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Methodology for improving production flows on an assembly line

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Abstract. Globalization of production and strong competition in the economic environment requires manufacturers from automotive industry to offer their customers a wide range of products, of the best quality and at lower prices. In order to achieve a competitive advantage, the automotive industry must to adapt their production systems to mass customisation, so that they can provide the variety demanded by the customers while limiting their costs and maintaining their profitability. In this context, research to increase the performance of assembly lines is increasingly numerous and use different techniques, as: layout design, mathematic modeling, dynamic simulation, Lean manufacturing etc. This paper presents a methodology for improving production flows on an assembly line, which was developed to provide the designer and manager of assembly lines in the automotive industry with a set of logically related steps and steps that would allow to achieve a high-performance assembly line. The stages and steps of this methodology consist in the use of methods from different fields, such as: layout design, modelling-simulation of production flows, labour study, lean manufacturing, and for their application different techniques and tools are used.

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