



External Training Course

Operational Excellence in Production Operations: Optimization & Problem Solving

From 12 Oct. To 16 Oct. 2025

From 09 Nov. To 13 Nov. 2025

From 07 Dec. To 11 Dec. 2025

**InterContinental Cairo Semiramis by IHG
Hotel, Cairo, Egypt**

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External Training Course:

**Operational Excellence in Production
Operations: Optimization & Problem Solving**

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Fees: 1750 KD

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Course Overview

This intensive and highly interactive course focuses on transforming production operations into efficient, reliable, and high-performing systems. Participants will gain deep insights into how world-class organizations achieve operational excellence by integrating advanced optimization techniques, data analytics, and effective problem-solving frameworks. The course bridges theory with practice through real industrial examples and simulation-based exercises. It emphasizes practical implementation—ensuring participants can directly apply the concepts to real production challenges. Through five structured training days, professionals will learn how to reduce costs, minimize waste, boost throughput, and ensure sustained reliability across their production operations.

Course Objectives

By the end of this program, participants will be able to:

- Master the core principles and pillars of operational excellence and their application in production environments.
- Develop systematic approaches to optimize production processes and increase overall efficiency.
- Identify and eliminate performance bottlenecks through data-driven methodologies.
- Apply modern problem-solving tools such as Six Sigma, Lean, and Root Cause Analysis.
- Build a structured system for continuous improvement and performance sustainability.
- Strengthen decision-making using performance dashboards and key metrics.
- Align operational processes with strategic business goals for long-term success.
- Create a culture of accountability, innovation, and proactive problem resolution.

Target Audience

This course is designed for professionals involved in the planning, execution, and optimization of production and operations, including:

- Production & Operations Staff.
- Maintenance Engineers and Supervisors.
- Field and Process Staff.
- Reliability & Asset Integrity Professionals.
- Technical Support Staff and Performance Analysts.
- Production Team and Plant.
- Continuous Improvement & Quality.
- Anyone responsible for operational performance and problem-solving initiatives.

Training Methodology

The program applies a dynamic and blended learning approach that combines:

- Expert-led presentations introducing global best practices and proven frameworks.
- Hands-on workshops allowing participants to solve realistic industrial problems.
- Group discussions for sharing experiences and fostering collaborative learning.
- Simulation exercises for process optimization and performance improvement.
- Case studies drawn from oil & gas, manufacturing, and energy industries.
- Diagnostic toolkits for identifying inefficiencies and developing improvement plans.
- Post-course action planning to support practical implementation after training.

Organizational Impact

After completing this program, organizations will benefit from:

- Significant improvement in production performance, efficiency, and quality.
- Reduced operational downtime through proactive troubleshooting.
- Enhanced cross-functional collaboration between production, maintenance, and quality teams.
- Cost savings through energy optimization, reduced waste, and better resource utilization.
- Establishment of a culture of excellence, accountability, and continuous improvement.
- Stronger alignment between operational goals and corporate strategies.
- Improved asset reliability, product consistency, and safety compliance.

Personal Impact

Participants will gain:

- Deep understanding of operational excellence principles and their real-world application.
- Enhanced analytical, leadership, and technical problem-solving abilities.
- Advanced troubleshooting and decision-making skills under pressure.
- Capability to analyze and interpret performance data to drive improvements.
- Recognition as a certified professional capable of leading optimization initiatives.
- Confidence to implement sustainable changes that boost productivity and efficiency.
- A clear roadmap for personal growth in operations management and leadership roles.

Course Content & Outline

Day 1: Fundamentals of Operational Excellence

- Understanding the Concept and Philosophy of Operational Excellence
- Key Pillars: Leadership, Culture, Process, and Technology
- The Link Between Operational Excellence and Business Strategy
- Identifying Performance Gaps and Productivity Losses
- Lean Thinking, Waste Reduction, and Value Stream Mapping
- Developing Performance Metrics and KPIs
- Group Workshop: Assessing Your Current Operational Maturity
- Case Study: Operational Excellence Implementation in a Major Oil Company

Day 2: Process Optimization Strategies

- Mapping the Production Flow and Identifying Bottlenecks
- Process Re-engineering and Optimization Tools
- Statistical Process Control (SPC) for Operations
- Using Data Analytics and Machine Learning for Optimization
- Managing Energy, Time, and Resource Efficiency
- Process Simulation Tools for Predictive Analysis
- Cost and Throughput Optimization Approaches
- Practical Workshop: Designing an Optimization Strategy for a Production Line

Day 3: Advanced Problem-Solving Techniques

- Root Cause Analysis (RCA) Frameworks and Real Applications
- Failure Modes and Effects Analysis (FMEA) in Practice
- 5 Whys, Fishbone Diagram, and Fault Tree Analysis
- Applying Lean Six Sigma for Process Improvement
- Developing Corrective and Preventive Actions (CAPA)
- Managing Human and Technical Factors in Problem Solving
- Case Study: Resolving Chronic Equipment Failures
- Group Exercise: RCA for a Real Production Scenario

