Lean and Green Manufacturing

Hearth, Patio & Barbecue Expo

HPBA Hearth, Patio & Barbecue Association

LEAN GOALS

The four goals of Lean Manufacturing systems are to:

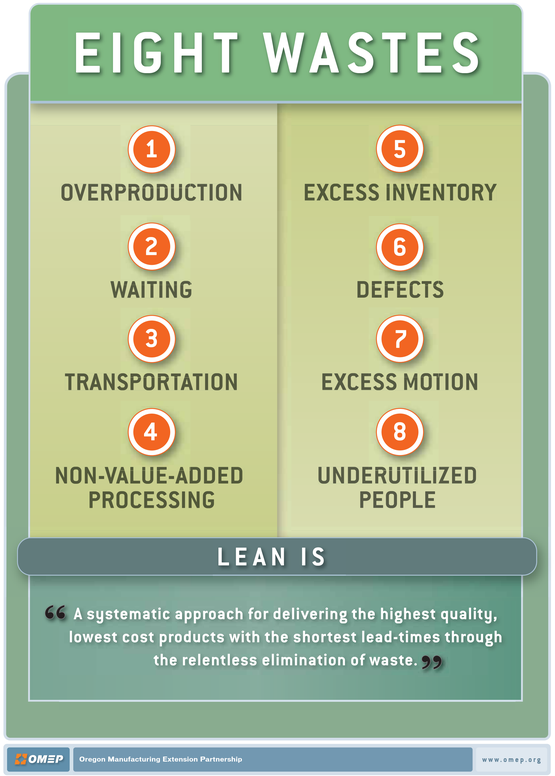
1. Improve quality: To stay competitive in today's marketplace, a company must understand its customers' wants and needs and design processes to meet their expectations and requirements.

2. Eliminate waste: Waste is any activity that consumes time, resources or space, but does not add any value to the product or service. There are seven types of waste:

    1. Overproduction (occurs when production should have stopped)
    2. Waiting (periods of inactivity)
    3. Transport (unnecessary movement of materials)
    4. Extra Processing (rework and reprocessing)
    5. Inventory (excess inventory not directly required for current orders)
    6. Motion (extra steps taken by employees because of inefficient layout)
    7. Defects (do not conform to specifications or expectations)

3. Reduce time: Reducing the time it takes to finish an activity from start to finish is one of the most effective ways to eliminate waste and lower costs.

4. Reduce total costs: To minimize cost, a company must produce only to customer demand. Overproduction increases a company's inventory costs because of storage needs. (Wikipedia)



STEPS TO ACHIEVE LEAN SYSTEMS

The following steps should be implemented to create the ideal lean manufacturing system:

- Design a simple manufacturing system: A fundamental principle of lean manufacturing is demand-based flow manufacturing. In this type of production setting, inventory is only pulled through each production center when it is needed to meet a customer's order. The benefits of this goal include:
    1. decreased cycle time
    2. less inventory
    3. increased productivity
    4. increased capital equipment utilization

- Recognize that there is always room for improvement: The core of lean manufacturing is founded on the concept of continuous product and process improvement and the elimination of non-value added activities. "The value adding activities are simply only those things the customer is willing to pay for, everything else is waste, and should be eliminated, simplified, reduced or integrated"(Rizzardo, 2003). Improving the flow of material through new ideal system layouts at the customer's required rate would reduce waste in material movement and inventory.

- Continuously improve the lean manufacturing system design: A continuous improvement mindset is essential to reach a company's goals. The term "continuous improvement" means incremental improvement of products, processes, or services over time, with the goal of reducing waste to improve workplace functionality, customer service or product performance (Suzaki, 1987). (Wikipedia)

Did you know?

By switching to lean manufacturing, our members have seen annual energy savings of $14,000 in electricity costs and $8,000 in natural gas costs.