

## Impact study for S-124

For an extended period, the World-Wide Navigational Warning Service Sub-Committee (WWNWS) has been dedicated to the advancement of S-124 – Navigational Warnings. This initiative aligns with the procedural framework for developing new or revised standards as delineated in IHO resolution 2/2007, which emphasizes the necessity for the Committee to assess proposals while considering the impact on pertinent stakeholders. This evaluation process entails an analysis encompassing risk and feasibility, along with an estimation of the resources requisite for implementing a new or revised standard. Such considerations extend to the Member States Hydrographic Services.

The purpose of the product is to describe an S-100 compliant Product Specification for Navigational Warnings, which will form an overlay layer for an S-100 based marine navigation system. It specifies the content, structure, and metadata needed for creating a fully compliant S-124 version 2.0.0 product and for its portrayal within an S-100 system. This Product Specification includes a content model, encoding, Feature Catalogue, Portrayal Catalogue, and metadata.

The primary objective of the current impact study lies in the identification of stakeholders and the awareness of their readiness for the formal recognition of the S-124 product specification. It is noteworthy, however, that given the study pertains to edition 2.0.0, the intent and scope of the investigation are relatively moderate.

### Stakeholders

S-124 is fundamentally constrained to the creation of navigational warnings and, thus, the spectrum of stakeholders is relatively small. This list reflects the somewhat diverse array of contributors and participants involved in the production, dissemination, and utilization of navigational warnings. The impact study aims to assess, engage where possible, and prepare each stakeholder group, recognizing their unique perspectives and contributions within the broader context of the navigational warning landscape.

- Data producers
- Service provider
- Equipment manufacturers
- End-users

## Questions

1. What is your stakeholder group?
  - a. Data producer
  - b. Service provider
  - c. Equipment manufacturer
  - d. End user
2. Which is your role in the stakeholder group?
  - a. HO (hydrographic product/service delivery)
  - b. Other government agency
  - c. Navigation System Manufacturer (ECDIS)
  - d. Navigation System Manufacturer (ECS)
  - e. Navigation System Manufacturer (PPU)
  - f. Production Tool Developer
  - g. Recognized Mobile Satellite Service provider
  - h. Developer (SDK)
  - i. Developer (Kernel)
  - j. Navigator
  - k. GIS user
  - l. Coast Guard
  - m. Other (in your own words)
3. Do you plan to produce or use S-124 datasets?
  - a. Yes
  - b. Yes, under conditions
  - c. If yes under conditions, please describe.
  - d. No
4. If Yes, what benefit do you expect from S-124 compared with existing mechanisms?
  - a. Ease of access to data/information
  - b. Interoperability with other data/information
  - c. More frequent/up to date information
  - d. Answered "no" to question 3
  - e. Other (in your own words)
5. If Yes, how confident are you that you understand how to implement S-124?
  - a. We have fully read and understand the details of the product specification
  - b. We have a reasonable understanding, and are confident we can implement, but have not yet studied the product specification in detail
  - c. We understand the concept, but lack confidence in full understanding
  - d. We haven't yet studied the product specification
  - e. Answered "no" to question 3
  - f. Other (in your own words)
6. If Yes, what is the main driver for implementation?
  - a. Internal data management
  - b. Standardized data transfer between organizations
  - c. Delivery of data/services to end users
  - d. Answered "no" to question 3
7. If Yes, do you expect implementation issues?
  - a. Inconsistencies with ENC content
  - b. Insufficient access to information needed
  - c. Insufficient availability of information needed

- d. Lack of understanding of how to implement
  - e. Lack of production capability (e.g. application software)
  - f. Answered “no” to question 3
  - g. Other (in your own words)
8. If Yes, when do you plan to start the implementation?
    - a. Within a 2-year or less timeframe
    - b. Within a 3-year time frame
    - c. Within a 5-year time frame
    - d. Not specified yet
    - e. Answered “no” to question 3
    - f. Other (in your own words)
  9. If No, what are the issues preventing you from implementation?
    - a. No customer request to provide this information
    - b. Lack of available data
    - c. Not responsible for handling this type of information
    - d. Lack of maturity of S-100 environment
    - e. Answered “yes” to question 3
    - f. Other (in your own words)
  10. Do you foresee any disadvantages, risks and issues for your organization?
    - a. From a technical perspective (in your own words)
    - b. From a commercial or resources perspective (in your own words)
    - c. No

## Replies

In the following the WWNWS tried to answer the questions on behalf of the stakeholder as the WWNWS sees the current awareness.

