

## Title:

Design and implementing of a value stream oriented production system consisting of forging and machining operations for an international automotive supplier

## Abstract:

This paper consists of the approach to work out a value stream design for a new; state of the art production plant, derive machine positioning based on the value stream design, recommendation of a systematic approach for planning a new state of the art production plant, Lesson learnt for practical implementation of such a system and work out an approach for the care to be taken for implementing such systems.

At the start, It is important to create a common understanding about success factors for state of the art production plants. Therefore necessary research on literature about state of the art production facilities and recommended approaches to plan new production plants are studied and evaluated.

Depending on this research, requirements, limitations and possible state of the art concepts are implemented while planning a new production based on a production scenario.

The Information about the planned production processes, the material flow and the future product mix were collected and served as a data base. Other technical parameters like cycle times, machine capabilities, planned and unplanned maintenance frequencies, set up times (and frequencies) are required and were analysed. A process visualization was provided based on the method of value stream design.

Space utilization charts were created to determine the necessary space demand for a new state of the art production plant. Based on these charts future plants can be compared and benchmarked against each other. The Various challenges faced during the implementing the theoretical results, flexibility needed against ever changing the scenarios and care to be taken will be documented.

The outcome of this paper will be used for the designing value stream for the future plants and for visually representing of the production processes including machine layouts and buffer areas. The paper will also focus on various practical issues encountered while implementing such a system and care to be taken for actual execution of the theoretical results obtained during detail studies.