Master assignment at RH Marine Group:

“Validation of the condition monitoring models with available (big) data of the RH Marine Group”

*-A maintenance improvement project in the Maritime sector-*

# RH Marine Group

# RH Marine Group is a leading company in the global maritime market. A full-service provider and system integrator, providing tailor-made, innovative, sustainable technology solutions covering the whole ship as well as global services during its full life-time. It is built on the strong roots of the founding companies Radio Holland and van Rietschoten & Houwens.

# Context of the assignment

This master assignment is part of the Integrated Maintenance and Service Logistics Concepts for Maritime Assets (MaSelMa) project. In the maritime sector, service logistics support and maintenance of systems constitute a significant fraction of the exploitation costs. This is on the one hand due to the complexity and high capital value of the assets used in this sector and on the other hand due to the highly variable and mostly severe operating conditions encountered by ships and their subsystems. Moreover, since these assets are often operated at remote locations around the world, unplanned maintenance requires significant logistic effort and hence is very costly. This reveals that an important reason for the high costs for service logistics in the maritime sector is the uncertainty in demand.

The MaSelMa project focuses on developing innovative concepts to improve the predictability of maintenance and service logistics demand. The project also includes a supply chain focus geared towards the maritime sector (navy, offshore) that complements and integrates with service logistics (e.g. bundling deliveries to ships or offshore equipment crews). In that way, the project aims at increasing the service logistics efficiency for these maritime assets, following three approaches:

1. Increase the predictability of maintenance (i.e. prevent failures / reduce unnecessary maintenance).
2. Design service logistics plans that generate optimal maintenance actions, with a specification of resources and materials requirements.
3. Improve and extend cooperation for service logistics and supply chain management

# Master assignment

RH Marine Group is interested in improved Condition Monitoring techniques to predict electrotechnical failures of her systems. This holds for both the mechanical components of propulsion systems as for the radar systems. Within the MaSelMa project some models have been developed already for these kind of systems within a Marine environment, but it is not yet clear whether or not these models are suitable to predict failures for he systems of the RH Marine Group in a business environment.

RH Marine Group has a lot of data available that is collected via sensors (for example via the Alarm Monitoring Systeem, AMS). The aim of this master assignment is to test whether the developed models are suitable via Big Data techniques and to amend the models to RH Marine Groups environment.

# Point of contact

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