



WHAT TO LEARN FROM SUPPORT FUNCTIONS TO IMPROVE MARITIME SAFETY?

Introduction

Digitalisation has transformed the shipping industry making the operation and management of the fleets safer and more efficient. This development has in many ways contributed to a better work environment and the end users and operators seem to in general agree, that these technical developments has been for the good. But this development has its challenges e.g. immature versions of technology causing unexpected errors due to bugs, complex interfaces and too much information to mention a few.

The dependability of and easy access to a reliable and skilled support is ranked as highly important by the operators onboard and also by the shore side. This has proved to be partly challenging as the shipping industry is a 24/7 operation and support is not always accessible; each equipment onboard has its support which quickly adds up the number of contacts to make.

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About

This project was funded by The Swedish Transport Administration (Trafikverket), led by Swedish Shipowners' Association (Svensk Sjöfart) in cooperation with Chalmers University of Technology. The project continues the work performed in "The impact of digitalization on maritime safety and the work environment of the crew" (Trafikverket TRV 2021/100835) and builds on its results which stakeholders in the shipping industry found most interesting to explore further.

The project was executed in close cooperation with industry representatives and stakeholders through the collection of data, discussions surrounding the findings and its relevance and the dissemination of results. The project management would like to express their sincere gratitude for all the valuable input we have received from the participants. The project was completed in December 2024.

PURPOSE

The purpose of this project has thus been to increase operational reliability and efficiency by investigating what measures can be taken to reduce dependence on support and how a future need for support can be organised.

Quotes from the interviews

As the digitalisation onboard increases the situation become more complex. One consequence of this is that the number of different stand-alone systems increases and thus the number of different support functions to contact which further complicates the situation.

“It means you don’t have one support to turn to, you might have 10 different supports to contact.”

The result also pointed out that it is common onboard that the different systems are connected into complex systems designs which not always are easy and transparent to understand.

**“And then to the question what support to call because everyone says “nothing wrong with our system.”
And, in reality, the fault can be somewhere else.”**

Bridging Onboard Operations and Support

Onboard operation and support functions are complicated and require a deep specialist knowledge and competence. However, the results show that the two worlds can be brought closer together. To facilitate the knowledge exchange and reduce the need for support the following remedies could be made;

- Common language to facilitate communication
- User Center Design to adapt to the operators’ requirements
- Partial standardisation of certain operational critical technology
- Develop routines for procurement processes to include expectations and demands of support
- Data mining of automated logged faults and incident reporting
- Share information related to fault finding and incidents

Future-Onboard Operations

As the complexity increases with higher levels of automation the crews must be supported from the shore side. Future research needs to;

- Quantify the magnitude of these problems to understand to be able to prioritise actions
- Understand Management of Change, in particular what demands on support that need to be present during procurement processes
- Discuss how the operators onboard can be unburdened from the shore side and the role and organisation of future support services

Want to know more?

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