MSC THESIS TOPIC: ANALYSIS AND OPTIMIZATION OF THE TRANSPORTATION OF OUTFITTING RELATED TASKS WITHIN A SHIPYARD

Outfitting is the process of installing components (such as pipes, cables trays, HVAC, etc.) into a vessel’s steel structure. In recent years, outfitting has become increasingly more important for European shipyards since the order books of these yards are almost exclusively filled with complex vessels (dredgers, offshore vessels, cruise ships, etc.) that require large amounts of outfitting work (SeaEurope, 2012). Between 70-80% of the value of complex vessels comes from outfitting with the remainder of a vessel’s value being associated with steelwork (Andritsos & Perez-Prat, 2000). The required amount and complexity of outfitting work required will only increase in the future due to the increasing demands on mission related, safety and environmental protection systems (CESA, 2011).

The outfitting process of EU shipyards is one characterized by disorganization, delays, rework and sub-optimization. These problems stem from the fact that outfitting work is performed by independent subcontractors with limited oversight and that shipyards do not sufficiently consider outfitting in their production plannings (Wei, 2012).

The transportation times of outfitting personal, components and installation equipment is an important element of the outfitting process. Transportation is also one of the main reasons why installing a component during the pre-outfitting shipping building phase (while the steel sections are being assembled) is more efficient than installing components in a vessel anchored at the quay (Schank et al., 2005).

The goal of this project is to analyse the layout of a European shipyard building complex vessels to determine which elements facilitate and hinder efficient outfitting related movements. A method should also be developed for predicting the required movement times between different worksites. Furthermore, potential improvements should be developed and tested.

This project is part of a larger effort which seeks to improve the outfitting process of EU shipyards by facilitating the inclusion of outfitting in the existing shipyard production planning process. This effort aims to analyse the current outfitting practices of EU shipyards building complex vessels to increase the efficiency of this process.

If this project interests you or if you would like more information, please do not hesitate to contact:

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References


a) To identify the traffic operational problems within intersection area associated with faulty geometric plan and design. b) To determine the better, well-planned, low-cost traffic signal system under the supervision of police. c) To identify the proper road network inside the Dhaka city, which can help the traffic operation system. d) To increase the Level of Service of intersections inside the Dhaka.