

Predictive Maintenance in Oilfield Equipment: Leveraging IoT and AI

COURSE OVERVIEW

This course offers a practical and forward-looking exploration of predictive maintenance in oilfield operations, focusing on how Internet of Things (IoT) technologies and Artificial Intelligence (AI) are transforming the reliability, safety, and cost efficiency of equipment management. Through a blend of case studies, industry best practices, and hands on demonstrations, participants will gain insights into data-driven strategies for anticipating equipment failures, reducing unplanned downtime, and optimizing maintenance schedules.

WHO SHOULD ATTEND?

The course is intended for oilfield engineers, maintenance managers, asset integrity specialists, operations supervisors, reliability engineers and technology professionals seeking to enhance their knowledge of digital maintenance strategies. It is also beneficial for decision makers and project managers responsible for operational efficiency, cost reduction and the adoption of emerging technologies in oilfield operations.

COURSE OUTCOMES

Delegates will gain the skills and knowledge to:

- Understand the principles and applications of IoT and AI in predictive maintenance.
- Analyze equipment data to identify early warning signs of potential failures.
- Develop predictive maintenance models to improve reliability and operational safety.
- Implement digital tools to optimize maintenance planning and minimize downtime.
- Evaluate the ROI and performance impact of predictive maintenance strategies.
- Integrate real-time monitoring systems to enable proactive asset management.

KEY COURSE HIGHLIGHTS

At the end of the course, you will understand;

- Predictive maintenance concepts and benefits for oilfield equipment.
- Key IoT sensors and data collection methods for real-time condition monitoring.
- AI techniques for analyzing equipment data to predict failures and estimate remaining useful life.
- Methods for vibration, ultrasonic, thermography, and oil analysis diagnostics.
- Developing optimized maintenance schedules to reduce downtime and repair costs.
- Implementing data-driven decision-making and integration of predictive maintenance within existing operations.

All our courses are dual-certificate courses. At the end of the training, the delegates will receive two certificates.

1. A GTC end-of-course certificate
2. Continuing Professional Development (CPD) Certificate of completion with earned credits awarded