

Lean Manufacturing

Lean Manufacturing is a continuous cost improvement process, which addresses waste in the manufacturing process. LEAN as it is referred to, is a generic adaptation of concepts, which were developed since 1948 by the Toyota Motor Company, and referred to as the Toyota Production System or TPS. The term LEAN itself was coined by an MBA student (and former Toyota employee) at MIT during the 1980s.

The LEAN philosophy believes that anything, which does not provide value to the customer is waste or a wasted resource, and should therefore be eliminated. An example observed by Toyota is while turning a bolt, only the last turn tightens the bolt, the previous turns were just movement – or waste!

Importantly, in addition to production, Lean can (or should) also be applied to all other aspects of the business, including administration.

So, the goal of LEAN is cost reduction through the elimination of waste. This can be achieved in two ways.

LEAN (generic) believes that by reducing waste, quality improves, leading to reduced production time, scrap and reduced costs. This waste reduction is achieved using a number of “tools” or concepts, such as:

- Value Stream Mapping
- Five S
- Kanban (pull systems)
- Poka yoke (fool proof process)

The tools are often implemented as solutions or cost saving measures. These activities can be isolated and do not always bring the benefits of a system or plant-wide approach.

TOYOTA LEAN (TPS) focuses on smoothening and reducing inefficiencies in the entire production process, thereby identifying quality and process issues and reducing waste as a natural consequence. TPS uses “Lean Tools” to identify areas for improvement, these include:

- Production Leveling
- Pull Production (Kanban)
- Heijunka Box

Once the issue or problem has been addressed, the tool can be removed. Therefore, the tools are considered a means and not a solution.

Both methods above lead to the same conclusion. Most experts tend to agree that LEAN needs to be implemented as a corporate-wide philosophy. That while individual activities bring results, an enterprise-wide approach (Lean Enterprise) brings enormous long-term benefits, as witnessed by Toyota's rise to become, albeit with some recent bumps, the largest automaker in the world.