



Arabian Institute For Training

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# Cost Effective Maintenance

## Why Attend

- Maintenance can be an expensive function, but badly planned and poorly performed maintenance can incur significantly greater costs to an organization. Recent years have seen an increasing pressure to “reduce the cost of maintenance”, but this pressure frequently generates a push toward fixed cost reductions without sufficient consideration of the consequences on plant performance, production costs, asset life and even HSE. Some initiatives achieve short-term fixed cost reductions, but cause longer-term issues, such as poor reliability, that have a far greater adverse impact on bottom-line profits. In addition, the majority of fixed cost reduction programs fail to achieve sustainable benefits, yet another sign that achieving cost effective maintenance is far more difficult than anticipated.
- This course is based on established best practice from best-in-class companies and leading consultants. We have developed best practice models and frameworks to bring structure and guidance to this challenge. The complex maintenance functions will be broken down into smaller components so that these can be analyzed, explained and understood more easily.
- The maintenance cost and value model used for this course has been applied by leading companies and consultants with its achievements recognized as best practice. This course will help participants understand the total impact maintenance can have on an organization, identify the key elements and value of cost effective maintenance for their own plants and build improvement programs to both reduce costs and improve performance. The critical elements of maintenance will be covered on the course, from day-to-day activities to shutdowns and reliability improvement. Together, we will break down traditional functional boundaries and enable a holistic approach to maintenance.

## Course Methodology

- This is an interactive course. There will be open discussions, regular team exercises, videos, case studies and presentations on best practice and models. Participants will have the opportunity to discuss maintenance approaches from their own organizations and to develop maintenance plans with the facilitator and other participants on the course.
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## Course Objectives

By the end of the course, participants will be able to:

- Understand the definition and principles of cost effective maintenance
- Calculate the total cost of maintenance for their own production plant
- Build a strategy and business case to eliminate waste and develop lower maintenance costs without losing reliability
- Use the model of excellence for optimizing fixed costs of maintenance
- Explain the fundamentals of cost effective safety and legislative compliance
- Help focus reliability efforts in a cost effective way
- Develop an approach to integrate cost reduction with reliability and safety improvement

## Target Audience

- Maintenance managers and supervisors, planners, schedulers, reliability engineers, project managers, project engineers, operations managers, shift managers, operations supervisors and/or individuals who are in training for these positions. This course is also designed for contractors who want to contribute to maintenance and shutdown performance of clients.

## Target Competencies

- Analyzing maintenance costs
- Developing efficiency improvements
- Identifying essential maintenance and quality requirements
- Cost optimization
- Maintenance planning
- Reliability improvement

### Understanding the total cost of maintenance

- A definition of the total cost of maintenance
  - Benchmark standards
  - Where to find best practice
  - Key components of fixed costs
  - Cost of lost production
  - Cost of non compliance
  - How maintenance can add value to a business
  - How to establish a balanced approach to defining cost effective maintenance
  - Who influences maintenance cost effectiveness?
  - Changing spending behaviors
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## The modern maintenance strategy

- How maintenance has evolved
- Understanding where money should be invested and where money tends to be wasted
- The importance of planning
- The relationship between fixed costs and maintenance performance
- A change in thinking
- Away from cost reduction or reliability or safety
- Towards cost reduction and reliability and safety
- The modern maintenance strategy and asset management
- How pace setters have added value through maintenance innovation and integration with operating teams

## The basics of fixed cost reduction

- Understanding the basic categories of spend
- How to map maintenance costs
- Getting to the root cause of spend
- The danger of managing by averages
- Setting out a maintenance cost reduction program
- Setting KPIs and sustaining change

## Focus areas for fixed cost reduction

- Eliminating waste
  - Understanding the different types of maintenance
  - Common causes of waste
  - The importance of planning
  - The principles of risk based maintenance
  - The importance of maintenance standards
  - Efficiency improvements through smart ways of working
  - Identifying efficiency opportunities
  - Tool time improvement
  - Improving maintenance methods
  - Learning from other sectors
  - Implementing a planned maintenance regime
  - Reducing supply chain costs
  - Contractor strategies
  - Spare parts and materials
  - Equipment and bought in services
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## Plant performance and reliability improvement

- A model of excellence for reliability improvement
- The reliability roadmap
- How to make sure reliability improvement is efficient as well as effective
- Understanding the different types of maintenance
- Overall equipment effectiveness and other performance measures
- Improving asset life
- Learning from experience
- The role of operations
- How to use different maintenance types to improve performance
- How to achieve the same performance at lower costs

## Cost effective Health Safety & Environment (HSE)

- The value of HSE improvement
- How poor performers add unnecessary costs through safety
- Integrating HSE within the wider maintenance strategy
- Managing legislation
- The principle of risk based inspection
- Reducing the cost of compliance

## The importance of shutdown management

- Origins of the model of excellence and why it was developed
  - A graphic model - The critical elements required for success
  - An outline model - Exploring the sub elements
  - A detailed model - The blueprint for success
  - The importance of strategy and the principle of front end loading
  - How pace setters have moved to structured work processes
  - Processes for safety and quality control
  - Defining the right shutdown organization
  - Planning and logistics
  - Execution and review
  - Shutdown economics from forecasting to closure
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