

# SUBSEA PIPELINES ENGINEERING - DESIGN, CONSTRUCTION, INSTALLATION, INSPECTION MAINTENANCE AND REPAIR

*"Master the complexities of subsea pipeline engineering, from design and installation to inspection, maintenance, and repair in challenging offshore environments."*

## Schedule

Date	Venue	Fees (Face-to-Face)
01 - 05 Jun 2026	London, UK	USD 3495 per delegate

► **Available delivery methods:** Face-to-Face & Online Training

## Introduction

Subsea pipelines are critical components of offshore energy infrastructure, and their design, construction, installation, inspection, and maintenance require specialized knowledge. This course provides an in-depth understanding of the entire lifecycle of subsea pipelines, from the initial design phase to operational monitoring and maintenance in harsh marine environments. Participants will gain expertise in addressing the challenges unique to subsea pipeline projects, ensuring integrity, safety, and regulatory compliance throughout the process.

The course will use a mix of theoretical learning, case studies, and practical exercises to give participants hands-on experience in handling real-world challenges in subsea pipeline engineering. Whether working on oil, gas, or renewable energy projects, this course will enhance participants' abilities to oversee and manage complex subsea pipeline systems effectively.

## Objectives

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

- Understand the principles of subsea pipeline engineering, from design to maintenance
- Identify and mitigate the specific risks associated with subsea pipeline installation and operation
- Apply industry standards and best practices for subsea pipeline construction and inspection
- Develop maintenance strategies to ensure the continued integrity and efficiency of subsea pipelines
- Manage projects effectively, from initial design to final inspection and repair

## Why Attend

- Gain in-depth knowledge of subsea pipeline systems and their unique challenges
- Learn to apply best practices in design, construction, installation, and inspection of subsea pipelines
- Understand how to mitigate risks and ensure compliance with industry regulations
- Develop effective maintenance and repair strategies for subsea pipelines
- Network with industry professionals and experts in subsea pipeline engineering

## Target Audience

This program is designed for:

- Subsea engineers, pipeline engineers, and technical professionals involved in subsea pipeline design, construction, and maintenance
- Project managers overseeing offshore pipeline projects
- Maintenance and operations managers responsible for subsea pipeline integrity
- Inspectors and quality control professionals working on subsea pipeline systems
- Consultants and contractors involved in subsea pipeline engineering

## Individual Benefits

Key competencies that will be developed include:

- Expertise in subsea pipeline design, construction, and installation techniques
- Knowledge of the latest subsea pipeline inspection, maintenance, and repair technologies
- Enhanced ability to manage risks and safety during subsea pipeline operations
- Familiarity with international standards and regulations for subsea pipeline projects
- Improved project management and leadership skills in subsea pipeline projects

## Organizational Benefits

Upon completing the training course, participants will demonstrate:

- Enhanced ability to plan, design, and execute subsea pipeline projects efficiently
- Improved risk management and mitigation strategies for subsea pipeline systems
- Increased safety and compliance with regulatory standards in subsea pipeline operations
- Optimized maintenance and repair strategies to extend the lifecycle of subsea pipelines
- Better collaboration and communication among project teams involved in subsea pipeline projects

## Instructional Methodology

The course follows a blended learning approach combining theory with practice:

- Strategy Briefings – Overview of subsea pipeline engineering principles, from design to maintenance
- Case Studies – Real-life examples of subsea pipeline projects and challenges
- Workshops – Hands-on exercises focused on design, inspection, and maintenance of subsea pipelines
- Peer Exchange – Group discussions on best practices, lessons learned, and future challenges in subsea pipeline engineering
- Tools – Tools for designing, inspecting, maintaining, and repairing subsea pipelines

## MAWA EVENTS

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## Course Outline

**Training Hours:** 7:30 AM – 3:30 PM **Daily Format:** 3-4 Learning Modules | Coffee Breaks: 09:30 & 11:15 | Lunch Buffet: 01:00 – 02:00

