Arabian Institute For Training

Problem Solving & Decision Making Skills for Engineers and Technical Professionals

INTRODUCTION

- This Problem Solving & Decision Making Skills training course will focus on the best practice methods in describing, analysing and solving any problem, incident, issue or complaint from a daily practice – technical or non-technical. This highly interactive training course will also help the delegates provide recommendations or make decisions, with the highest quality and maximum acceptance. It will help you guarantee flawless execution of actions, regardless if it is a single activity or a complex project.
- The world around us is getting more and more complex than ever and so does our daily engineering & maintenance work. Every day we are confronted with a wide variety of problems and decisions that require a rational response. Skills for complex problem solving, decision making and risk analysis are therefore key to remain successful.
- Applying a structured approach to problem solving and decision making enables you to choose and implement the best solutions for your problems and improve the quality of your decision making process that will mitigate your risks and save time and money significantly.

This training course will highlight:

- The increasing relevance of problem solving and decision making methods in general as well as in asset management
- Classic issues and pitfalls in problem solving and decision making
- A generic approach for every issue to solve and decision to make
- Rational and creative methods to support this approach: Event Mapping, Problem Analysis, Human Factor Analysis, Decision Analysis and Risk Analysis
- Effective application and implementation of these methods in daily practice

OBJECTIVES

- Problem Solving and Decision Making skills for Engineers and Technical Professionals presents a structured and transparent approach with methods to help you to describe, analyse, solve and prevent problems effectively and to make the best decisions with maximum acceptance.

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

- Understand the increasing necessity of using sound methods for problem solving and decision making
- Involve the right people in the right way in any analysis
- Solve and prevent issues and problems more rapidly and effectively
- Make better decisions and recommendations
- Communicate and present analysis, solutions and recommendations with maximum understanding and acceptance
- Apply and implement the methods learned in daily practice immediately after the training

TRAINING METHODOLOGY

- Participants to this Problem Solving & Decision Making Skills training course will receive a thorough training on the subjects covered by the seminar outline, with a combination of theory, practical examples, many exercises and application on issues from their own work environment. Besides a comprehensive training manual, participants will receive additional materials like process cards, work sheets, case descriptions, sample solutions, etc.

ORGANISATIONAL IMPACT

  By attending this training seminar, your organization will get sustainable results:

- Issues and problems will be analysed to the full extend and presented in a holistic, visual and therefore easy to understand way
- Complex problems will be solved more rapidly and more effectively, preventing recurrence and providing tangible contribution to business performance
- Business decisions will be better, with maximum acceptance of all stakeholders
- Projects or other plans will be implemented with a minimum of problems and risks
- The structured approach for solving problems, making decision and managing risks will enhance communication and collaboration between all people involved
- The methods presented, enables the organisation to significantly improve any existing continuous improvement approach

PERSONAL IMPACT

By attending this training seminar, the participants will:

- Understand the increasing importance of problem solving and decision making skills
- Learn about their own pitfalls while solving problems and making decisions
- Be skilled to describe, analyse, solve and prevent any issue or problem in daily practice
- Be skilled to make better decisions and provide better recommendations
- Be skilled to assess any plan or activity and make it more robust
- Gain many ideas about the way the problem solving and decision making methods could be used and best implemented in practice
- Significantly improve their personal effectiveness and boost their future career opportunities

WHO SHOULD ATTEND?

- You work at tactical or management level and want to increase your effectiveness in problem solving and decision making. You are therefore looking for a structured and easy to apply approach to any issue.

This training course is suitable to a wide range of professionals but will greatly benefit:

- All professionals involved in problem solving and decision making within maintenance, engineering, technology and production
- Anyone who wishes to update themselves on problem solving and decision making, judge the suitability of these methods for their needs, and learn how to implement them for the benefit of their organizations

Course Outline

Introduction

- Introduction to the Program
- Introduction Problem Solving & Decision Making
- Introduction Generic approaches for Problem Solving and continuous Improvement eg. Deming circle, Kaizen, 8D, DEMAIC, RATIO
- Introduction of Problem Solving Methods eg. 5 Why, Ishikawa, Fault tree, Apollo, TRIZ, etc.
- Introduction RATIO-approach
- Introduction Case and Demo

Reflect on Your Problem

- Theory RATIO-step: Reflect
- Introduction Case to Determine the Root Cause
- Theory Event Mapping

Analyse Technical Problems

- Theory RATIO-step: Analyse
- Theory Problem Analysis: Describe the problem (IS / IS-NOT)
- Theory Problem Analysis: Determine possible causes (brainstorming, using characteristics and changes, using Ishikawa-diagram)
- Theory Problem Analysis: Determine true cause(s)
- Exercises in Problem Analysis
- Completion of Event Map with outcome of Problem Analysis

Analyse Human or Organizational Problems – Determine Best Solutions

- Theory Human Factor Analysis
- Exercise Human Factor Analysis
- Theory RATIO-step: Target (alternative and best solutions)
- Theory Decision Analysis
- Exercise Decision Analysis
- Completion of Event Map with outcome of Human Factor Analysis and Decision Analysis

Implement, Observe and Evaluate Results

- Theory RATIO-step: Implement
- Theory Risk Analysis
- Exercise Risk Analysis
- Theory and Demo Human Factor Analysis in Advance
- Theory RATIO-step: Observe and Evaluate
- Implementation of Problem Solving & Decision Making Methods in Daily Practice
- Evaluation and Closure of Training

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