



BII WORLD
Engage • Enlighten • Empower

INDUSTRIAL AI

DIGITAL TWINS AND DATA SCIENCE

For Maintenance & Reliability Excellence



COURSE DURATION

4 -Day Virtual Experience | Total Duration: 16 Hours



COURSE DATE

26 - 29 October 2026



TRAINING SCHEDULE

15:00 – 19:00 [Saudi Arabia Time]

Executive Training Program

A premium executive education program for professionals in maintenance, reliability, asset management, and digital transformation. It explores Reliability Engineering, CBM, PHM, Digital Twins, Industrial AI, and APM to help improve asset performance, reduce risk, and enable smarter data-driven decisions.

Join our global industry expert & instructor:
Dr. Diego Galar and transform your learning experience.

Course Overview

Industrial organizations are entering a new era where Reliability Engineering, Asset Performance Management, Industrial AI, Digital Twins, and data-driven decision-making are becoming essential capabilities rather than optional innovations.

As asset-intensive industries face increasing pressure to improve availability, reduce operational risk, optimize maintenance costs, and accelerate digital transformation, organizations must develop a practical understanding of how these technologies and methodologies work together to create sustainable business value.

This executive program provides a comprehensive overview of the technologies, frameworks, and best practices shaping the future of maintenance, reliability, and asset management.

Rather than focusing on theoretical concepts or advanced mathematics, the course emphasizes practical industrial applications, implementation strategies, lessons learned, and business outcomes from real-world deployments across Oil & Gas, Petrochemical, Energy, Utilities, Mining, and Manufacturing sectors.

Participants will gain a structured understanding of how Reliability Engineering serves as the foundation for modern maintenance excellence, how Condition-Based Maintenance (CBM) and Prognostics & Health Management (PHM) support proactive decision-making, how Digital Twins create operational intelligence across the asset lifecycle, and how Industrial AI is transforming maintenance and reliability practices.

Key Takeaways

Organizations that successfully combine Reliability Engineering, Asset Performance Management, CBM, PHM, Digital Twins, and Industrial AI will be better positioned to improve operational performance, reduce risk, increase asset availability, and build resilient maintenance organizations capable of meeting the challenges of the future.

Delivery Format Features

Organizations that successfully combine Reliability Engineering, Asset Performance Management, CBM, PHM, Digital Twins, and Industrial AI will be better positioned to improve operational performance, reduce risk, increase asset availability, and build resilient maintenance organizations capable of meeting the challenges of the future.

- » Live Instructor-Led In-Person Training
- » Interactive Executive Cohort
- » Case Studies and Industrial Examples
- » Discussion Sessions and Q&A
- » Certificate of Completion

What This Program Covers

Reliability Engineering

Building the foundation for sustainable asset performance through reliability-centered thinking, risk management, asset criticality assessment, and operational excellence.

Asset Performance Management (APM)

Aligning maintenance, operations, engineering, and business objectives to maximize asset value throughout the lifecycle.

Condition-Based Maintenance (CBM)

Moving from schedule-driven interventions to condition-driven maintenance decisions supported by asset health information and monitoring technologies.

Prognostics & Health Management (PHM)

Understanding degradation mechanisms, Remaining Useful Life (RUL), maintenance decision windows, and proactive maintenance planning.

Industrial AI

Exploring how Artificial Intelligence supports diagnostics, anomaly detection, reliability improvement, and data-driven maintenance decision-making.

Digital Twins

Understanding how Digital Twins support monitoring, diagnostics, prognostics, simulation, virtual commissioning, and lifecycle management.

Context-Aware Maintenance

Applying maintenance ontologies, asset taxonomies, knowledge models, and engineering context to improve decision quality and reduce uncertainty.

Black Swans and Operational Uncertainty

Understanding weak signals, hidden degradation, Gray Swans, Swan Songs, Butterfly Effects, and organizational blind spots that influence industrial failures.

Prescriptive Analytics

Moving from prediction to action through decision-support frameworks, risk-based maintenance, and operational optimization strategies

Industrial Copilots

Exploring emerging AI-enabled assistants and their role in technical knowledge retrieval, maintenance support, and engineering decision making.

Self-Preserving Assets

Examining the future evolution of maintenance systems where Reliability Engineering, CBM, PHM, Digital Twins, and Industrial AI converge to support adaptive and resilient operations.

