

Paper for consideration by NIPWG7

Creation of S-123 for German waters

Submitted by:	BSH
Executive Summary:	Description of creation process of S-123
Related Documents:	S-123 Product Specification,
Related Projects:	S-100, S-123

Introduction / Background

The first version of the product specification passed the Member State approval process in 2018 and was officially released in 2019. At NIPWG 6 several NIPWG Member States including Germany indicated developing the first data sets.

Germany is working on completion the data set.

Analysis/Discussion

BSH' List of Radio Services (GLRS) provides information for Germany and neighbouring countries on the following services:

- Weather and Warning,
- Search- and Rescue,
- Ice,
- Telecommunication,
- Tele-Medical communication (MEDICO),
- MARPOL Report,
- GNSS, and
- Supplementary.

Initial mapping of the different GLRS services was done using an MS Excel Spreadsheet which has been developed by the company Portolan Sciences for other data modelling work in the past (see Annex A).

The most significant advantage is that this work is reusable and that information associations, inverted information associations and as well as feature associations could be provided.

Considering the fact that the currently used production software version (HPD Version 3.1) does not support the implementation of S-100 based product specifications and consequently no production of S-100 compliant products, BSH decided to build up an own software environment. The following configuration has been set up and is ready for later use:

- SQLite
- QGIS
- Python
- XMLSpy (to check the GML against the schema).

The following issues have been noted during the mapping / encoding process:

Data designators for information (facsimile transmissions and NAVTEX messages)

This is reference material and it is believed that this is internationally identical. The information will be encoded as information association **nauticalInformation**.

The question is if this is really necessary or if it can be assumed that this is book knowledge and therefore it is not necessary to be provided.

Weather forecast warning areas

Radio stations provide weather information for areas which exceed the relevant national boundaries. This fact applies worldwide. These areas are being encoded as a feature association between **RadioStation** and **RadioStationArea**. The spatial of the latter could be identical with the **WeatherForecastWarningArea**.

Following the WEND principles, Coastal States are not allowed to provide information for areas which go beyond the EEZ. The fact that in theory two data sets cover the same area might (overlapping of content) result unpredictable behaviour of the displaying machine. However, this could be resolved by applying S-52 approach:

10.1.3 Data Overlaps

The S-57 Product specification for ENC prohibits data overlaps in ENC cells of the same usage band.

“Cells with the same navigational purpose may overlap. However, data within the cells must not overlap. Therefore, in the area of overlap only one cell may contain data, all other cells must have a meta object M_COVR with CATCOV = 2 covering the overlap area. This rule applies even if several producers are involved”.

Despite the best efforts of the IHO, there are still some areas of the world where ENC overlaps exist.

Where an overlap of two or more cells exists the ECDIS must only display one cell for the overlap area and provide a permanent and persisting indication “overlap”.

Navigational Meteorological Area, GMDSS Area, Inmarsat Ocean Region Area

These areas exceed the EEZ in some parts. The limits of the areas are internationally agreed and defined. The question is, could this be encoded in a separate S-123? The challenge would be to enable interaction of two product contents. Alternatively, the S-52 approach as mentioned above can also be employed.

Radio Service Areas

Some services will be offered only by phone or via the internet. Although this could be theoretically obtained worldwide, it was decided to limit the spatial to the German EEZ.

Frequency tables and ice information

In the first attempt this has been considered as reference material. Having discussed that with the German ice service, this information should not be provided in an S-123 product. It is assumed that vessels intending to navigate in icy conditions are aware of this information. A reference to the relevant International Telecommunication Union (ITU) and World Meteorological Organization (WMO) websites which provide this information seems to be sufficient.

The test data set will contain entries in both German and English language. This is based on the fact that official translations of certain texts are not available. BSH provided translations where possible and appropriate.

Justification and Impacts

The data set for the services offered by German radio services will be ready for use very soon. It has no impact on other countries' development of data provision.

Action required of NIPWG7

The NIPWG7 is invited to:

- a. note this paper,
- b. provide input if appropriate.

Annex A:

Excerpt of the mapping of Radio Service information using sophisticated Excel spreadsheet provided by Portolan Sciences.

Location in original, e.g., line number, For reference and review	ID (auto)	associations (use = cell formula)	acronym or Camelcase Name if no acronym)	Attributes (type acronym or camelCaseName)	sub-attributes (for complex attributes) - Type acronym or camelCaseName	complex attributes) - Type acronym or camelCaseName	Content or Value (type value)	allowed value label (optional)
German Radio Services								
Sender Pinneberg	RadioStation1		RadioStation	featureName	name language		Pinneberg DE	
				radioCommunication	categoryOfMaritimeBroadcast		1 2 3 5 11 12 14 15	navigationl warning meteorological warning ice report meteorological forecast gale warning storm warning NAVAREA warning coastal warning permanent
				status			1	permanent
		RadioServiceArea1		featureAssociation				
		RadioServiceArea2		featureAssociation				
		NavtexStationArea1		featureAssociation				
		NavtexStationArea2		featureAssociation				
		WeatherForecastWarningArea1		featureAssociation				
		WeatherForecastWarningArea2		featureAssociation				
		NauticalInformation2		informationAssociation				
		NauticalInformation2		informationAssociation				
	RadioServiceArea1		RadioServiceArea	categoryOfBroadcastCommunication			3	public
				languageInformation			in englischer und deutscher Sprache	
				status			1	permanent
				radiocommunications (URTY 1. Programm in engl. Sprache))	categoryOfMaritimeBroadcast		2 11 12	meteorological warning gale warning storm warning
					categoryOfRadioMethods		13	High Frequency digital traffic

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