

IHO MASS PT S100 Gap Analysis

Member

State/Organization USA (NGA)

S100 Standard Reviewed S124

Maturity of Standard Reasonably mature V2.0 issued 2019

S100 Standard Chair Mr Eivind Mong (Canada) - S-124 Project Team (S-124PT)

Issue/Requirement (take from Spreadsheet)	Issue addressed?	More content?	Gap in standard?	Potential Solution/s	Ease to implement?
MASS will require fairways to be captured as polygons and features in their own right.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	More applicable to S101	Easy
Mass will require canal locks to be captured with relevant attribution, such as width of lock.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	More applicable to S101	Easy
MASS will require port areas/limits to be captured as polygons with relevant attribution.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	More applicable to S101	Easy
MASS will require VTS areas to be captured as polygons with relevant attribution.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	More applicable to S101	Easy

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<p>MASS will require the natural language data in publications, charts (pick reports) and MSI to be made machine readable and interpretable. Natural language is difficult for machines to read and interpret, we need to move to a feature and attribute model for all aspects of data for MASS. This will also need to cover meta data for the actual data.</p>	<input type="checkbox"/>	X	<input type="checkbox"/>	<p>S124 is designed to create vector features with attributes read/displayed on ECDIS. This is readily transferable to MASS.</p> <p>However, some data in S124 will go out as natural language. The question is, how applicable will this be to MASS. Because the natural language is often describing something for which to keep a look out, an autonomous ship without a traditional lookout would not have a way to even use the information.</p>	Moderately
<p>MASS will need to know when restricted water space is active or inactive for example military exercise areas or firing ranges. When inactive it is perfectly safe to traverse these but not when active. Another example could be Fish farms and understanding when they need to be given a wider berth if it is breeding season etc.</p>	X	<input type="checkbox"/>	<input type="checkbox"/>	<p>S124 is designed to create vector features with attributes read/displayed on ECDIS. This is readily transferable to MASS.</p>	Easy
<p>MASS will require more geographical polygons to describe areas (such as speed restriction and constraints), with suitable attribution for MASS to interrogate and act appropriately. This information is often captured in text boxes, Sailing Directions or Pick Reports in natural language with very little geographic descriptors, making it impossible for MASS to interrogate,</p>	X	<input type="checkbox"/>	<input type="checkbox"/>	<p>S124 is designed to create vector features with attributes read/displayed on ECDIS. This is readily transferable to MASS.</p>	Easy

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read and act upon. These could be created as instructional layers which are geographically location based containing attribution such as name of feature, type of feature, unique number, reason for speed restriction or constraint etc in a machine readable format.					
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		Choose an item.
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		Choose an item.

Description (high level):

S-124 is a vector product specification designed to encode the nature and extent of Navigational warnings for navigational purposes.

Questions: None

Comments:

S-124 is specifically designed to move from a text based message system to creating overlays for use in an ECDIS. The specification under development and currently in its second draft does not contain large gaps applicable to autonomous shipping. As autonomous shipping systems are developed, they should have little issue programming the navigation systems to use the vector data for autonomous navigation decisions. The additional text information will likely not be applicable to autonomous ships (i.e. ships without a look out).