



# ENCWG - Sub WG Reports

Virtual meeting 2

Feb 19<sup>th</sup> 2021



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## S-63 CYBER SECURITY

International  
Hydrographic  
Organization

### Background

S-63 Sub group tasked with developing potential solution to close cyber security vulnerability. Group proposed the digital signing of all exchange set files and creation of a new SIGNATURES.XML file located in the INFO folder. Solution would have no impact on existing ECDIS as they would not read the new file.

### Test Data and Questionnaire

To quantify the impact on Data Servers and ECDIS OEMs test data based on the proposed solution was developed. The test data was sent 29<sup>th</sup> Nov 2020 along with a questionnaire to capture respondents views. Responses to be received at the IHO by 29<sup>th</sup> Jan 2021



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# S-63 QUESTIONNAIRE RESULTS

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## Responses

-16 OEMs

-10 Data Servers

369 registered IHO security scheme participants, many emails failed to deliver, contacts held at IHO incorrect or out of date. IHO are attempting to establish contacts with companies where emails failed to deliver.

## Preliminary Results, Observations

Mixed responses, my initial observation is there seems to be an underlying reluctance to invest in S-63 fix when S-100 transition is so close. Given the time required to develop and approve IHO standards, data servers build signing services and OEMs modify software and rollout ECDIS upgrades. Pressure on resources required for development of DF ECDIS. The nature of IHO standards development and maintenance and the closed architecture of ECDIS make it difficult to respond to the rapidly evolving and continued threat of cyber attack which require repeated software upgrades.



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## S-63 QUESTIONNAIRE RESULTS

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- *To apply this revision to ECDIS in the past costs a lot of money with time, so I think it's unrealistic. A shipowner will pay an expense finally, but it's difficult to get understanding. It's because a shipowner doesn't think there is a big merit in this revision.*
- *We believe that CATALOG.031 and SERIAL.ENC should not have to be signed. This in order to retain our ability to generate exchange sets on board vessels.*
- *We think it's good because it inherits the existing mechanism and file format. Since all files are digitally signed, we believe that it can be satisfied with cyber security issues. It is considered that an additional definition is required for the new edition for what to do if authentication fails in any of the files. For minimizing the impact on ECDIS users, it is not mandatory to respond to existing ships.*



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## **S-63 NEXT STEPS**

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### **Sub Group Meeting**

S-63 group will meet in March to review responses and attempt to formulate a common position. CIRM ECDIS work group met 18<sup>th</sup> Feb 2021 to discuss issue and to establish their common position. They will feed this back to IHO with proposed recommendations.

### **Recommendation to HSSC**

Sub Group will discuss if there is enough support for the proposal to seek additional external IHO stakeholder engagement to progress risk assessment