



SNS COLLEGE OF TECHNOLOGY

(An Autonomous Institution)

COIMBATORE-35.



- Accredited by NBA – AICTE and Accredited by NAAC – UGC with ‘A++’ Grade
Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai.

DEPARTMENT OF AUTOMOBILE ENGINEERING

19AUZ405 – LEAN MANUFACTURING

IV YEAR / VII SEMESTER

Topic - Principles of lean manufacturing



Lean manufacturing

- Lean manufacturing is a methodology that focuses on minimizing waste within manufacturing systems while simultaneously maximizing productivity.
- Waste is seen as anything that customers do not believe adds value and are not willing to pay for. Some of the benefits of lean manufacturing can include reduced lead times, reduced operating costs and improved product quality.



Principles of lean manufacturing

- *Lean Thinking: Banish Waste and Create Wealth in Your Corporation.*
- Value
- The Value Stream
- Flow
- Pull
- Perfection



Identify value from the customer's perspective



- Value is created by the producer, but it is defined by the customer. Companies need to understand the value the customer places on their products and services, which, in turn, can help them determine how much money the customer is willing to pay.
- The company must strive to eliminate waste and cost from its business processes so that the customer's optimal price can be achieved -- at the highest profit to the company.



Map the value stream

- This principle involves recording and analyzing the flow of information or materials required to produce a specific product or service with the intent of identifying waste and methods of improvement. Value stream mapping encompasses the product's entire lifecycle, from raw materials through to disposal.
- Companies must examine each stage of the cycle for waste. Anything that does not add value must be eliminated.



Create flow

- Eliminate functional barriers and identify ways to improve lead time. This aids in ensuring the processes are smooth from the time an order is received through to delivery.
- Flow is critical to the elimination of waste.
- Lean manufacturing relies on preventing interruptions in the production process and enabling a harmonized and integrated set of processes in which activities move in a constant stream.



Establish a pull system

- This means you only start new work when there is demand for it. Lean manufacturing uses a pull system instead of a push system.
- Push systems are used in manufacturing resource planning (**MRP**) systems. With a push system, inventory needs are determined in advance, and the product is manufactured to meet that forecast.
- However, forecasts are typically inaccurate, which can result in swings between too much inventory and not enough, as well as subsequent disrupted schedules and poor customer service.
- In contrast to MRP, lean manufacturing is based on a pull system in which nothing is bought or made until there is demand. Pull relies on flexibility and communication.



Pursue perfection

- **Continual process improvement (Kaizen)**
- Lean manufacturing rests on the concept of continually striving for perfection, which entails targeting the root causes of quality issues and ferreting out and eliminating waste across the value stream.



- Resource Link _
<https://www.techtarget.com/searcherp/definition/lean-production#:~:text=Lean%20manufacturing%20is%20a%20methodology,not%20will%20to%20pay%20for.>



Thank You !