



Lean Principles Simulation Workshop



This one-day workshop demonstrates the principles and concepts of Lean Manufacturing through lectures and multiple hands-on simulations. It is also intended to provide management staff and employees at all levels of your organization with a basic understanding of Lean Implementation, and the benefits to be gained.



Our Lean Manufacturing Workshop includes three simulation exercises utilizing Lego® toys to provide hands-on experimentation with the Lean Manufacturing Techniques discussed during the instructional portions of the workshop.

Hands-on Simulation

Participants advise us that these exercises are not only an enjoyable way to test the concepts presented, but they also help to turn on the “light-bulb” concerning the use of some counter-intuitive manufacturing concepts. Instruction is provided

on the following topics:

- **Lean Manufacturing** – An overview of this methodology (also known as “The Toyota Production System”) along with a description of its origin, case studies of recent implementations, and how it fits into today’s management techniques.
- **Eight Wastes** – The eight wastes or “muda” are described, examples are provided, and the impact of reducing or eliminating these wastes is presented. Prior to implementing Lean Techniques, manufacturing processes typically have about 95% of their cycle time associated with these eight wastes. This was previously known as the Seven Wastes prior to Womak and James identified the latest waste.
- **Poka-Yoke** – The technique of “poka-yoke” or mistake-proofing is discussed and examples of successful implementations are presented.
- **Process Quality** – The natural outgrowth of improved product quality, with First Pass Yields approaching 100%, as a result of eliminating the seven wastes, implementing poka-yoke, and achieving one-piece flow (batch size reduction) is explained.
- **5S** – A description of how the five Japanese activities utilized in maintaining a clean and manageable work area can be implemented: Seiri, Seiton, Seiso, Seiketsu and Shitsuke.
- **Plant Layouts** – Facility layouts that are conducive to supporting one-piece flow and Lean Manufacturing techniques are discussed.
- **Non-Value Added Activities** – The differentiation between Value Added and Non-Value Added activities is described. Also, the difference between essential and non-essential Non-Value Added activities is raised as a topic for discussion.
- **Batch Size Reduction** –The logic behind this counter-intuitive manufacturing technique is presented – along with the ultimate goal of achieving one-piece flow.
- **Quick Changeover** – The impact of utilizing the Single Minute Exchange of Dies (SMED) concepts to achieve dramatically quicker changeovers which enable reduced cycle times and reduced batch sizes is presented.
- **Point of Use Storage (POUS)** – How Point of Use Storage can streamline manufacturing processes and support one-piece flow.
- **Kanbans** – The Kanban technique, which constitutes a type of visual signal, is discussed along with the concept of a “pull” system.
- **Total Productive Maintenance (TPM)** – The role that Preventative and Predictive Maintenance concepts play in reducing wastes and lowering cycle times is discussed.
- **Value Stream Mapping (VSM)** – The process diagramming method known as Value Stream Mapping which depicts both process and information flows is presented.

This course is designed for 15 – 20 participants and is suitable for a diverse audience including production, engineering, quality control, supervisory, and management personnel.

Lean Workshop Series Presented by: **HPK Group, LLC**

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