Day 4: Reliability, Safety & Asset Performance

- Reliability-Centered Maintenance (RCM) Concepts
- Total Productive Maintenance (TPM) for Equipment Optimization
- Reliability Engineering Metrics and Tools
- Integrating Safety, Quality, and Reliability into Operations
- Risk Assessment and Mitigation in Production Environments
- Predictive Maintenance using Digital Technologies
- Asset Integrity and Performance Monitoring Frameworks
- Group Workshop: Developing a Reliability Improvement Roadmap

Day 5: Sustaining Operational Excellence

- Continuous Improvement Frameworks (Kaizen, PDCA, DMAIC)
- Embedding Operational Excellence into Corporate Culture
- Measuring and Reporting Operational KPIs
- Digital Transformation and Smart Operations (AI, IoT, Analytics)
- Leadership and Change Management in Operations
- Developing Personal and Organizational Action Plans
- Final Group Presentation: Operational Excellence Roadmap
- Certificate Ceremony and Wrap-Up Discussions

Course Agenda (Bilingual A/E):

(1st Day) Agenda

8.30	9.00	Opening Remarks (30 Min.).
9.00	11.30	<u>Discuss Course Major Points:</u> • Fundamentals of Operational Excellence. • Process Optimization Strategies. • Advanced Problem-Solving Techniques. • Reliability, Safety & Asset Performance. • Sustaining Operational Excellence.
11.30	12.00	Coffee Break
12.00	14.00	<u>Fundamentals of Operational Excellence:</u> • Understanding the Concept and Philosophy of Operational Excellence • Key Pillars: Leadership, Culture, Process, and Technology • The Link Between Operational Excellence and Business Strategy • Identifying Performance Gaps and Productivity Losses • Lean Thinking, Waste Reduction, and Value Stream Mapping • Developing Performance Metrics and KPIs • Group Workshop: Assessing Your Current Operational Maturity • Case Study: Operational Excellence Implementation in a Major Oil Company
14.00	14.30	Questions and Discussion
14.30		Buffet Lunch

(2nd Day) Agenda

9.00	11.30	<u>Process Optimization Strategies:</u> • Mapping the Production Flow and Identifying Bottlenecks • Process Re-engineering and Optimization Tools • Statistical Process Control (SPC) for Operations • Using Data Analytics and Machine Learning for Optimization
11.30	12.00	Coffee Break
12.00	14.00	<u>Process Optimization Strategies:</u> • Managing Energy, Time, and Resource Efficiency • Process Simulation Tools for Predictive Analysis • Cost and Throughput Optimization Approaches • Practical Workshop: Designing an Optimization Strategy for a Production Line
14.00	14.30	Questions and Discussion
14.30		Buffet Lunch

(3rd Day) Agenda

9.00	11.30	<u>Advanced Problem-Solving Techniques:</u> • Root Cause Analysis (RCA) Frameworks and Real Applications • Failure Modes and Effects Analysis (FMEA) in Practice • 5 Whys, Fishbone Diagram, and Fault Tree Analysis • Applying Lean Six Sigma for Process Improvement
11.30	12.00	Coffee Break
12.00	14.00	<u>Advanced Problem-Solving Techniques:</u> • Developing Corrective and Preventive Actions (CAPA) • Managing Human and Technical Factors in Problem Solving • Case Study: Resolving Chronic Equipment Failures • Group Exercise: RCA for a Real Production Scenario
14.00	14.30	Questions and Discussion
14.30		Buffet Lunch

(4th Day) Agenda

9.00	11.30	<u>Day 4: Reliability, Safety & Asset Performance:</u> • Risk Assessment and Mitigation in Production Environments • Predictive Maintenance using Digital Technologies • Asset Integrity and Performance Monitoring Frameworks • Group Workshop: Developing a Reliability Improvement Roadmap
11.30	12.00	Coffee Break
12.00	14.00	<u>Day 4: Reliability, Safety & Asset Performance:</u> • Reliability-Centered Maintenance (RCM) Concepts • Total Productive Maintenance (TPM) for Equipment Optimization • Reliability Engineering Metrics and Tools • Integrating Safety, Quality, and Reliability into Operations
14.00	14.30	Questions and Discussion
14.30		Buffet Lunch

(5th Day) Agenda

9.00	11.30	<u>Day 5: Sustaining Operational Excellence</u> • Continuous Improvement Frameworks (Kaizen, PDCA, DMAIC) • Embedding Operational Excellence into Corporate Culture • Measuring and Reporting Operational KPIs • Digital Transformation and Smart Operations (AI, IoT, Analytics)
11.30	12.00	Coffee Break
12.00	14.00	<u>Day 5: Sustaining Operational Excellence</u> • Leadership and Change Management in Operations • Developing Personal and Organizational Action Plans • Final Group Presentation: Operational Excellence Roadmap • Certificate Ceremony and Wrap-Up Discussions
14.00	14.30	Questions, Discussion & Conclusion Training Course.
14.30		Buffet Lunch