BACHELOR- / MASTER THESIS – DEVELOPMENT OF A CLASSIFICATION SCHEME FOR AUTOMATED TWISTLOCK HANDLING TECHNOLOGIES IN CONTAINER HANDLING

About us

Fraunhofer Center for Maritime Logistics and Services CML is one among the 80 research institutes of the Fraunhofer-Gesellschaft. The Fraunhofer CML develops and optimizes processes and systems associated with maritime supply chain. It deals with research issues relating to automation and digitalization in the port environment. The aim here is on the safe, economical and low-emission design of processes and structures about the handling of goods in port terminals.

Background of thesis study

The focus of the thesis aligns with the identification and classification of automated twist lock handling systems. Twist locks are mechanical fixatures used on board vessels to interlock two containers loaded on top of each other. The process of removing and fixing these twistlocks from containers is referred to twist-lock handling operations. The process is complicated and requires special attention by port employees to maintain the terminal productivity along with high safety standards. Therefore, the thesis is of great importance.

What you should deliver

- To conduct scientific research on the identification of available automated twist lock handling (ATH) solutions present in the market
- Based on self-understanding, identify and suggest classification criterions for ATH solutions
- Analyse industry reports and case studies to identify the port of applications for identified ATH solutions
- Evaluate the impact of automated twist lock handling operations on terminal process

What you should bring

- Ongoing Bachelor-/ Master studies in Maritime Operations, Port logistics, Mechanical Engineering, Industrial Engineering and related subjects
- Good academic performance
- Basic understanding of technical process associated with ports is desirable
- Basic knowledge of scientific report writings
- Independent, results-oriented and systematic working style
- Commitment, strong communication skills, ability to work in a team and reliability

What you can expect

- Innovative topics in a motivated team
- Opportunity to gain knowledge about new technologies and automation applications on container terminals
- Insights on port operations from industry experts

In case of questions, please contact:

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