

## ABSTRACT

PT. Pindad (persero) is a Badan Usaha Milik Negara (BUMN) company that produces Alat Utama Sistem Persenjataan (Alutsista) and also some commercial products such as Air Break System that ordered by PT INKA. There is a problem in the production of these products, where one part of Air Break System that is Cover Distributor Valve has a delay occur in production. Next step are do a mapping with Value Stream Mapping to find out the flow of production information process and searching waste by using EDOWNTIME, so that obtained the results that the cause of delay is occurrence of waste. Waste defects, waiting, and motion are the three biggest waste, and research focus on waste motion. The next step is determining the workstation that will be the focus of research by using the takt time, and the result is lathe and drill workstations are the focus of the study because of the cycles time on both workstations are exceeds from the takt time. The next step is analyzing waste motion activities on both workstations based on 7 waste and also basic movements of therblig. After obtained the results, research continue by finding the root causes of waste motion activities that occur on these two workstations by using fishbone and 5 why, before determining the improvements proposals. The improvements proposals designed to reduce waste motion significantly by using the approach of 5S and by designing tools based on anthropometry data. With design of the improvements proposals to reduce waste motion occurrence on lathe and drill workstations, the percentage of non value added activities on both the workstations are reduce by 1.26% and also have an impact with lead time reduced for the entire production process of cover distributor valve, where the initial lead time was 13793.32 Seconds, while after the redesign proposal, lead time decreased into 13547.73 seconds.

**Key words:** Value stream mapping, Fish bone, 5 why, Waste motion, 5 S, Lead time