

The background of the entire page is a blue-tinted photograph of a large group of people sitting in a classroom or training room, facing a screen. The AIE logo is positioned in the upper left corner.

AIE asset
integrity
engineering

TRAINING CATALOGUE

Asset Integrity Engineering



Headquartered in the Middle East
 we are an independent body with no ties to supply companies or proprietary services and products.



Oil, Gas & Chemicals

Renewables

Metals & Mining

Power & Utilities

ABOUT US

AIE is a leading provider of asset integrity management and engineering services which improve operational reliability, safety and asset protection.

AIE holds an accredited quality, safety and environmental management system in accordance with ISO and international standards. We are managing more than 3 million barrels of the world's oil production.



Trust in our capabilities

TRAINING

AIE delivers comprehensive asset integrity training to operations, integrity, inspection, maintenance and engineering teams servicing all sectors of various industries such as Oil, Gas & Chemicals, Renewables, Metals & Mining, Power & Utilities.

DEVELOPED BY PROFESSIONALS FOR INDUSTRY



Don't just take our word for it

HEAR SOME OF OUR PARTICIPANTS' FEEDBACK

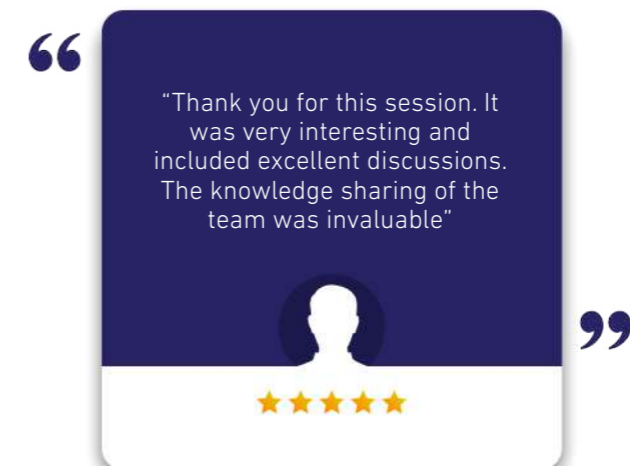
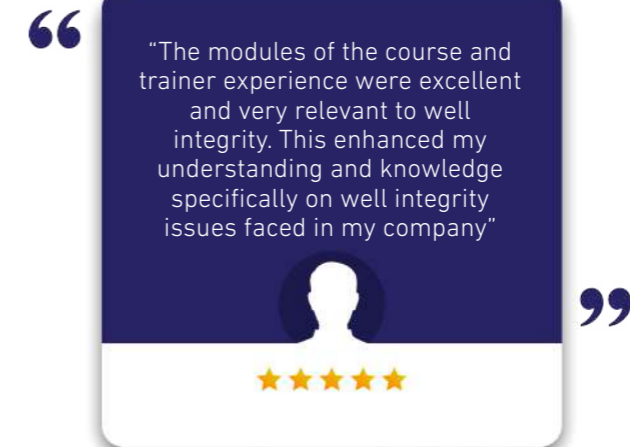




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Asset Integrity Management

3 - 5 Days

This established course covers both theoretical and practical exposure to the foundations of asset integrity management. It focuses on modern risk based methodologies to manage asset integrity in both newly constructed and ageing facilities. It explains and addresses key threats facing various hazardous industries especially the Oil and Gas industry and provides both established and innovative practices to safely mitigate them.

The training course is delivered in 11 intensive modules which are interrelated and written to create a structured and comprehensive learning environment. Each module is followed by a practical case study where delegates implement aspects of the training with guidance from our expert trainers.

Who Should Attend?

Managers, Engineers, Inspectors and Technicians in the fields of Integrity & Inspection, Engineering, Maintenance, Process & Operations and HSE,

From heavy industry but especially Oil & Gas, Petrochemical & Chemical, Refineries, Power & Utilities, Engineering and Nuclear.

