

## ABSTRACT

PT. Gerlink Utama Mandiri is a company that focuses on the production of medical devices called dental aerosols. In the last two months, PT. Gerlink Utama Mandiri started making new products which resulted in the company having to add a new production building due to the fact that the production floor was unable to accommodate additional facilities and raised the main problem, namely the total distance for material movement which was increasing because the production process had to pass through the two buildings. This final project only focuses on the mechanical stages in the production of dental aerosols. The purpose of this analysis is to produce an effective and efficient facility *layout* proposal design in order to minimize the total distance for material movement and operator movement. In conducting this research, the method used to help construct the proposed facility *layout* design is the CORELAP algorithm. After the proposed design has been found and carried out further analysis, the proposed design is not digested raw by the observer but the observer adds several additional adjustments to the results of the CORELAP algorithm design so as to minimize the total distance of material movement with a smaller distance for dental aerosol products. From the design of the proposed CORELAP algorithm, it is also able to obtain a total level of effectiveness and efficiency of material movement distance of 378 m and 40% because the majority of machines that used in producing dental aerosols have been placed close to each other and keep away unused machines so as not to hinder material movements and operator movements during production activities.

**Keywords: Facility Layout, Material Movement, Production Building Addition, CORELAP**