

AI-Powered Drilling Engineering & Well Planning

Düsseldorf (Germany)

30 November - 4 December 2026

UK Training

PARTNER



AI-Powered Drilling Engineering & Well Planning

Code: OG32 From: 30 November - 4 December 2026 City: Düsseldorf (Germany) Fees: 5900 Pound

Introduction

The integration of Artificial Intelligence AI into the oil and gas industry is transforming how drilling engineering and well planning are executed. By combining advanced data analytics, machine learning models, and real-time monitoring, companies can improve drilling accuracy, reduce risks, and significantly lower operational costs. This course is designed to equip professionals with practical knowledge and tools to apply AI in drilling and well planning processes, enabling higher efficiency, safety, and profitability.

Course Objectives

- Understand the fundamentals of drilling engineering and AI applications.
- Analyze geological and geophysical data for optimal drilling site selection.
- Apply machine learning algorithms to predict well performance.
- Optimize the selection of drilling equipment and measurement tools.
- Manage drilling risks and reduce deviations during operations.
- Integrate real-time data into decision-making processes.
- Assess the economic and operational feasibility of drilling plans.
- Develop strategies to enhance overall drilling project performance.

Course Outlines

Day 1: Fundamentals of Drilling Engineering & AI Applications

- Introduction to drilling engineering and its role in the industry.
- Overview of AI technologies in the energy sector.
- Comparison of conventional vs. AI-driven drilling approaches.
- Data sources used in drilling operations.
- Opportunities and challenges of AI implementation.
- Practical exercise: Identifying AI applications in drilling operations.

Day 2: Data Acquisition & Processing

- Types of data in drilling operations.
- Data cleaning and preprocessing techniques.
- Merging geological data with actual drilling data.
- Using IoT for equipment monitoring.
- Ensuring data security and integrity.
- Practical exercise: Building a complete drilling data pipeline.

Day 3: Modeling & Predictive Analytics

- Introduction to predictive modeling in drilling.



- Designing machine learning models for well behavior prediction.
- Improving drilling site selection with predictive analytics.
- Early detection of operational issues using AI models.
- Case study: Optimizing a drilling plan with AI.
- Practical exercise: Training a predictive model for well performance.

Day 4: Advanced Well Planning & Risk Management

- AI-powered well planning strategies.
- Managing drilling risks and minimizing deviations.
- Optimizing the use of drilling equipment.
- Applying real-time analytics during drilling operations.
- Integrating monitoring systems with contingency plans.
- Practical exercise: Developing a complete AI-driven drilling plan.

Day 5: Evaluation & Continuous Improvement

- Key performance indicators KPIs for drilling success.
- Post-drilling data analysis and review.
- Updating and refining models based on past operations.
- Economic feasibility assessment of AI-powered drilling projects.
- Creating a continuous improvement roadmap.
- Practical exercise: Preparing a comprehensive drilling project report.

Why Attend this Course: Wins & Losses!

- Gain advanced skills in AI-powered drilling engineering.
- Improve drilling accuracy and reduce operational errors.
- Lower operational costs while increasing productivity.
- Enhance safety standards during drilling operations.
- Integrate real-time data into decision-making processes.
- Learn about the latest technologies in drilling and well planning.
- Apply hands-on experience through practical exercises.
- Foster innovation in drilling project management.

Conclusion

AI is reshaping the future of drilling engineering and well planning by delivering higher precision, reducing risks, and generating substantial operational and financial benefits.

This course offers the perfect blend of theoretical knowledge and practical applications, empowering participants to leverage cutting-edge AI solutions for maximum efficiency in drilling projects.



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,
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)
Sustainability, ESG & Corporate Responsibility
Advanced Courses
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