MODULE	MODULE NAME
1	Asset Integrity Elements
2	Asset Integrity Lifecycle
3	Asset Integrity Barriers
4	Safety Critical Elements & Equipment
5	Asset Degradation & Damage
6	Operational Corrosion Management
7	Risk Based Inspection
8	Pipeline Integrity Management
9	Key Performance Indicators
10	Integrity & maintenance Build
11	Asset Integrity Review Process



Operational Risk Management

1 Day

Our 1-day Operational Risk Management (ORM) training course is designed for organizations looking for optimizing their risk management approach and developing an organization-wide safety culture to drive operational discipline. It is aimed to illustrate the function of a mature ORM system and its role in safeguarding assets, people and the environment. The course highlights the elements, steps and human factors involved in an ORM system while explaining the tools that can be utilized for its implementation.

The course consists of four modules that lay out the requirements and tools involved in an effective and comprehensive Operational Risk Management system.

Who Should Attend?

The course is intended for Managers, Engineers, Inspectors and Technicians in the fields of Integrity & Inspection, Engineering, Maintenance, Process & Operations and HSE.

It targets hazardous industries; especially Oil & Gas, Petrochemical & Chemical, Refineries, Power & Utilities, Engineering and Nuclear.

MODULE	MODULE NAME
1	Operational Risk Management Process
2	Operational Risk Management Tools
3	Human Factors
4	Major Failures in Hazardous Industries

Well Integrity Management

3 - 5 Days

NORSOK D-010, one of many well integrity industry standards, defines well integrity as the "application of technical, operational and organizational solutions to reduce risk of uncontrolled release of formation fluids throughout the life cycle of a well.

In this training course, the fundamentals and latest risk-based methodologies required for sound and effective application of well integrity management are explained and illustrated at each stage of a well's life cycle.

The course is delivered in 9 intensive modules and uses a holistic, multi-disciplinary and integrated management approach ensuring that the technical, operational and organizational aspects of a well integrity management system are explained.

Who Should Attend?

Personnel in well production and drilling operations starting from Well Integrity, Drilling and Production Engineers and Technicians to Well Integrity Managers,

Drilling Managers, Well Engineering Discipline Specialists, Well Construction Controllers, Reservoir Engineers and Well Intervention / Services Engineers.

MODULE	MODULE NAME
1	Implications of Well Integrity Management
2	Introduction to Well Barriers
3	Lifecycle Well Integrity
4	Well Integrity Management System Elements
5	Well Barrier Elements Failure Modes & Mechanical Threats
6	Well Integrity Threats – Corrosion & Flow Assurance
7	Well Integrity Monitoring, Inspection & Testing
8	Well Integrity Risk Assessment
9	Annular Casing Pressure & Anomaly Management



Storage Tank Integrity Management

3 - 5 Days

The training course offers a comprehensive understanding of storage tanks and their integrity management process, covering fundamental subjects such as storage tank types and components, common damage and failure mechanisms, safety, integrity assessments, corrosion management, risk assessments and inspection planning.

An overview of relevant codes and standards such as API 575, API 650, API 620, API 653, EEMUA 159 and EN14015 is incorporated within the training course content.

A series of real-world case studies and interactive sessions will enable the participants to understand the importance and value of a sound storage tank integrity management system.

Who Should Attend?

Managers, Engineers, Inspectors and Technicians in the fields of Integrity & Inspection, Engineering, Maintenance.

From heavy industry but especially Oil & Gas, Petrochemical & Chemical, Refineries, Power & Utilities, Engineering, Nuclear, Sugar, Pulp and Paper facilities, Water processing (reverse osmosis), Mining and Storage Depots.

MODULE	MODULE NAME
1	Asset Integrity Management Elements
2	Introduction to Storage Tanks
3	Storage Tank Safety and Failure Modes
4	Storage Tank Corrosion Management
5	Storage Tank Integrity Management Process
6	Storage Tank Risk Assessment and Inspection Planning



Pipeline Integrity Management

3 - 5 Days

The structured, but flexible, training program provides the essential knowledge and skills required to apply sound pipeline integrity management principles throughout the lifecycle of a pipeline and linking it to an effective pipeline integrity management process.

