

Lean Manufacturing in Automobile Industry

Realities in the Automobile industry ...

The outlook for the Automobile industry has been encouraging in the last few years due to increasing demand driven by strong economic performance in the domestic front, higher disposable incomes, and increased government spending on roads and infrastructure. The increasing demand brings with it intensified competition and hence numerous challenges for automobile companies for survival.

Key challenges:

- **Intensifying competition from domestic and International players.**
- **Escalating Customer expectations for shorter order fulfilment lead times and superior product quality**
- **Increasing stringency of manufacturing quality standards due to introduction of advanced emission norms.**
- **Shortening of product life cycle of existing products and need for launching new products faster**

Gaining sustainable competitive advantage entails:

- **Redesigning the order fulfilment process to crash lead-time and to liberate the cash locked in inventory.**
- **Maximising throughput from existing lines**
- **Instilling product quality orientation at the operating level**
- **Program management of New Product-Process-Supply Chain development for launching right first time products.**

Case Study:

Manufacturing Excellence at a Tractor Manufacturer

The company was facing challenges on many fronts:

- Line stoppages were high, which led to throughput drop and hence lost sales.
- First pass yield was low contributing for further throughput reduction.
- The Finished goods and WIP inventory value were increasing every month due to non-alignment of customer requirement and production plan.
- The company also wanted to prepare itself for the future demand growth scenario.
- Hence the leadership wanted both their plants to turn lean, visual and imbibe a high performance culture.

The priorities for the leadership were faster throughput from existing lines, a vibrant workplace with enthusiastic people aligned, committed and working towards excellence at all levels and functions"

A multi-pronged approach across 2 plants:

- ECS designed a multipronged intervention using Lean Manufacturing platform to bring in continuous, fast and sustainable improvements.
- Initiatives were launched in Manufacturing, procurement and marketing interface areas simultaneously to bring about all-round improvement.
- A Process based improvement structure was set up to bring in improvements at the workplace.

Intervention Design:

1. **Common improvement structure across 2 plants. Each plant had:**
 - **4-6 Area Effectiveness teams at supervisory level for Routine management**
 - **13 front line cross-functional teams ensuring ownership at an operating level**
 - **3 project teams to execute focussed improvement projects**
2. **All plant employees trained in use of tools and techniques of Lean Manufacturing**

- The teams mapped the value streams product type wise, analysed problems using relevant tools and implemented countermeasures.
- Workmen performed autonomous maintenance steps in their respective equipment to maintain the equipment ideal condition.
- Managerial Project teams were launched in the areas of.
- Order fulfillment process redesign
- Material requirement and Vendor supply planning alignment
- First Pass Yield Improvement
- Line stoppages reduction
- Inventory reduction

Key Results:

- **The 6 months initiative resulted in an annualised saving of Rs. 5 Cr.**
- **The line throughput improved by 24%**
- **Line stoppages reduced by 72%**
- **The first pass yield improved by 10%**
- **Inventory reduced by 31%**

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