LEAN MANUFACTURING

1	Introduction to Lean Manufacturing
2	Value Stream Mapping
3	Operations Scanning and Process Razing
4	Kaizen for the Shop Floor
5	Creating Lean Forum
6	Engineered Structure
7	Connecting to One-Point Flow
8	Modular Manufacturing and One-Piece Flow
9	Simulation in Modular Manufacturing
10	Visual Control & Point-of-Use Systems
11	5S Workplace Organization for Workers
12	Quick Changeover and Set-up Time Reduction
13	Total Productive Maintenance
14	Creating Mixed Model Value Streams
15	Mistake Proofing/Quality at Origin
16	Kanban for the Shop Floor
17	Mapping the Lean Office
18	Accelerated Product Development
19	Practical SPC (Statistical Process Control)
20	Defining Goals
21	21 Keys to Workplace Improvement
22	Lean Metrics and Measurements
23	Building lean culture
24	Standardization of work practices and procedures
25	Learning through simulation
26	Leveling Work
27	Extended Pull
	Developing talented people the Toyota Way

LM-001 Introduction to Lean Manufacturing

Suitable for: Everyone
Duration: One 8-hr day

Yesterday's factory management techniques are being replaced by more efficient methods that greatly minimize delays, reduce costs and improve quality, bringing in maximum value to customers. Lean Manufacturing is a holistic-systems approach that creates a culture in which everyone in the organization continuously improves processes and production. The seminar enhances understanding of some of the more common process-related principles of Lean Manufacturing and the strategies necessary to support them, including Lean set-up roadmap, Zero Waste Environment and Lean tools. The benefits, mindset and culture of Lean Manufacturing will be compared to the situation of most garment factories today.

LM-002 Value Stream Mapping

Suitable for: Directors, managers and industrial engineers
Duration: One 8-hr day

Value Stream Mapping (VSM) is a method of visually mapping a product's production path (for both materials and information) from "dock to dock". A value stream is all actions (both value-added and non-value-added) required by a product moving through its essential main flows, including design flow from

concept to launch; production flow from raw materials to delivery to client; order flow from opening of purchase order to final payment. VSM serves as a starting point to help management, engineers, production associates, schedulers, suppliers and customers recognize waste and identify its causes. The seminar will help to identify steps to be included in order to physically map the factory's "current state" while also focusing on where the factory wants to be, or its "future state". The goal is to create a blueprint upon which future process and lead-time shortening strategies can be built.

LM-003 Operations Scanning and Process Razing

Suitable for: Production managers and industrial engineers
Duration: One 8-hr day

Operations Scanning and Process Razing aims to eliminate waste in every area of production. In order to achieve this, first it is necessary to define all opportunities where labor, inventory, product development lead times, space and machinery could be used more efficiently and where requirements could ultimately be reduced. Many factories face costly operations and unnecessarily long lead times due to low productivity, in turn caused by a myriad of labor, machinery and process inefficiencies. The seminar teaches techniques and tools for scanning operations and razing the process in order to identify in depth the root cause of the problems.

LM-004 Kaizen for the Shop Floor

Suitable for: Factory managers, production managers and industrial engineers
Duration: One 8-hr day

In Japanese, Kaizen means the zen of taking something apart in order to make it better. As a workplace quality strategy, Kaizen has become synonymous with the concept of Continuous Improvement. This seminar will explain how Lean change really happens, and the tools and methodology to be followed to ensure that desired improvements are attained and subsequent changes sustained. The steps are known as Kaizen Events.

LM-005 Creating the Lean Forum

Suitable for: Senior managers, factory managers and industrial engineers
Duration: One 8-hr day

In an operation run on Lean principles, the Lean Forum acts as the project headquarters, responsible for clarifying corporate objectives, identifying needs created by those goals and assigning the tasks required to achieve them. In short, the Lean Forum is responsible for piloting the project forward. Unfortunately, the Lean Forum is often poorly run and unable to carry out its intended purpose. This seminar will deal with how the Lean set-up roadmap is created and the responsibilities of the Lean Forum members in monitoring and measuring the continued success of implemented changes.

LM-006 Engineered Structure

Suitable for: Directors, industrial engineers, maintenance and mechanical engineering personnel
Duration: Three 8-hr days

In order to implement any kind of engineered process, a factory requires real engineering skills. This workshop aims to help engineers restructure their functions on Kaizen principles, shifting the focus from daily tasks into Continuous Improvement mode and a Zero Waste Lean Environment. The areas of study include:

- Environment and Equipment
- Simplification and Standardization of Work Practices
- Modular Manufacturing and Team Formulation
- Manufacturing Activities Clean-up and Elimination of Unnecessary Activities

- Design of Quick Changeover
- Creating Balanced Flow
- Leveling Production
- Minimizing Inventories and Work in Process (WIP)
- Methods of Control

LM-007 Connecting to One-Point Flow

Suitable for: Factory and production managers/staff and industrial engineers
Duration: One 8-hr day

One-Point Flow refers to the continuous connection of a factory's complete processes from dock-to-dock for optimum results. Unnecessary processes – excessive handling and manipulation - add to costs and increased lead times, resulting in overproduction and inefficient use of workers and space. The less processes a factory has, the less waste it will incur and the easier it will be to balance factory flow. This seminar will introduce tools to analyze processes and the best approach to attaining One-Point Flow.