It uses a holistic, multi-disciplinary and integrated management approach to explain the concepts behind the process of pipeline integrity management and its implementation throughout the lifecycle of a pipeline.

This program is enriched with interactive case studies. By the end of the course, delegates will leave with a profound understanding of pipeline integrity management, equipped to make informed decisions and ensure the continued safety and reliability of their pipeline systems.

Who Should Attend?

This course is tailored for professionals involved in pipeline operations and maintenance, including engineers, technicians, and managers responsible for integrity management. Additionally, it is beneficial for decision-makers seeking to enhance their understanding of pipeline integrity principles and practices.

MODULE	MODULE NAME
1	Asset Integrity Elements
2	Introduction to Pipelines
3	Pipeline Integrity Lifecycle
4	Pipeline Integrity Management
5	Pipeline Defect Assessment
6	Internal Corrosion and Degradation Threats
7	External Corrosion, Degradation Threats and Pipeline Coatings
8	Inspection of Pipelines
9	Cathodic Protection
10	Pipeline Risk Assessment
11	Pipeline Repairs



Corrosion Management

3 - 5 Days

Loss of containment due to corrosion can result in severe consequences to personnel, environment and the asset. As such, corrosion management is key for successful asset integrity management.

The course is designed to provide a detailed understanding of corrosion as a key threat to industry. The modules are devised based on literature review, standards and codes that are compliant with the latest industry best engineering practices, to cover the different corrosion threats in addition to the modern monitoring and mitigation techniques.

Our course aims to challenge the delegates to collaborate and implement knowledge gained from the modules through attempting to solve case studies with guidance from our leading industry experts.

Who Should Attend?

Managers, Engineers, Inspectors and Technicians in the fields of Corrosion, Chemicals, Laboratory Services, Integrity & Inspection, Engineering, Process & Operations.

From heavy industry such as Oil & Gas, Petrochemical & Chemical, Refineries and Power Generation.

MODULE	MODULE NAME
1	Introduction to Corrosion
2	Types of Corrosion & Degradation Threats
3	Corrosion Threats
4	Environmental Cracking & Erosion
5	Material Selection
6	Corrosion Control
7	Corrosion Monitoring
8	Cathodic Protection
9	Corrosion Management System Elements
10	Corrosion Risk Assessment & RBI
11	Operational Corrosion Management

Wax Management

2 Days

Our Wax Management Training Course is a comprehensive and practical program designed to equip attendees with essential knowledge of the entire toolbox to effectively manage wax-related challenges.

It covers the spectrum of the theory behind wax deposition through to the practicalities of developing an optimal control strategy based on prevention, inhibition and remediation, all underpinned by surveillance.

By course completion, attendees will be able to optimize their wax management strategy, engage more effectively with their chemical supplier, and minimize the risks and costs associated with wax deposition in their assets.

Who Should Attend?

Professionals working in the oil and gas industry who are involved in the exploration, production, transportation, and processing of hydrocarbons.

Engineers, technologists, field operators, production chemists, and managers maintaining the integrity and efficiency of wells, pipelines, equipment, and facilities in the presence of paraffin wax.

MODULE	MODULE NAME
1	Introduction to Wax Management
2	Wax Deposition Modelling
3	Wax Management System Elements
4	Wax Prevention and Inhibition
5	Wax Remediation
6	Wax Surveillance



COP & Decommissioning

2 - 4 - Days

Our Cessation of Production (CoP) and Decommissioning training course offers comprehensive insights into the complex process of winding down operations and safely decommissioning facilities, both offshore and onshore, while minimizing environmental impact, ensuring regulatory compliance, and maximizing resource recovery.

Designed to accommodate professionals from diverse industries, the course covers key aspects such as regulatory compliance, stakeholder engagement, environmental considerations, and future trends. Participants will engage in interactive case studies and discussions to apply the principles learned to real-world scenarios. Experienced instructors will guide participants through the complexities of decommissioning while providing them with guidelines for effective project planning and execution.

Who Should Attend?

Project managers, environmental consultants, regulatory authorities, facility managers, engineers, sustainability officers, health and safety specialists, asset managers, and stakeholder engagement specialists, who seek to gain a comprehensive understanding of cessation of production and decommissioning processes applicable to their respective fields.

