

## ABSTRACT

*PT. Dirgantara Indonesia is the only company which produces aircraft, helicopters, and aircraft components in Indonesia. One of its products is the CN – 235 Outer Wing Structure which is a part of the CN – 235 aircraft wings. Miss planning often occurs during the assembly process of this Outer Wing Structure. It can be seen as the production is not accomplished on the standard predetermined time which eventually effects the total cost of the assembly.*

*The assembly of the Outer Wing Structure consists of 27 operations and grouped into three sub-assembly processes. They are the internal box, external box, and the Outer Wing Structure assemblies. As the assembly operation time fluctuates and has a back and fourth groove, a simulation approach is used to solve the problem. The assembly system characteristics of the Outer Wing Structure is hard to modelize mathematically as:*

- 1. It has a back and forth groove*
- 2. It has varied process time*

*The simulation approach is done by making simulation scenarios and counting the workload balance which fits the predetermined scenarios. The existing scenario of the process is the actual situation of the Outer Wing Structure assembly. Meanwhile, the suggested scenario is a change which consists of the process groove and the placement of workstation of the existing situation. The proposed Outer Wing Structure scenario is made to optimize the workloads and minimize the cost of assembly. Due to the proposed scenario, the most optimum assembly is in suggestion 2. The process time in suggestion 2 is 45.34 hours shorter and can minimize the cost of 5,08%.*

### **Keywords**

*Assembly Line, Simulation, Process time, Efficiency*