LM-008 Modular Manufacturing and One-Piece Flow

Suitable for: Factory and production managers, industrial engineers
Duration: Two 8-hr days

One-Piece Flow refers to producing one unit at a time as opposed to large lots and is attained through Modular Manufacturing where workers and equipment are arranged into U-shaped assembly cells instead of traditional production lines. This seminar will cover the principles and methods used to convert to quick response manufacturing and how to evaluate and implement a variety of systems into the plant for better results. Other topics include: advantages of the approach; expected results; how to determine the optimal number of employees per team; how to design operating procedures; laying out responsibilities and rules; developing a planning calendar.

LM-009 Simulation in Modular Manufacturing

Suitable for: Factory and production managers, engineers and work methods analysts
Duration: One 8-hr day

What is simulation, why it is necessary, and how to do it are the all-important components of this seminar designed for engineers and managers. Participants can evaluate real-life production systems in a variety of apparel plants and, in the process, learn steps that will enable them to create simulation and define

differences in techniques and line set-ups. Insights will be shared to help garment manufacturers avoid new problems and solve old ones leading to improved utilization of labor and machinery.

LM-010 Visual Control & Point-of-Use Systems

Suitable for: Factory and production managers, IT personnel, maintenance personnel, industrial engineers and manufacturing personnel
Duration: One 8-hr day

In order to respond quickly to marketplace demands with flexible production set-ups and zero defect standards, managers and workers alike must be able to realize at a glance what is going on in their factories. Visual control systems bring total alignment to common objectives and will help everyone in the factory to become involved in monitoring – and actively supporting - corporate objectives throughout the manufacturing process.

There are two types of visual applications in a factory: displays and controls. A visual display relates information and data to employees in the area while a visual control is intended to actually control or guide the action of area group members. This seminar will discuss the 10 steps in setting visual control systems including *Process and delivery controls, Quality controls, Work controls, Equipment and tools controls, Objects controls and Improvement targets controls*.

LM-011 5S Workplace Organization for Workers

Suitable for: Everyone
Duration: One 8-hr day

The benefits of Lean Manufacturing cannot be fully realized in a workplace that is cluttered, disorganized or dirty. 5S is a target list of activities promoting organization and efficiency in the workplace and stands for Sorting, Straightening, Shining, Standardizing and Sustaining. This seminar is designed for those who work on the shop floor and ensures implementation of the 5S pillars at workstation level. It complements the LM-011 Visual Control seminar which aims to eliminate time wasted due to disorder in the workplace.

LM012 Quick Changeover and Set-up Time Reduction

Suitable for: Everyone
Duration: One 8-hr day

Customers today want a variety of products in just the quantities they need. Many factories take hours or even days to do a production line changeover – a major barrier to manufacturing flexibility. Producing to customer requirements also means getting batch processes to produce in small lots, leading in turn to a critical need for reduced set-up times. This seminar focuses on the techniques and approaches to developing a production system that gets as close as possible to making only what the customer wants, when the customer wants it, throughout the production chain.

LM-013 Total Productive Maintenance

Suitable for: Maintenance and mechanical personnel, industrial engineers
Duration: One 8-hr day

Total Productive Maintenance (TPM) is an initiative for optimizing the effectiveness of manufacturing equipment. TPM is team-based and involves every level and function in the organization, from top executives to the shop floor. The goal of TPM is "profitable PM" which requires the efficient and economical prevention of breakdowns and defects. This seminar will teach the eight activities for implementing TPM effectively as well as understanding and mastering the four techniques of preventive breakdowns, corrective maintenance, maintenance prevention and breakdown maintenance.

LM-014 Creating Mixed Model Value Streams

Suitable for: Factory and production managers, merchandisers, planners and industrial engineers
Duration: One 8-hr day

This seminar addresses the real world complexity of implementing Lean in a mixed model plant. It is aimed at anyone trying to make improvements beyond a basic value stream map, from selecting a product family to scheduling or dealing with customer demand. The seminar will teach participants how to implement a Lean value stream in a way that everyone will understand, to create flow through the workers when products have different cycle times, and to set up a loading and leveling plan that requires visual schedules at different intervals.

LM-015 Mistake-Proofing/Quality at Origin

Suitable for: Factory and production managers, industrial engineers and quality personnel
Duration: One 8-hr day

In traditional manufacturing environments, quality inspections occur at initial receipt of raw materials and then with a sampling of finished products. Although the checkpoints monitor output quality of each area, they occur too late to eliminate waste or correct for errors which result in unnecessary costs. In Lean manufacturing environments, inspection (and product rework) is accommodated at any point in a product's life – as it is being produced – and is the responsibility of each worker at his workstation. Quality is built in and it is an integral part of the product cycle, no longer considered as an external policy standard or requirement. Mistake-proofing is another important in-process technique that is accomplished by monitoring for and making permanent changes to equipment, operations and procedures.

LM-016 Kanban for the Shop Floor

Suitable for: Factory and production managers, merchandisers, industrial engineers and planners
Duration: One 8-hr day

Kanban means "information card" in Japanese and is an inventory control system for tracking the flow of in-process materials through the various operations of a just-in-time production process. Kanban is the unavoidable nerve system of Lean production and is the last stage of the Lean set-up leading towards balanced pull production where need for a product or service is communicated. Effective implementation reduces overproduction, wasted space, unnecessary labor and poor information and materials flow. This seminar teaches the methodology for implementing Kanban throughout the production units and between all processes and operations.