Total Productive Maintenance (TPM) and OEE Improvement in Manufacturing

24 – 28 May 2027
Dubai - Five-star CBD venue



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Ref: 1182_6479 **Date:** 24 – 28 May 2027 **Location:** Dubai - Five-star CBD venue **Fees:** 19500 SAR

Technical depth: Practitioner · **Practical mode:** Inspection walkthrough

Introduction

Manufacturing plants lose capacity to breakdowns, long changeovers, minor stops and defects that nobody measures in the same way. OEE figures are disputed between production and maintenance, operators are not equipped to care for their equipment, and maintenance stays reactive. This Core Concept course equips maintenance and production staff to measure equipment losses consistently, apply the pillars of Total Productive Maintenance, and build the routines that keep equipment in basic condition. Participants inspect equipment through guided walkthroughs and case data from several industries and leave with a TPM Pilot Implementation Plan and OEE baseline.

Course Objectives

- Measure OEE consistently using ISO 22400-2 definitions and classify equipment losses into the six big losses
- Plan the TPM pillars and autonomous maintenance steps that fit a production area's current maturity
- Build cleaning, inspection and lubrication standards and preventive maintenance routines with operators and technicians
- Reduce changeover and breakdown losses with SMED, focused improvement and reliability-centred maintenance
- Analyse chronic failures using MTBF, MTTR, FMECA and condition monitoring data
- Produce a TPM Pilot Implementation Plan with an OEE baseline for a selected asset or line

Target Audience

- Maintenance engineers and planners responsible for equipment reliability
- Production supervisors and shift leaders accountable for line output
- Process and manufacturing engineers improving equipment performance
- Continuous improvement staff who facilitate TPM and kaizen activities
- Reliability and asset care technicians who run inspection routines

Course Outline

Day 1: TPM Foundations and the Equipment Loss Baseline

- TPM Principles and the JIPM Eight-Pillar Structure
- Six Big Losses Classification of Equipment Time
- OEE Calculation Under ISO 22400-2: Availability, Effectiveness and Quality Ratio
- Downtime and Minor Stop Data Collection Sheet Design
- TPM Readiness Assessment of a Production Area

Day 2: TPM Pillars and Maintenance Frameworks

- Autonomous Maintenance Seven-Step Model
- Planned Maintenance Pillar: Breakdown, Preventive and Predictive Strategies
- Focused Improvement Kobetsu Kaizen with Loss Tree Analysis
- Reliability-Centred Maintenance Under SAE JA1011
- ISO 55000:2024 Asset Management Principles and Their Link to TPM

Day 3: Running TPM on the Shop Floor

- Initial Clean and Abnormality Tagging Procedure
- Cleaning, Inspection and Lubrication CIL Standard Sheets
- SMED Changeover Reduction: Separating Internal and External Setup
- Preventive Maintenance Scheduling and Work Orders in a CMMS
- 5S Workplace Organisation Audit for Equipment Areas

Day 4: Advanced Loss Analysis, Reliability and Risk

- MTBF and MTTR Analysis of Chronic Breakdowns
- FMECA for Critical Equipment Under IEC 60812:2018
- Condition Monitoring Under ISO 17359:2018 and the P-F Interval
- OEE Data Pitfalls: Ideal Cycle Time, Planned Downtime and Metric Gaming
- Quality Maintenance Pillar: Zero-Defect Conditions Matrix

Day 5: Walkthrough Practice and the TPM Pilot Plan

- Video-Based Line Walkthrough: Equipment Condition Inspection Against CIL Criteria
- Beverage Filling Line Case: OEE Loss Tree and Improvement Priorities
- OEE Baseline and Loss Pareto Build for an Own Asset
- TPM Pilot Implementation Plan Drafting
- Peer Review and Plan Defence

Skills You Will Gain

- Equipment Loss Analysis
- Autonomous Maintenance Facilitation
- Maintenance Planning and Scheduling
- Changeover Reduction
- Reliability Analysis
- Condition-Based Maintenance
- Production Data Integrity

Why Attend This Course

- Return with a TPM Pilot Implementation Plan and OEE baseline for a real asset, ready to launch with a first team
- Report OEE figures that production and maintenance both accept, because the definitions are settled
- Give operators practical standards for daily equipment care instead of general instructions
- Compare TPM experience with colleagues from food, chemicals, packaging and discrete manufacturing plants in several countries

Conclusion

Equipment effectiveness improves when losses are measured the same way, operators care for their machines and maintenance moves from reaction to prevention. This course moves from the six big losses and OEE definitions, through the TPM pillars and shop-floor routines, to reliability analysis, condition monitoring and the data pitfalls that distort results. The final day applies these methods through equipment walkthroughs and case data, producing a TPM Pilot Implementation Plan with an OEE baseline that each participant can take back to the plant.