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| From: DTEC committee | ARM19-8.4.5  (DTEC3-11.2.1.3) |
| To: ARM committee and PAP |  |

LIAISON NOTE

Product specifications for S-200 based ASM

# INTRODUCTION

At DTEC2 and DTEC3 the committee discussed necessary S-200 work to handle Application Specific Messages as used in AIS/VDES and its relationship to Product Specification S-230 Applications Specific Messages. DTEC received various input papers with use cases as for disaster management. DTEC3 also received a liaison note from ARM on developing a S-200 product specification providing a data model for area information used e. g. for virtual AtoN. This liaison note covers the outcome and findings of the discussion and proposes a roadmap for dealing with ASM and related S-200 Product specifications.

# Discussion

With its origin in geospatial data modelling (e. g. for nautical charts) the S-100 concept provides concepts for data modelling and encoding (IHO S-100 part 10) as well for portrayal used in various application specific Product Specifications. Each Product Specification is covering a dedicated field of application. The first applications for providing nautical charts assumed that these encodings[[1]](#footnote-1) are used to exchange of data modelled by using S-XXX product specification as files. Developing S-210 as a replacement for the Inter-VTS Exchange Format at VTS committee showed that file exchange is not a suitable approach for connecting VTS e. g. for online data exchange of track information. Therefore, ENAV committee developed a new IHO S-100 part 14 on online data exchange to exchange smaller amounts of data online e.g. by using IP-based web services which is a generally established method for machine to machine communication. One example use case is to update the before mentioned track data between VTS using the available encodings preferably GML.

ENAV committee identified early that the encodings in IHO S-100 part 10 (as there are ISO/IEC 8211, GML and HDF5) are not suitable for lower bandwidth communication as with VDES. DTEC committee made this a task for work group on digital communication systems.

At DTEC2 and DTEC3 there were discussions about the development of the S-230 Product Specification on Application Specific Messages (for example as used in AIS). DTEC3 analysed various use cases and identified that most of the information are already addressed by other Product Specifications like S-124 on Navigational Warnings.

Developing a Product Specification for ASM covering existing ASM in an S-230 Product Specification will have the drawback that it will cover various applications which are already addressed in other Product Specifications that exist already or are under development. Furthermore, the practical usage is unclear. A technical connection between a VDES receiver to ECDIS will preferably use other standards like IEC 61162.

Additionally, defining ASM in a S-xxx Product Specification would not solve the issue of space efficient encoding as it could only use the existing encoding in IHO S-100 as referenced above.

Therefore, the DTEC committee identified the following tasks for itself:

1. Development of an IALA Guideline for a suitable space efficient encoding of data structured and addressed by the S-xxx Product Specifications and describe how this data is exchanged by low bandwidth communication channels like VDES.
2. Propose the content of this Guideline as a new chapter of IHO S-100 part 10 to IHO.
3. Identify the relevant Product Specifications suitable to cover data exchanged by ASM. Define which data and how the data will be transferred (wide or narrow bandwidth) e. g. as Application Specific Messages (describe this in appropriate IALA Guidelines).
4. Identify necessary new Product Specifications of uses cases of existing ASM which are not currently covered.
5. Propose to IHO that Product Specifications shall be amended with a chapter describing which data can be exchanged as ASM.
6. And IALA shall remove S-230 from the list of Product Specifications.

# ACTION REQUESTED

The ARM committee is requested to note this proposal reflecting their request and support DTEC if necessary.

PAP is requested to note this proposal for addressing the existing and future concepts for handling Applications Specific Messages within S-200 domain and remove S-230 from the list of Product Specifications.

1. Encoding: describes the way data is stored into a specific format [↑](#footnote-ref-1)