IHO MASS PT S100 Gap Analysis

Member State/Organization	Japan - JHOD
S100 Standard Reviewed	Security Protection Scheme
Maturity of Standard	Edition 5.0.0
S100 Standard Chair	-

Issue/Requirement (take from Spreadsheet)	**Issue addressed?**	**More cnontent?**	**Gap in standard?**	**Potential Solution/s**	**Ease to implement?**
MASS will require 3D applications or Digital Twins. 3D models or Digital Twin for rehearsal of Port entry both above and sub surface will be increasingly important for situation awareness in Degree 3 and 4. Digital Twins could be a useful 3D chart in the future that a MASS can use with computer vision sensors to compare the real world with the Digital Twin and triangulate its position.	☐	☐	✓	Data protection scheme itself does not have a gap. However, in addition to processing of data protection scheme, processing of real time data (acquired by sensors on a vessel and/or received from a navigation support center on land) may place a heavy load to the on board system and reduce processing capability of the system for judging the safety navigation. As solutions; ・ Separate or prioritize safety determining system over data processing system ・ Small data size, low frequency of data updating ・ Partial application of data protection scheme	Choose an item.
MASS will require more frequent or real-time updates of the data contained in the S100 products, which should be pushed	☐	☐	✓	See above	Choose an item.

from official sources that the vessels can 'listen' out for and update their navigational database and products automatically irrespective of where they are in the world. Event driven data updates and near real time updates will be required for MASS as MASS will always need to be up to date.					
The communication infrastructure necessary to sustain data exchange is not reliable and affordable today. Thought needs to be given to data packets sizes for data and updates for MASS.	☐	☐	✓	See above	Choose an item.
MASS will require certainty of seabed and associated features. High resolution data is great, but if it changes regularly, then that needs to be made clear and articulated in some way (example Humber estuary). Understanding when highly mobile seabed was last surveyed will also be important.	☐	☐	✓	See above	Choose an item.
MASS will require more use of photographic imagery, specifically panoramic photographic imagery.	☐	☐	✓	See above	Choose an item.
	☐	☐	☐		Choose an item.

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