MODULE	MODULE NAME
1	Late Life Issues/Considerations
2	Cessation of Production (CoP) Planning
3	Decommissioning – the Scale of the Industry Problem
4	Decommissioning Environment
5	Setting up Decommissioning Projects
6	Stakeholder Engagement and Comparative Assessment
7	Preparatory Work (Engineering and Project Management)
8	Well Plugging & Abandonment
9	Platform Removal and Transportation
10	Decommissioning Subsea Infrastructure
11	Waste stream Management
12	Project Close Out Issues

Maintenance & Reliability

1 Day

Our 1-day Maintenance and Reliability Training Course provides a comprehensive understanding on reducing maintenance and repair costs, increasing equipment reliability and confirmation with international and company standards.

It provides a combination of actions carried out in order to replace, repair, service or modify a physical asset or its components.

The course highlights the failure probability of equipment, active repair time and assessment of unavailability. It also touches on the calculation of the MTTF and MTTR.

Our trainers emphasize the different types of Reliability Block Diagrams alongside engaging case studies to allow participants to fully engage with the material and reinforce learning.

Who Should Attend?

The course is intended for Managers, Maintenance and Reliability Engineers, Operations Personnel and Technicians.

It targets various industry sectors; Including Energy, Mining, Petrochemical & Chemical, Refineries, Power & Utilities and Nuclear.

MODULE	MODULE NAME
1	Reliability, Availability, Maintainability
2	Reliability and Statistical Definitions
3	Assessing the Reliability of Systems
4	Technology Enabled Maintenance



Spares Optimization

1 Day

Our 1-day Spares Optimization training course provides organizations with the knowledge required to capture opportunities which enables them to optimize and reinvent spares inventory and management systems resulting in significant short and long-term savings for clients.

Organizations should aim to stock the optimum quantity of spares parts to allow uninterrupted production activity whilst avoiding unnecessary or excessive stocks of spare parts. The cost of failing to do so can be high.

The topics in this course are illustrated via practical case studies for the delegates which are analysed and solved in a discussion-based environment.

Who Should Attend?

The course is intended for Managers, Maintenance and Reliability Engineers, Operations Personnel and Technicians.

It targets various industry sectors; Including Energy, Mining, Petrochemical & Chemical, Refineries, Power & Utilities and Nuclear.

Topic
<ul style="list-style-type: none">• Roles and responsibilities for Spares• Classification of Spares: Scheduling of Activities• Required information• Analysis techniques• Level of Repair Analysis (LoRA)• Failure Mode Effects and Criticality Analysis (FMECA)• Economic Order Quantity & Economic Stock Optimisation calculation• Additional processes• Use of a "working database"• Removal of duplication and use of Bills of Materials• Identification of items for planned maintenance activities• Standardisation of descriptions• Quality assurance and Review/Approval of recommendations• Min/Max stock levels are recommended for each spares line item.• Preparation of Upload files

Sustainability In Industry

2 Days

This course explores the understanding of sustainability and sustainable development with a focus towards the energy industry. The course covers sustainability issues, global trends, agreements, frameworks and how these relate to businesses. Its content is based on the latest developments in sustainability coupled with practical approaches for businesses to act. The course is interactive and allows participants to fully engage with the material and leave with ideas to take back to their places of work.

This course is delivered in 8 modules some of which are followed by case studies where delegates are allowed to collaborate and implement the course teachings with guidance from our leading industry experts.

Who Should Attend?

Managers, Engineers, Inspectors and Technicians in the fields of HSE, Chemicals, Integrity & Inspection, Engineering, Process & Operations.

From heavy industry such as Oil & Gas, Petrochemical & Chemical, Refineries, Power Generation & Manufacturing.

MODULE	MODULE NAME
1	Introduction to Sustainability
2	The World's Energy Transition
3	Frameworks & Standards
4	Environmental Impact Assessment (EIA)
5	Environmental Management
6	Optimizing Energy Processes
7	Methane Emissions Detection & Reduction
8	Operationalizing Sustainability



Industrial Data Science

2 Days

Our 2-day Industrial Data Science (IDS) training course program presents an organized set of modules that address the important skill sets and understanding needed to explore the main tools used for data science and how these can be implemented to optimize asset management in heavy industry.

