

# Predictive Maintenance & Asset Integrity for Petroleum Facilities with AI

*Amsterdam*

*22 - 26 June 2026*

UK Training

# PARTNER



# Predictive Maintenance & Asset Integrity for Petroleum Facilities with AI

Code: OG28 From: 22 - 26 June 2026 City: Amsterdam Fees: 4900 Pound

## Introduction

The adoption of Artificial Intelligence AI in petroleum facilities is revolutionizing asset integrity and maintenance strategies. Predictive Maintenance powered by AI leverages real-time data, advanced analytics, and machine learning to anticipate equipment failures before they occur, significantly reducing downtime and maintenance costs. This course equips professionals with the knowledge and tools to transition from traditional reactive or preventive maintenance approaches to AI-driven predictive models that maximize asset lifespan and operational reliability. This program is designed for executives, asset managers, maintenance engineers, and technical teams seeking to optimize petroleum facility operations through intelligent data-driven insights and cutting-edge digital technologies.

## Course Objectives

- Understand the principles of predictive maintenance in petroleum operations.
- Apply AI and machine learning for asset performance monitoring.
- Identify early warning signs of equipment failure using data analytics.
- Develop predictive models for critical petroleum facility components.
- Integrate IoT sensors and real-time data streams into maintenance workflows.
- Optimize maintenance schedules for maximum cost-effectiveness.
- Ensure compliance with asset integrity management standards.
- Evaluate predictive maintenance ROI and performance improvements.

## Course Outlines

### Day 1: Fundamentals of Predictive Maintenance & AI Applications

- Introduction to predictive maintenance concepts and benefits.
- AI technologies relevant to asset integrity management.
- Maintenance strategies: reactive, preventive, predictive.
- Data sources for predictive maintenance in petroleum facilities.
- Challenges and barriers to AI adoption.
- Practical exercise: Mapping AI opportunities in asset management.

### Day 2: Data Collection, Processing & Integration

- Types of data: operational, historical, sensor-based.
- Data cleaning and normalization techniques.
- Handling large datasets from multiple sources.
- IoT integration for real-time monitoring.
- Cybersecurity considerations in connected maintenance systems.
- Practical exercise: Building a maintenance data pipeline.

### Day 3: Machine Learning Models for Predictive Maintenance



- Overview of supervised and unsupervised learning methods.
- Developing predictive algorithms for asset health monitoring.
- Feature engineering for improved model accuracy.
- Failure mode prediction and anomaly detection.
- Case studies of AI-powered maintenance in petroleum facilities.
- Practical exercise: Training a predictive maintenance model.

#### Day 4: Asset Integrity Management with AI

- Understanding asset integrity frameworks and standards.
- AI-based inspection scheduling and risk assessment.
- Predictive corrosion monitoring and prevention.
- Integrating predictive maintenance with asset lifecycle management.
- Using digital twins for asset performance optimization.
- Practical exercise: Creating an AI-driven asset integrity plan.

#### Day 5: Implementation, Optimization & Continuous Improvement

- Strategies for deploying predictive maintenance systems.
- Change management for successful adoption.
- Monitoring KPIs and system performance.
- Continuous model training and updates.
- Cost-benefit analysis of predictive maintenance programs.
- Practical exercise: Designing an implementation roadmap.

#### Why Attend this Course: Wins & Losses!

- Learn how AI transforms maintenance and asset integrity management.
- Reduce unplanned downtime and costly repairs.
- Increase the lifespan of critical petroleum assets.
- Improve safety and regulatory compliance.
- Optimize maintenance resources and schedules.
- Gain practical hands-on experience with predictive models.
- Enhance data-driven decision-making capabilities.
- Access real-world industry case studies.

#### Conclusion

The Predictive Maintenance & Asset Integrity for Petroleum Facilities with AI course provides participants with the knowledge and skills to leverage AI for smarter, more efficient maintenance strategies. By integrating real-time data analytics, machine learning, and advanced monitoring technologies, petroleum facility operators can improve asset reliability, reduce costs, and ensure continuous operational excellence.

This program offers a comprehensive blend of theory, practical exercises, and industry best practices to equip professionals for the future of intelligent asset management.





