# Driving Manufacturing and Maintenance Excellence with Lean Principles Training Course

Ref: #INM6949

## Course Introduction / Overview:

This training course on Driving Manufacturing and Maintenance Excellence with Lean Principles provides a comprehensive look at how integrating lean concepts can revolutionize operational efficiency. It’s an essential program for anyone looking to go beyond traditional maintenance and manufacturing approaches, focusing instead on a holistic system that reduces waste and maximizes value. Participants will explore core principles, from value stream mapping to total productive maintenance. They will learn to apply proven methodologies like the 5S system and citizens to foster a culture of continuous improvement. The course draws on the seminal work of authors like James P. Womack and Daniel T. Jones, who detailed the lean approach in their influential book, The Machine That Changed the World. BIG BEN Training Center has designed this program to equip professionals with the skills needed to implement these powerful strategies, ensuring that manufacturing and maintenance processes are not just reactive but proactive and highly efficient. The curriculum includes practical exercises and real-world case studies to reinforce key concepts, offering a tangible path to achieving operational excellence. This course is an investment in professional development, providing tools to drive significant improvements in quality, cost, and delivery.

## Target Audience / This training course is suitable for:

- Manufacturing supervisors and managers.
- Maintenance and reliability engineers.
- Operations and plant managers.
- Process improvement specialists.
- Quality assurance professionals.
- Supply chain and logistics managers.
- Production planners and schedulers.
- Government agency officials in relevant departments.

## Target Sectors and Industries:

- Manufacturing and production facilities.
- Automotive and aerospace industries.
- Consumer goods and electronics manufacturing.
- Pharmaceutical and food processing.
- Energy and utilities sectors.
- Logistics and supply chain management.
- Government agencies and equivalents.

## Target Organizations Departments:

- Operations and Production.
- Maintenance and Engineering.
- Quality Control and Assurance.
- Supply Chain Management.
- Process Improvement.
- Plant and Facilities Management.
- Logistics and Distribution.

## Course Offerings:

By the end of this course, the participants will have able to:

- Implement lean manufacturing principles to eliminate waste in production processes.
- Apply total productive maintenance (TPM) strategies to improve equipment reliability and availability.
- Utilize value stream mapping to identify and streamline manufacturing workflows.
- Develop and sustain a culture of continuous improvement (kaizen) within their organizations.
- Enhance operational efficiency and productivity through the 5S methodology.
- Improve product quality and reduce defects by integrating lean quality tools.
- Strategically managing maintenance activities to minimize downtime and lower costs.

## Course Methodology:

This training course uses a mix of interactive and practical learning methods to make sure participants fully grasp the concepts of lean manufacturing and maintenance. We begin with foundational knowledge through presentations and discussions, setting the stage for more hands-on work. The curriculum is built around real-world examples and case studies from various industries, which help to connect theory to practice. Participants work in teams on simulated projects, applying tools like value stream mapping and root cause analysis to solve common operational challenges. This teamwork fosters a collaborative environment and allows for the sharing of insights and experiences. The course also includes engaging group activities and brainstorming sessions aimed at generating innovative solutions for process improvement. Throughout the five days, our instructors at BIG BEN Training Center provide continuous feedback and support, ensuring that each participant understands how to implement these strategies effectively. The focus is on practical application, so participants will leave with a clear plan for driving improvement within their own organizations.

## Course Agenda (Course Units):

### Unit One: Fundamentals of Lean Manufacturing and Maintenance Excellence

- Understanding the core concepts of lean.
- Identifying the eight wastes in manufacturing and maintenance.
- Introduction to the principles of Total Productive Maintenance (TPM).
- The role of continuous improvement (kaizen) in operations.
- Connecting lean principles to maintenance strategies.
- Measuring success with key performance indicators (KPIs).
- Creating a lean culture in an organization.

## Unit Two: Value Stream Mapping and Process Flow Analysis

- Introduction to value stream mapping (VSM).
- Steps to create a current-state value stream map.
- Analyzing process flow and identifying bottlenecks.
- Developing a future-state value stream map.
- Practical application of VSM in a maintenance environment.
- Lean process improvement tools.
- Standardization and work instructions.

## Unit Three: The 5S System and Visual Management

- Defining and implementing the 5S methodology (Sort, Set in Order, Shine, Standardize, Sustain).
- Creating a clean and organized workspace.
- Using visual controls to manage performance.
- Visual management in a maintenance context.
- Sustaining the 5S program over time.
- Implementing poka-yoke (mistake-proofing) techniques.
- Practical exercises on 5S implementation.

## Unit Four: Total Productive Maintenance (TPM) Implementation

- Pillars of Total Productive Maintenance.
- Autonomous maintenance and planned maintenance.
- Early equipment management and quality maintenance.
- Training and education for TPM.
- Safety and environmental considerations in TPM.
- Overall Equipment Effectiveness (OEE) calculation and analysis.
- Developing a TPM master plan.

## Unit Five: Kaizen and Sustaining Operational Excellence

- The philosophy of kaizen and continuous improvement.
- Structuring and leading a kaizen event.
- Problem-solving methodologies like the A3 process.
- Lean leadership and employee empowerment.
- Sustaining lean improvements and a culture of excellence.
- Best practices for integrating lean manufacturing and maintenance.
- Final case study and group project presentation.

# FAQ:

### Qualifications required for registering to this course?

There are no requirements.

### How long is each daily session, and what is the total number of training hours for the course?

This training course spans five days, with daily sessions ranging between 4 to 5 hours, including breaks and interactive activities, bringing the total duration to 20 - 25 training hours.

### Something to think about:

How can the integration of lean manufacturing principles and total productive maintenance reshape a company’s approach to asset management beyond simple cost reduction, fostering a sustainable competitive advantage?

## What unique qualities does this course offer compared to other courses?

This training course stands out by not just focusing on lean manufacturing or maintenance as separate topics but by fully integrating them into one cohesive system. Many programs teach these subjects in isolation, but we recognize that true operational excellence comes from aligning production efficiency with equipment reliability. This course bridges that gap by showing participants how a proactive maintenance strategy (TPM) is a cornerstone of lean operations. The curriculum uses a hands-on approach, moving beyond theoretical concepts to practical, applied solutions. We go deep into real-world case studies and encourage participants to bring their own challenges to the sessions, allowing for tailored problem-solving and actionable insights. The focus is on building a culture of continuous improvement, not just implementing a set of tools. Our methodology is designed to create a lasting impact, ensuring that participants can drive measurable improvements in productivity, quality, and cost efficiency. This integrated approach, combined with a strong emphasis on practical application, makes this course a unique and highly valuable investment for professionals aiming for true manufacturing excellence.