

**MATERIAL FULFILLMENT SYSTEM DESIGN
ON THE MINIBUS PRODUCTION PROCESS WITH
METHODS OF KITTING MATERIALS AND SDLC
IN THE WELDING DEPARTMENT OF PT. XYZ**

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Abstracts

The welding department is the object of this study. The welding department is the department whose job is to weld and shape the various materials that make up the minibuses from the warehouse and *Supporting* departments into a complete minibus unit. In this welding department there are several problems such as delays in material delivery 1-3 times in 1 production process flow, material delivery errors, delays in production lead time from 12-13 working days to 15-16 working days, and the absence of SOP compliance material clear on welding department. Given these various problems, it is necessary to design a material fulfillment system with the help of analysis from the System Development Life Cycle (SDLC). The results of the SDLC analysis show that solving the problems that occur can be done by grouping all the required materials into kitting materials, forming system programs, improving system flow, and making SOP. The results that have been obtained can be implemented directly in the production process of the welding department of PT. XYZ. Based on the results of the implementation that has been carried out, it can be obtained that all materials needed by the welding department can be divided into 7 material kitting packages according to existing work stations, a new system flow that can reduce delays in material delivery to less than 1 working hour, production lead time which have met the company's target for 12-13 working days, reduced material delivery errors, and the SOP that have been implemented can assist all parties involved in carrying out the minibus production process. All of these things must always be considered so as not to interfere with the production process and be able to meet the target production lead time from the company.

Keywords: *Kitting Material, Welding Department, System Development Life Cycle*