ABSTRACT

In the development of the world's shipping at this time, the use of aluminum materials get more attention than with the use of steel materials, it is because the material is stainless, has a relatively heavier and lighter high-strength. When this material is used by many aluminum boats - small boats such as the example on ships - patrol boat. On the basis of the above in mind made a research on the needs of production facilities that are required to build a small aluminum boat.

At the beginning of this Final Project is done on the calculation of the burden of the work of production process aluminum boat that has been taken as a sample vessel. Then do a calculation of empty vessels, including the analysis constructions on the sample boat. Then to do the calculation of productivity of each of the production process of aluminum boat, which is done by conducting surveys directly in the field. Determining the value of productivity obtained from the average linear regression data obtained from sampling in the field. In addition, scheduling is done also modeling development software ships with the Microsoft Office Project for each variation ship. And modeling to be done with the help of a simple Microsoft Excel Solver to determine the need for optimization of production facilities shipyard, where related to the number, dimensions of the ship was built, the expected time of production and ship building methods. From the results of the analysis found the number of dockyard facilities needs the most optimal for the development of the small aluminum boat. And also to obtain at least a workshop area and the dock is required to place the production facilities that are needed.

From this Final Project are expected to provide inputs such as the approach needs to decide the number of production facilities close to the real development projects on a aluminum boat. Its also useful for the parties that will do the development of an aluminum dock.

**Keywords:** Small ship aluminum, variations in the ship, the process of production, development time, dry dock facilities