# Blackbird Training Cities

## Europe



Malaga (Spain)



Sarajevo (Bosnia and Herzegovina)



Oporto (Portugal)



Glasgow (Scotland)



Edinburgh (UK)



Oslo (Norway)



Annecy (France)



Bordeaux (France)



Copenhagen (Denmark)



Birmingham (UK)



Lyon (France)



Moscow (Russia)



Stockholm (Sweden)



Podgorica (Montenegro)



Batumi (Georgia)



London (UK)



Istanbul (Turkey)



Amsterdam



Düsseldorf (Germany)  
(Switzerland)



Paris (France)



Athens (Greece)



Barcelona (Spain)



Munich (Germany)



Geneva



Prague (Czech)



Vienna (Austria)



Rome (Italy)



Brussels



Madrid (Spain)



Berlin (Germany)



Lisbon (Portugal)



Zurich



Manchester (UK)



Milan (Italy)



# Blackbird Training Cities

## USA & Canada



Los Angeles (USA)



Orlando, Florida (USA)



Online



Phoenix, Arizona (USA)



Houston, Texas (USA)



Boston, MA (USA)



Washington (USA)



Miami, Florida (USA)



New York City (USA)



Seattle, Washington (USA)



Washington DC (USA)



In House



Jersey, New Jersey (USA)



Toronto (Canada)

## ASIA



Baku (Azerbaijan)  
(Thailand)



Maldives (Maldives)



Doha (Qatar)



Manila (Philippines)



Bali (Indonesia)



Bangkok



Beijing (China)



Singapore (Singapore)



Sydney



Tokyo (Japan)



Jeddah (KSA)



Riyadh (KSA)



Melbourne (Australia)  
Korea



Phuket (Thailand)



Dubai (UAE)



Kuala Lumpur (Malaysia)



Kuwait City (Kuwait)



Seoul (South)



Pulau Ujong (Singapore)



Irbid (Jordan)



Jakarta (Indonesia)



Amman (Jordan)



Beirut





## Blackbird Training Cities

### AFRICA



Kigali (Rwanda)



Cape Town ( South Africa)



Accra (Ghana)



Lagos (Nigeria)



Marrakesh (Morocco)



Nairobi (Kenya)



Zanzibar (Tanzania)



Tangier (Morocco)



Cairo (Egypt)



Sharm El-Sheikh (Egypt)



Casablanca (Morocco)



Tunis (Tunisia)



## Blackbird Training Clients



MANNAI Trading  
Company WLL,  
Qatar



Alumina Corporation  
Guinea



Booking.com  
Netherlands



Oxfam GB International  
Organization,  
Yemen



Capital Markets  
Authority,  
Kuwait



Waltersmith Petroman Oil Limited  
Nigeria



Qatar National Bank  
(QNB),  
Qatar



Qatar Foundation,  
Qatar



AFRICAN UNION ADVISORY  
BOARD ON CORRUPTION,  
Tanzania



KFAS  
Kuwait



Reserve Bank of  
Malawi,  
Malawi



Central Bank of Nigeria  
Nigeria



Ministry of Interior  
Kingdom of Saudi Arabia  
KSA



Mabruk Oil Company  
Libya



Saudi Electricity  
Company,  
KSA



BADAN PENGELOLA  
KEUANGAN Haji,  
Indonesia



NATO  
Italy



ENI CORPORATE  
UNIVERSITY,  
Italy



Gulf Bank  
Kuwait



General Organization for  
Social Insurance  
KSA



Defence Space Administration  
Nigeria



National Industries  
Group (Holding),  
Kuwait



Hamad Medical  
Corporation,  
Qatar



USAID  
Pakistan



STC Solutions,  
KSA



North Oil company,



EKO Electricity



Oman Broadband



UNITED NATIONS  
UN.



Authority for

UK Training  
**PARTNER**



## Blackbird Training Categories

### Management & Admin

Entertainment & Leisure  
Professional Skills  
Finance, Accounting, Budgeting  
Media & Public Relations  
Project Management  
Human Resources  
Audit & Quality Assurance  
Marketing, Sales, Customer Service  
Secretary & Admin  
Supply Chain & Logistics  
Management & Leadership  
Agile and Elevation

### Technical Courses

Artificial Intelligence (AI)  
Hospital Management  
Public Sector  
Special Workshops  
Oil & Gas Engineering  
Telecom Engineering  
IT & IT Engineering  
Health & Safety  
Law and Contract Management  
Customs & Safety  
Aviation  
C-Suite Training



International House 185 Tower Bridge  
Road London SE1 2UF United Kingdom



+44 7401 1773 35  
+44 7480 775526



[Sales@blackbird-training.com](mailto:Sales@blackbird-training.com)



[www.blackbird-training.com](http://www.blackbird-training.com)