### Day 1: Introduction to Subsea Pipeline Engineering

- Module 1: Overview of Subsea Pipeline Systems – 07:30-09:30
- Introduction to subsea pipelines and their role in offshore energy infrastructure Key engineering principles involved in subsea pipeline design and construction Challenges and considerations in subsea pipeline projects
- Module 2: Subsea Pipeline Design Principles – 09:45-11:15 Design processes for subsea pipelines: material selection, stress analysis, and environmental considerations Key considerations for subsea pipeline integrity and longevity Software and tools used in subsea pipeline design
- Module 3: Project Planning for Subsea Pipeline Installation – 11:30-01:00 Planning and scheduling subsea pipeline installation projects Resource allocation and managing logistics for offshore projects Risk management strategies for subsea pipeline installations
- Module 4: Workshop – Pipeline Design Exercise – 02:00-03:30 Hands-on session on designing a subsea pipeline system

### Day 2: Subsea Pipeline Construction and Installation

- Module 1: Subsea Pipeline Construction Techniques – 07:30-09:30 Methods of constructing subsea pipelines, including welding, coating, and installation techniques Innovative construction methods and equipment used in subsea pipeline installation Managing construction risks in subsea pipeline projects
- Module 2: Offshore Installation Challenges – 09:45-11:15 Installation methods for deep-water pipelines Handling environmental challenges during subsea pipeline installation Managing offshore construction logistics and safety protocols
- Module 3: Inspection Techniques for Subsea Pipelines – 11:30-01:00 Common methods of subsea pipeline inspection: visual, ultrasonic, and remote technologies Ensuring pipeline integrity through regular inspection and monitoring Identifying and addressing issues detected during subsea pipeline inspections
- Module 4: Workshop – Pipeline Installation Exercise – 02:00-03:30 Hands-on session to simulate the installation of a subsea pipeline system

### Day 3: Maintenance and Repair of Subsea Pipelines

- Module 1: Pipeline Maintenance Strategies – 07:30-09:30 Planning and executing maintenance programs for subsea pipelines Tools and technologies for subsea pipeline inspection and repair Risk management in pipeline maintenance operations
- Module 2: Subsea Pipeline Repair Techniques – 09:45-11:15 Repair techniques for subsea pipeline damage: hot tapping, sleeving, and welding Handling pipeline failures and emergency repairs Case studies of subsea pipeline repairs
- Module 3: Maintaining Pipeline Integrity – 11:30-01:00 Strategies for maintaining pipeline integrity over time Assessing the need for retrofitting or upgrading subsea pipelines Developing and implementing integrity management systems
- Module 4: Workshop – Subsea Pipeline Repair Exercise – 02:00-03:30 Hands-on session to plan and execute a subsea pipeline repair project

### Day 4: Subsea Pipeline Monitoring and Compliance

- Module 1: Real-Time Monitoring of Subsea Pipelines – 07:30-09:30 Technologies for real-time monitoring of subsea pipeline systems Remote monitoring systems and sensors for integrity assessment Data analytics for predictive maintenance
- Module 2: Regulatory Compliance and Standards – 09:45-11:15 Understanding industry standards and regulations for subsea pipelines Compliance with international safety and environmental regulations Certification and documentation for subsea pipeline operations
- Module 3: Managing Subsea Pipeline Projects – 11:30-01:00 Project management best practices for subsea pipeline engineering Handling project risks, delays, and budget constraints Collaborative approaches to managing large subsea pipeline projects
- Module 4: Workshop – Monitoring and Compliance Exercise – 02:00-03:30 Hands-on session on implementing real-time monitoring systems for subsea pipelines

### Day 5: Review and Certification

- **Module 1: Course Review and Final Assessment – 07:30–09:30** Recap of key course concepts and strategies Participant-led discussions on best practices for subsea pipeline engineering
- **Module 2: Certification Ceremony and Closing Remarks – 09:45–11:15** Presentation of course completion certificates Final remarks from instructors
- **Module 3: Networking and Next Steps – 11:30–01:00** Networking session with peers and instructors Discussing future learning opportunities and professional development

### Certification

Participants will receive a Certificate of Completion in Subsea Pipeline Engineering, validating their expertise in designing, constructing, installing, inspecting, maintaining, and repairing subsea pipeline systems.

### Why Choose MAWA Events

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