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Business Intelligence Application for Junior Maintenance Performance Engineers

PIK-1225 ONLN-1

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Place:	ONLINE	**Venue:**	ONLINE		
Start Date:	01-12-2025	**End Date:**	05-12-2025	**PPP:**	£3500

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If you can't train them, you can't blame them!

Short Description:

This 5-day training program introduces Junior Maintenance Performance Engineers to the fundamentals and applications of Business Intelligence (BI) in engineering and maintenance environments. The course is designed to help participants understand how BI tools and methodologies can transform raw maintenance and operational data into actionable insights for decision-making. It bridges the gap between engineering performance analysis and modern data-driven business strategies. Through interactive lectures, hands-on exercises, and a detailed real-world case study, participants will learn to collect, analyse, and visualise maintenance data using BI applications. They will explore how BI can support predictive maintenance, asset optimisation, and performance improvement. By the end of the program, attendees will have the knowledge and confidence to apply BI solutions in their roles, aligning technical performance with organisational goals.

Course Overview:

Course Objectives

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

- Understand the role of Business Intelligence in maintenance performance management.
- Collect, clean, and prepare data for BI analysis.
- Use BI tools to analyse maintenance KPIs and performance indicators.
- Apply data visualisation techniques to communicate engineering insights.
- Support predictive and preventive maintenance decisions with BI.
- Integrate BI insights into asset management and operational strategies.
- Contribute to data-driven decision-making within maintenance departments.

Target Audience

This program is designed for:

- Junior Maintenance Performance Engineers.
- Maintenance Analysts.
- Reliability Engineers.
- Asset Management Specialists.
- Engineers transitioning into data-driven maintenance roles.

Program Outline:

Day 1 – Introduction to Business Intelligence in Maintenance

1. Understanding Business Intelligence: concepts & applications.
2. The role of BI in maintenance & performance engineering.
3. Key maintenance KPIs & performance metrics.
4. Data sources in maintenance (CMMS, sensors, IoT, reports).
5. Overview of popular BI tools (Power BI, Tableau, Qlik, etc.).

Day 2 – Data Collection & Preparation

1. Data quality: accuracy, completeness & consistency.
2. Extracting data from maintenance systems.
3. Data cleaning & transformation techniques.
4. Structuring maintenance data for analysis.
5. Hands-on session: preparing datasets for BI analysis.

Day 3 – Data Analysis & KPI Monitoring

1. Measuring equipment reliability, availability & maintainability.
2. Tracking maintenance costs & workforce efficiency.
3. Using BI for downtime & root-cause analysis.
4. Trend analysis & performance benchmarking.
5. Hands-on session: analysing maintenance KPIs.

Day 4 – Visualisation & Reporting

1. Principles of effective data visualisation.
2. Designing dashboards for maintenance performance.
3. Communicating insights to technical & non-technical audiences.

4. Automating reports & alerts with BI tools.
5. Hands-on session: building a maintenance performance dashboard.

Day 5 – Advanced Applications & Case Study

1. Predictive maintenance using BI and data analytics.
2. Integrating BI with IoT & Industry 4.0.
3. Strategic decision-making through BI insights.
4. Case study analysis & group discussion.
5. Action planning: applying BI in the participant's workplace.

CASE-STUDY: General Electric (GE) – Leveraging Business Intelligence for Predictive Maintenance.