

## **2 Days Lean Manufacturing Course**

### **Course Overview**

A two day **lean manufacturing training course** suitable for staff of all levels. The content of this training course has been developed following the successful implementation of the lean techniques, concepts and strategies used in this course by many companies throughout the globe.

### **Why introduce Lean Manufacturing?**

- Increased Customer Satisfaction
- Reduced Waste
- Improved Profitability
- Improved Process Control
- Company Wide Team Work

### **Key Learnings**

At the conclusion of the lean manufacturing course each delegate will be able to:-

- Recognise 'waste' and other non-value added activities throughout their business
- Introduce a basic pull scheduling system e.g. Kanban
- Set up a lean manufacturing cell
- Follow a standard process to significantly reduce machine change-over times
- Identify a programme to maintain equipment
- Generate value stream maps of their own processes

### **Course Content**

The lean manufacturing training course covers the following topics:-

- **Overview of lean & Lean tools.**
- **7 Wastes (Muda), Mura, Muri**
- **Value Stream Mapping (VSM)**
  - What is Value Stream Mapping? - Definitions
  - Review of traditional functional business set up
  - Top level planning
  - How to get your team on board?
  - Current state mapping
  - **Future Value Stream Map**
    - Current State Analysis – Cycle Times, Takt Time and Throughput
    - How to plan and design a Cell Manufacturing strategy
    - Cell Types - U Shaped Cells/Parallel Cells
    - Contingencies – Check and Balance
    - High Volume Single Piece Flow
    - High Mix, low volume Production
    - Pull Vs. Push
- **Kanban**
  - What is Kanban? - Definitions
  - Understanding the origins of Kanban
  - Comparison of Push vs. Pull Systems
  - Role Play 1
  - Kanban Card Types (Withdrawal, Conveyance & Production)
  - Types of Kanban systems (One card and Dual Card)
  - Kanban System Characteristics
  - Strengths and Weaknesses of Kanban

- Planning for change
- How to implement Kanban?
- How Kanban can interface with MRP/ERP systems?
- Summary & Review
- **Single Minute Exchange of Dies (SMED)**
  - SMED – Introduction & Definitions
  - The benefits of Introducing SMED
  - SMED - The Three Stages
    - **Stage One: Data Collection - Observation & Recording**
      - Using Video to record Set-Ups
      - Separation of Internal and External Set-Up time
    - **Stage Two: Conversion of Internal to External Set-Up Time**
      - Function Checks & Transportation
      - Next operation preparations
      - Standardisation
      - Function Standardisation
      - Direct Line Feed (DLF)
      - Standard Work
      - Cell Manufacturing
    - **Stage Three: Kaizen activities to refine the process**
      - Parallel Operations
      - Functional Clamps
      - Eliminating Adjustments
- **Total Productive Maintenance (TPM)**
  - Understanding the basic concepts of TPM - **The 8 Key Strategies**
  - What is **Overall Equipment Effectiveness (OEE)** and how to measure it
  - Understanding the **6 Big Losses** and how to address their root causes
  - Autonomous Maintenance
  - Planned Maintenance
    - Time Based Maintenance
    - Condition Based Maintenance