization

- Action Item 32 : Find gaps of S-128 regarding model/registry
  - Feature catalogue has been updated to support S-100 Ed 5.0.0
    - Schema information, productID, field of application
  - Coordinate system and reference of S-128 data has been modified

```
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# **S-128 ED 1.2.0 APPROVAL PLAN**

International  
Hydrographic  
Organization

- KHOA S-128 team plans to:
  - Submit new S-128 data model with review paper (December 8<sup>th</sup>)
  - Update all parts of S-128 PS Package following the new data model
  - Submit of S-128 Ed 1.2.0 as redline version (End of January 2024)
- The NIPWG members are invited to:
  - Review the new S-128 data model
  - Create S-128 data using local S-10X data through INTOGIS