



# 14<sup>th</sup> Meeting of the Hydrographic Services and Standards Committee

## Report of IEC activities affecting HSSC

### Agenda Item 7.4

HSSC-14, Denpasar-Bali, Indonesia + VTC (Hybrid Meeting), 16 - 19 May 2021



1. **S-421: Route Plan** based on S-100 (**IEC 63173-1**)
2. Secure exchange and communication of S-100 based products (**SECOM**) (**IEC 63173-2**)
3. Introduction of S-100 into **IEC 61174 ECDIS** standard



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# S-421: ROUTE PLAN BASED ON S-100 (IEC 63173-1)

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1. IEC TC80 has established WG17 to address CMD5 (Common Maritime Data Structure)
  - The workgroup was created in October 2015. Convenor is Dr. Kwangil Lee (KMOU, Korea). Within IEC TC80 all CMD5 works related with shipborne system will be handled in this workgroup. IEC TC80 applied and was granted S-100 domain ownership in December 2016.
  - WG17 participates IHO review process for items to be included into IHO GI Registry
2. The **base of S-421** is already published Route Exchange format called **RTZ** (IEC 61174 Ed4/year 2015 ECDIS, Annex S) extended by ideas from Testbeds, especially “STM validation” and “SMART navigation”. **IEC 63173-1** was published June 2021
3. The object model of the S-421 Route Plan Exchange reflects the needs of the user
  - **11 use cases described in details**, see the report of IEC for details



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# SECURE EXCHANGE AND COMMUNICATION OF S-100 BASED PRODUCTS (SECOM) (IEC 63173-2)

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1. The background of the SECOM is the e-Navigation testbed “STM validation project” which tested e-Navigation related file transfers using SOA (Service Oriented Architecture) principles with about 400 real ships and multiple VTS/Ports.
2. The IEC 63173-2 standard is intended to be a **gap-filler to provide standardized communication infrastructure between shore and ships for bi-directional transfer of files related to the e-Navigation**. It is assumed that majority of such files may be based on IHO S-100 although the SECOM infrastructure is in principle capable to transfer any anonymous file. Excluded from SECOM is services which need data streaming and which cannot be converted as a series of separate data files.
3. The Final Draft for International Standard (FDIS) passed voting on 29<sup>th</sup> Apr 2022. The final publication is expected within a few weeks (May-June 2022).



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# **IMO PROCESS AROUND S-421 ROUTE PLAN AND SECOM**

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1. IEC has noted that Austria, Belgium, Bulgaria, Croatia, Cyprus, Czechia, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden and EC have submitted an **INF paper (MSC 103/INF.12)** to **IMO MSC 103, May 2021** and a **new work proposal paper (MSC 104/15/7)** to **IMO MSC 104, Oct 2021**
2. The proposal is to **amend the IMO ECDIS Performance Standard MSC.232(82) to include implementation of the IEC 63173-1** as a standardized format to exchange route plans and to **include implementation of the IEC 63173-2 SECOM** as a standardized digital exchange method between shore and ship
3. COVID-19 pandemic has delayed things. IMO MSC 104 had no time to discuss about new work proposals. **IMO MSC 105**, May 2022 approved the new work proposal as a separate item from the already going on work item to include S-101 into ECDIS Performance Standard MSC.232(82)
4. The IHO et. al. submission (NCSR 9/16/1) to **IMO NCSR-9**, June 2022 includes standardized format of Route plan (S-421) and digital exchange method (SECOM)



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# INTRODUCTION OF S-100 INTO IEC 61174 ECDIS STANDARD – (1)

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1. Role of the IEC TC80 in the IMO rule ecosystem is to provide technical testing standard for compliance with IMO Performance Standards related to navigation and radio communication
  - **IMO** sets rules based on functionality available to operator
  - The related **IEC** standard describes the minimum technical facilities to implement the specified functionality
  - For same parts, IEC describes the technical solution
    - For example, IMO required that the backup arrangement automatically continue route monitoring in case that primary ECDIS is no more available. IEC specified format of the Route Plan and technical method to transfer it between ECDIS and its backup arrangement
  - For some other parts, IEC just references to rules set by intergovernmental organizations
    - For example, testing of IHO S-57 ENC charts relies 100% on the content of the IHO S-64 Test data sets and instructions for ECDIS
    - **Critical path:** S-100 related IHO standards including both product specifications (S-100, S-101, etc.) and especially the testing specifications (S-164) should be published as final versions before the assumed completion of the Committee Draft for Vote (CDV)



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# INTRODUCTION OF S-100 INTO IEC 61174 ECDIS STANDARD – (2)

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## 2. Drafting of submission to IMO NCSR 9 to revise IMO MSC.232(82)

- Input paper is NCSR 9/16/1
- IEC attended the IHO coordinated drafting group

## 3. IEC plan for drafting of the **next edition of IEC 61174 ECDIS**

- Group for this work is **IEC TC80/MT7**, Convenor is Hannu Peiponen (Finland)
- Start drafting based on IMO NCSR 9 decisions on the proposal paper NCSR 9/16/1
- First draft by convenor of MT7 as input paper for the first meeting of the MT7
- Target date for CDV (= end of drafting by the MT7) and target date for publishing (about one year after CDV) depends on IMO decisions
  - Is the revised IMO MSC.232(82) completed by NCSR 9 or is also NCSR 10 (year 2023) needed?
  - What will happen with proposed Route Exchange?
    - IMO MSC 105, May 2022, had a very lively exchange of opinions on Route Exchange. Do the NCSR 9 as web-meeting have enough time to complete this kind of details?



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# **ACTION REQUESTED OF HSSC**

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The HSSC is invited to:

- Note the information provided