### Data producer

Questions:

1. What is your stakeholder group?
  - a. Data Producer
2. Which is your role in the stakeholder group?
  - a. (l) Coast Guard. Produce coastal navigational warnings to support the GMDSS
3. Do you plan to produce or use S-124 datasets?
  - a. (a)Yes, we plan to produce S-124. However, we do not expect to meet the IHO’s 2026 deadline. We expect to have navigational warnings in the S-124 format by 2030.
4. If Yes, what benefit do you expect from S-124 compared with existing mechanisms?
  - a. (a) Ease of access to data/information.  
For the first time, the end user will be able to visualize navigational warnings.
5. If Yes, how confident are you that you understand how to implement S-124?
  - a. (b) We have a reasonable understanding, and are confident we can implement, but have not yet studied the product specification in detail.
6. If Yes, what is the main driver for implementation?

- d. (c) Delivery of data/services to end users
- 7. If Yes, do you expect implementation issues?
  - a. (e) Lack of production capability (e.g. application software)
- 8. If Yes, when do you plan to start the implementation?
  - e. (b) Within a 3-year time frame
- 9. If No, what are the issues preventing you from implementation?
  - f. (e) Answered "yes" to question 3.
- 10. Do you foresee any disadvantages, risks and issues for your organization?
  - a. (b) From a resources perspective, it may be challenging to progress and continue S-124 development without the IMO making S-124 a formal part of the GMDSS.

### Service provider

#### Questions:

1. What is your stakeholder group?
  - a. (b) Service Provider
2. Which is your role in the stakeholder group?
  - a. (m) Other. Satellite internet service provider
3. Do you plan to produce or use S-124 datasets?
  - a. (c) Yes, plan to use under conditions. The condition is whether the business case makes sense with respect to any additional constraints imposed or required to support the GMDSS.
4. If Yes, what benefit do you expect from S-124 compared with existing mechanisms?
  - a. (e) Other. It is a new market for us to enter into.
5. If Yes, how confident are you that you understand how to implement S-124?
  - g. (d) We haven't yet studied the product specification
6. If Yes, what is the main driver for implementation?
  - a. (b) Standardized data transfer between organizations
7. If Yes, do you expect implementation issues?
  - a. (c) Insufficient availability of information needed
8. If Yes, when do you plan to start the implementation?
  - a. (a) Within a 2-year or less timeframe
9. If No, what are the issues preventing you from implementation?
  - h. (e) Answered "yes" to question 3
10. Do you foresee any disadvantages, risks and issues for your organization?
  - a. Not many. Implementation involves little to no risk or new development.

## Equipment Manufactures

### Questions:

1. What is your stakeholder group?
  - a. (c) Equipment manufacturer
2. Which is your role in the stakeholder group?
  - a. (c) Navigation System Manufacturer (ECDIS)
3. Do you plan to produce or use S-124 datasets?
  - a. (a) Yes
4. If Yes, what benefit do you expect from S-124 compared with existing mechanisms?
  - a. (b) Interoperability with other data/information
5. If Yes, how confident are you that you understand how to implement S-124?
  - a. (a) We have fully read and understand the details of the product specification
6. If Yes, what is the main driver for implementation?
  - a. (a) Internal data management
7. If Yes, do you expect implementation issues?
  - a. (c) Insufficient availability of information needed
8. If Yes, when do you plan to start the implementation?
  - a. (c) Within a 5-year time frame
9. If No, what are the issues preventing you from implementation?
  - a. (e) Answered "yes" to question 3
10. Do you foresee any disadvantages, risks and issues for your organization?
  - a. (c) No

## End-users

### Questions:

1. What is your stakeholder group?
  - a. (d) End-user
2. Which is your role in the stakeholder group?
  - a. (j) Navigator
3. Do you plan to produce or use S-124 datasets?
  - a. (a) Yes
4. If Yes, what benefit do you expect from S-124 compared with existing mechanisms?
  - a. (b) Interoperability with other data/information
5. If Yes, how confident are you that you understand how to implement S-124?
  - a. (d) We haven't yet studied the product specification
6. If Yes, what is the main driver for implementation?
  - a. (c) Delivery of data/services to end users

7. If Yes, do you expect implementation issues?
  - a. (g) Other. As the end user, I have no control over implementation
  
8. If Yes, when do you plan to start the implementation?
  - a. (d) Not specified yet. It is dependent on when my ship chooses to install a S-100 compatible ECDIS.
  
9. If No, what are the issues preventing you from implementation?
  - a. (e) Answered "yes" to question 3
  
10. Do you foresee any disadvantages, risks and issues for your organization?
  - a. (a) No. There are advantages. From a technical perspective, S-124 will provide an unprecedented way to visualize navigational warnings, understand the nature of the hazard within a fraction of the time compared to the current method, and understand how that data relates and interacts with other hydrographic information.