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Practical Approach of Value Stream Mapping to Improve Processes in an Automotive Industry

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Abstract: The industrial sector requires applying methodologies that contribute to continuous improvement and cost reduction within organizations. The present work shows the results and lessons learned from three projects carried out in a local automotive industry. The Value Stream Map tool is used to identify the activities that add value to the product and to detect the opportunity areas throughout the value chain. The objective is to implement solutions that improve central process flow to meet customer demand. Lean tools such as SMED, Kanban and line balancing among others, were used as support for the project's development. The first step was to define the family of products for each project, next, the current state map of the production chain was determined as well as the metrics necessary for the analysis. After that, the map of the future state was defined, and finally, an improvement implementation plan was described. The approach used for each project combined with used methodologies was highly significant to maximize the achieved benefits. At the end of implementing these projects, the results obtained show reduction up to 50% in lead time for specific manufacturing processes, reduction of curing times up to 58%, elimination of inventories in process, development of tooling designs, automation in some areas of the process, takt time and waiting time reduction.

Keywords: Value Stream Map, Lead Time, Process