In this course, a comprehensive management method is utilized to address the concepts behind Big Data, Industrial Data Science, Industrial AI, Cross-Industry Standard Process for Data Mining (CRISP-DM) and their utilization to boost your business' data extraction, analysis, visualization and predictive modelling techniques. It presents case studies of data science applied to industry problems and worked examples of how to use Cloud Based AI to lower the barrier to entry for AI adoption.

Who Should Attend?

Practicing engineers, operators and managers in various industries such as Energy, Utilities, Mining, Aviation and Renewables.

Personnel at all levels whose jobs require them to conduct data management and analysis tasks, in the fields of integrity, maintenance, operations, engineering or HSE.

MODULE	MODULE NAME
1	Introduction to Industrial Data Science and Data Sources
2	Cross-Industry Standard Process for Data Mining
3	Fundamentals of Machine Learning & Artificial Intelligence
4	Data Preparation, Feature Engineering, and Data Labelling
5	Data Visualization
6	Artificial Intelligence & Machine Learning Frameworks in Python
7	Cloud-Based Artificial Intelligence Services
8	Reference Architectures & Best Practices for Data Science



In-Line Inspection & Reporting

2 Days

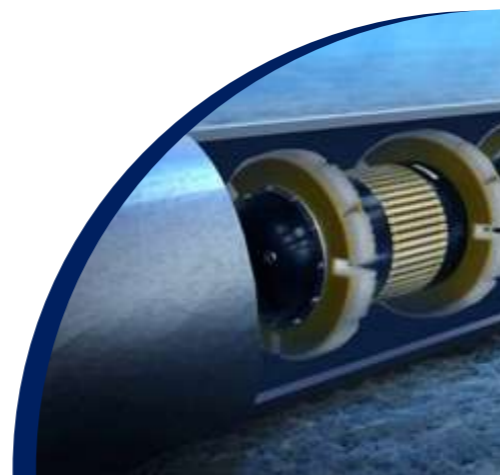
This training course is aimed at providing participants with the knowledge necessary to conduct in-line inspections of pipelines and effectively report on their findings. It covers the principles of in-line inspection, inspection tools and technologies, data analysis, reporting techniques, safety considerations, and regulatory compliance. Whether you are new to the field or seeking to enhance your existing skills, this course provides a solid foundation for professionals involved in pipeline integrity management.

This program is enhanced with engaging case studies that encourage active participation. Upon completing the course, delegates will leave with a profound understanding of pipeline in-Line inspection and reporting.

Who Should Attend?

This course is tailored for professionals involved in pipeline operations and maintenance, including engineers, technicians, and managers responsible for pipeline integrity. Additionally, it is beneficial for decision-makers seeking to enhance their understanding of pipeline integrity principles and practices.

MODULE	MODULE NAME
1	Pipeline Integrity Management
2	Pipeline Inspection Introduction
3	In-Line Inspection Technologies
4	In-Line Inspection Operations
5	In-Line Inspection Operational Issues
6	In-Line Inspection Results Reporting



Cathodic Protection

2 Days



This Cathodic Protection Training Course provides a comprehensive overview of cathodic protection theory, design, testing, data analysis, safety protocols, and interference mitigation strategies.

Participants will understand corrosion principles, design considerations, and practical techniques for testing and interpreting cathodic protection data.

The topics in this course are illustrated via practical case studies for the delegates which are analysed and solved in a discussion-based environment.

Who Should Attend?

Delivered to Corrosion Engineers, Cathodic Protection Testers & Technicians and Field Personnel.

The program is tailored to meet the requirements of the audience, whether it be pursuing AMPP CP tester certification or learning more about cathodic protection theory, design, testing and data analysis.

