

## ***ABSTRACT***

*PT Pindad (Persero) is an industrial and manufacturing company in Indonesia which is in manufacture of military and commercial products. Existing condition on production floor Department of Ship Equipment and Tools (APKL) that is production of Combination Windlass does not has an efficient facility layout. It can be seen that from distance of movement and alternating activity in several sequence production processes. This inefficient layout cause large amount material handling cost for farther distances. Ergonomic analysis in several facilities of material handling is required to provide suggestion that can improve and enhance efficiency which can reduce material handling cost.*

*Improvement of facility layout design is performed by WinQSB software that using CRAFT algorithm which can minimize material handling cost that reduced to 61.92% on suggestion layout. In improving condition of material handling that has not been appropriate with ergonomic principles, to observation of material handling system by looking to see in aisle problems to minimize recommend in aisle give in 366 centimeter to enhance efficiency.*

*Through this case is projected on Tompkins and White (1996) statement that 20-50% total cost of manufacturing operation are derived from material handling cost, then this suggestion layout will save about manufacturing cost each month that can see from reduced material handling cost. Furthermore, it is principles and suggestion for ergonomic issue that associated with material handling system.*

***Keywords*** : *Layout, CRAFT algorithm, ergonomics*