

WHAT IS LEAN?

Lean Manufacturing is a production strategy that aims to build products and provide service with less effort and fewer materials, in less time. It results in a Just-In-Time process flow geared toward meeting the ever-increasing demands and expectations of the customer. The focus is to eliminate all waste from processes, which in turn leads to increased productivity and cost reduction. In today's tough, competitive markets, that is real value. The term "lean" was coined and patterned after the reputable Toyota Production System that has revolutionized manufacturing and continues to set the pace for world class production systems.

WHAT ARE THE STEPS TO A TOTAL LEAN SYSTEM?

There are 5 foundational steps that must be implemented before you can accomplish Total Lean and realize its many benefits:

- 1) Create The Lean Culture
- 2) Maximize The Lean Team
- 3) Organize The Lean Work Environment
- 4) Establish The Lean Process
- 5) Make Ongoing Lean Improvements



CREATING THE LEAN CULTURE

The lean conversion begins here. Management and employees understand, embrace, and wholly commit to Lean as a way of day-to-day living in the workplace. This process includes:

- THINKING LEAN
- ESTABLISHING A LEAN VISION & MISSION
- SUPPORTING LEAN
- PERFORMING A LEAN ASSESSMENT
- GETTING READY FOR LEAN
- LEARNING LEAN: TECHNICAL AND SOCIAL SKILLS

MAXIMIZING THE LEAN TEAM

Strong communication exists at all levels of the organization. Effective management, effective teams, and effective leadership principles are integrated around prioritized customer focus and supply chain management.

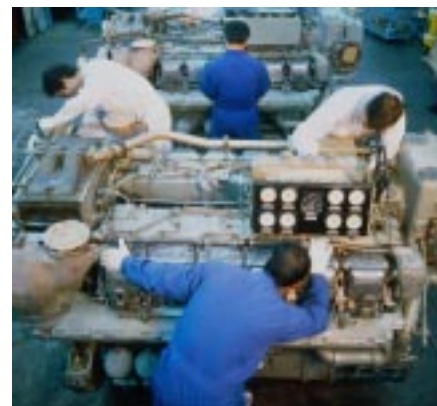
- COMMUNICATION IN A LEAN ENVIRONMENT
- EFFECTIVELY BUILDING & MANAGING LEAN TEAMS
- BEING AN EFFECTIVE TEAM MEMBER

- LEAN LEADERSHIP PRINCIPLES
- LEAN RELATIONSHIPS: CUSTOMERS & SUPPLIERS

ORGANIZING THE LEAN WORK ENVIRONMENT

All of the obvious and not so obvious forms of waste are eliminated, and clear visual controls are utilized throughout the workplace. Work is standardized and promotes maximum safety and ergonomics. The use of Value Mapping serves to evaluate processes, perform value-added analysis, and establish more effective process flow.

- 5S
- VALUE MAPPING
- STANDARDIZATION OF WORK
- VISUAL CONTROL
- FEEDBACK SYSTEMS
- SAFETY / ERGONOMICS



ESTABLISHING THE LEAN PROCESS

Effective and efficient process flow based on customer demand and pull is at the heart of lean manufacturing. All forms of non-value adding elements, especially excess inventory and material handling, are eliminated. Techniques such as Kanban, Quick Changeover, Cellular Manufacturing, and Total Productive Maintenance are incorporated into the process. In a lean process, defects are minimized, if not totally eliminated, through the use of an effective Quality System that maximizes autonomous quality control applications.

- DEMAND FLOW: INTERNAL & EXTERNAL
- PULL SYSTEM
- KANBAN
- ONE PIECE FLOW
- INVENTORY MANAGEMENT
- QUICK CHANGEOVER (SMED)
- CELLULAR MANUFACTURING
- TOTAL PRODUCTIVE MAINTENANCE (TPM)
- QUALITY CONTROL

MAKING LEAN IMPROVEMENTS

Lean Manufacturing incorporates the concept of continuous improvement. Once an organization undergoes the lean conversion, work is never done; lean is a daily lifestyle. On an ongoing basis, team-based Kaizen Events are conducted to further eliminate waste, combine work to increase efficiency, and solve problems. Error-proofing devices are implemented to prevent the production of defects, and the constraints in the process are minimized, if not removed all together. An improvement strategy such as Six Sigma guides and prioritizes the cost reduction and improvement activities.

- WASTE ELIMINATION
- KAIZEN
- WORK COMBINATION
- PROBLEM SOLVING
- ERROR PROOFING
- CONSTRAINTS MANAGEMENT
- SIX SIGMA



HOW LEAN IS YOUR ORGANIZATION?

It is time to look closely at your organization by performing a Lean Assessment. How lean is your organization? Consider the following:

- Does everyone in the organization understand, embrace, and support Lean Manufacturing concepts?
- How would you rate the effectiveness of the following: communication at all levels, management practices, teamwork throughout the organization, application of successful leadership principles, and the relationships that exist with both the customers and key suppliers?
- Is the workplace safe, clean, neatly organized, and free of clutter and excess inventory? Do all items have clearly designated "homes"? Are clear visual controls in place throughout the work environment? Are value maps used to identify the value streams and to perform value stream analysis, waste elimination, and re-engineering?
- Are the processes based on the Demand Flow Principle with the appropriate use of Kanban and Cellular Manufacturing? Are processes supported by the application of Quick Changeover, Setup Reduction, Total Productive Maintenance, and Quality Control?
- Is the organization highly conscious of the 8 Types of Waste and committed to waste elimination and waste prevention? Are there regular team-based initiatives such as Kaizen, Work Combination, Problem Solving, Error Proofing, and Constraint Management throughout the organization? Are lean improvements being made and documented?

If your organization needs or wants help learning about and implementing Lean Manufacturing, let Design Management Alliance help. Call us today at 865-993-0077, or email us at www.lean@designmgt.com.