Cybersecurity as a leverage of digital transformation in maritime industry

Summary

Digital revolution is changing all aspect of society and maritime industry is going through a deep transformation. This is a difficult process that needs to overcome resistances. Cybersecurity appears as a strong leverage to drive the digital change. The aim of this thesis is to study the cyber-strategy of maritime industries actors.

Research field:	Mechanical engineering
Supervisor:	Prof. Dr. Mohammad Reza Kave Salamatian
Availability:	This position is available.
Offered by:	Estonian Maritime Academy
Application deadline:	Applications are accepted between November 15, 2021 00:00 and December 15, 2021 23:59 (Europe/Zurich)

Description

Digital revolution is deeply changing all aspect of society. Maritime sector is also undergoing major changes, some not particular to this industry. However, maritime domain has also specific issues that have to be overcome, e.g., the introduction of autonomous ship, the intrinsic international nature of maritime transport, specific regulatory environment, etc. While digital transformation is complex for any industry, specificity of maritime industry makes it more challenging.

Nonetheless, while maritime sector is a strategic area for government, and global economics, relatively little has been done on understanding the digital transformation in this sector and to develop strategic guidelines for stakeholders. The aim of this Phd is to investigate strategic decision process for maritime industry digitalization. It will leverage the cyber-strategic approach that looks at “directing, positioning and governing cyber-forces in cyber-space in order to achieve cyber-objectives”. The approach is inspired by the observation that cyber-security appears as one of areas where obligation of compliance, generate enough thrust to drive companies and major economics actors to undergo the mandatory changes that they should pursue to adapt to the new digital economy. The thesis will first understand the context of digital transformation of maritime industries, look at the regulatory framework pertinent to cybersecurity in general and in maritime sector, and use this knowledge to develop academic research around cyber-strategy applied to maritime sector. The research will be multidisciplinary and will be pursued in ERA chair of maritime cybersecurity, funded by the European union that fosters the development of maritime cybersecurity in all areas.

The expected duration of doctoral studies is 4 years, but a contract is first made for 4 months, and the extension is subject to the advance of studies and research.

Applicants should fulfil the following requirements:

The applicant for the position must have a Master’s degree in maritime, economics, engineering, computer science or another closely-related discipline. He/she must fulfil the requirements for doctoral students at the Tallinn University of Technology. He/she should have a background in maritime industry, on ships, harbours or maritime companies. He/she should have good knowledge of computer tools or at least should have a strong motivation to learn them. English knowledge and willingness to work in a highly international environment is mandatory.

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