MODULE	MODULE NAME
1	Introduction to Corrosion
2	Cathodic Protection Theory & Design Requirements
3	Cathodic Protection Testing
4	Cathodic Protection Data Analysis
5	Cathodic Protection Safety
6	Stray Current & DC Interference
7	AC Interference

Hydrostatic Pressure Testing

3 Days

Hydrostatic pressure testing is a critical process used in various industries, including manufacturing, construction, and oil and gas, to ensure the integrity and safety of pressure vessels, pipelines, and other pressurized systems.

The course is designed to provide participants with a comprehensive understanding of hydrostatic pressure testing principles, techniques, safety protocols, and best practices. It covers both theoretical and practical aspects of hydrostatic pressure testing, making it suitable for professionals and technicians involved in quality control, maintenance, and safety in high-pressure environments.

During the training sessions, participants will gain insight into cutting-edge technologies and emerging trends in hydrostatic pressure testing.

Who Should Attend?

This course is suitable for engineers, technicians, quality control professionals, safety officers, maintenance and inspection personnel, project managers and regulatory compliance officers involved in pressure testing processes in industries such as Manufacturing, Energy, Mining, Petrochemical & Chemical, Refineries, Power & Utilities and Nuclear.

MODULE	MODULE NAME
1	Defining Test Requirements
2	Test Safety
3	Pre-Test Review
4	Hydrostatic Testing
5	Test Mediums
6	Test Equipment
7	Test Recording, Analysis & Documentation
8	Test Failure and Contingency Planning



API Suite of Strategies for Inspectors

6 Days per standard

AIE's API Individual Certification Programme (ICP) exam preparation training is designed to provide the ultimate preparation to personnel looking to take the formal API examination. Each API exam preparation training course includes the following:

- Thorough explanation of the API standard and its topics and theories
- Full definition of the API Body of Knowledge
- Overview of related standards
- Series of examples and case studies
- Dedicated day for a mock examination

Who Should Attend?

Personnel involved in the design, construction, repair, operation, or inspection of various types of equipment in the oil and gas industry. They are especially important for personnel intending to sit the API examinations.

Prior to enrolling on the AIE course and applying for the API ICP exam candidates must ensure they meet the minimum requirements defined by API.

COURSES	COURSE NAME
API 510	Pressure Vessel Inspection Code: In-service Inspection, Rating, Repair, and Alteration
API 570	Piping Inspection Code: In-service Inspection, Rating, Repair, and Alteration of Piping Systems
API 653	Tank Inspection, Repair, Alteration, and Reconstruction
API 650	Welded Tanks for Oil Storage
API 571	Damage Mechanisms Affecting Fixed Equipment in the Refining Industry
API 580	Risk Based Inspection
API 579	ASME FFS-1 Fitness for Service

DELIVERY MODE

DELIVERY MODE

Classroom

Traditional, hands-on learning approach

Delivered in client premises, AIE offices or in specialized training facilities



Live Online

Interactive experience involving a variety of multimedia elements

Delivered live through teleconference facilities



Pre-recorded Online

Flexible and convenient for busy professionals

Pre-recorded training modules, 30-day access from date of purchase



Public Events

Exceptional networking opportunities with influential personnel

Predetermined schedule, delivered online or in specialized training facilities



Private Events

Tailored to client operations & requirements

Delivered in-house or in specialized training facilities



AIE ACADEMY

Our AIE Academy offers multiple training pathways that are geared towards the personnel level and area of expertise. The training pathways include online training sessions, classroom workshops, competency assessments and improvement plans.

Each pathway is carefully designed to meet your various training requirements; whether it be attending individual management training sessions or subscribing for a long-term training program to leverage your team's competency level in a specific subject.

Features	Single Learning Program	AIE Academy Plus	AIE Academy Premium	AIE Academy Premium Residential
Access To Virtual Learning	YES	YES	YES	YES
Attend Live Online Courses	—	YES	YES	YES
Screening Competency Assessment	—	—	YES	YES
Final Competency Assessment	—	—	YES	YES
Residential Camp	—	—	—	YES Hosted in the UAE involving field and classroom based activities

* A minimum of 8 delegates for Premium and Premium Residential are required

AIE ACADEMY

AIE asset
integrity
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