Program Structure & at a Glance

This 4 Day executive online program provides a structured journey through the technologies, methodologies, and strategic frameworks that are transforming maintenance, reliability, and asset management in asset intensive industries. The course combines Reliability Engineering, Condition-Based Maintenance (CBM), Prognostics & Health Management (PHM), Digital Twins, Industrial AI, and future intelligent maintenance concepts into a coherent roadmap for operational excellence.

DAY 1

Modern CBM, Reliability Engineering and Asset Performance Management

Building the foundations required for successful maintenance, reliability, and digital transformation initiatives.

DAY 2

Digital Twins Across the Asset Lifecycle

Exploring Digital Twin technologies, lifecycle applications, and practical industrial deployments.

DAY 3

PHM, Diagnostics and Context-Aware Decision Making

Understanding asset health, degradation behaviour, decision windows, and uncertainty management.

DAY 4

Prescriptive Analytics, Industrial Copilots and Self-Preserving Assets

Examining how organizations move from data and predictions toward intelligent decision-making and future maintenance systems.

Why Attend?

Industrial organizations are under increasing pressure to improve asset performance, reduce operational risk, control maintenance costs, and accelerate digital transformation initiatives. At the same time, they must navigate growing complexity, aging infrastructure, workforce transitions, and rapidly evolving technologies.

This program has been designed to help maintenance, reliability, asset management, and digital transformation professionals understand how modern engineering practices and emerging technologies can be combined to create measurable business value. Rather than focusing on isolated technologies or theoretical concepts, the course provides a practical framework for understanding how Reliability Engineering, Condition-Based Maintenance (CBM), Prognostics & Health Management (PHM), Digital Twins, Industrial AI, and Asset Performance Management work together to support operational excellence.

Key Takeaway

Organizations that successfully combine Reliability Engineering, Asset Management, CBM, PHM, Digital Twins, and Industrial AI will be better positioned to improve performance, reduce risk, and achieve sustainable competitive advantage. This course provides the knowledge, frameworks, and practical perspectives required to lead that transformation.

Why This Course Matters in 2026

Reliability Excellence

Align maintenance, reliability, and operational performance with strategic business objectives and corporate risk management frameworks.

Asset Performance Management

Leverage data, engineering knowledge, and digital technologies to maximize asset availability and lifecycle value.

Condition-Based Maintenance (CBM)

Move beyond fixed maintenance schedules toward condition-driven interventions supported by real-time information.

Prognostics & Health Management (PHM)

Understand asset degradation, estimate Remaining Useful Life, and support proactive maintenance decisions.

Industrial AI

Transform operational data into actionable insights that improve reliability, safety, and decision-making.

Digital Twins

Utilize lifecycle digital representations to support monitoring, diagnostics, optimization, and maintenance planning.

Risk-Based Operations

Balance production objectives, operational risk, and asset integrity within increasingly dynamic industrial environments.

Knowledge Retention

Capture and preserve critical engineering expertise before workforce transitions create knowledge gaps.

Self-Preserving Assets

Prepare for the next generation of intelligent systems capable of supporting autonomous reliability and operational resilience.

Target Audience

Designed for Decision-Makers, Reliability Leaders and Digital Transformation Professionals

This program has been specifically designed for professionals responsible for improving asset performance, operational reliability, maintenance effectiveness, and digital transformation initiatives within asset-intensive industries. The curriculum bridges the gap between engineering, maintenance, operations, and data-driven decision-making, providing participants with a practical understanding of how Reliability Engineering, Asset Management, PHM, Digital Twins, and Industrial AI can support operational excellence and long-term business performance.

Target Job Functions

Maintenance Managers and Directors

Professionals responsible for maintenance strategy, planning, resource optimization, and continuous improvement initiatives.

Operations Managers and Production Leaders

Leaders seeking to understand how maintenance, reliability, and digital transformation initiatives influence operational performance and business outcomes.

Reliability Managers and Reliability Engineers

Professionals focused on reliability improvement, failure analysis, risk management, asset criticality assessment, and performance optimization.

Data Scientists and Industrial Analytics Professionals

Professionals applying analytics, machine learning, and Industrial AI to improve maintenance and operational decision-making.

Digital Transformation Leaders

Professionals responsible for technology adoption, innovation programs, Industry 4.0 initiatives, and organizational transformation.

Asset Managers and Asset Performance Managers

Leaders responsible for balancing asset availability, lifecycle costs, operational risk, and long-term asset strategies.

Asset Integrity and Inspection Managers

Professionals involved in integrity management, inspection planning, risk assessment, structural health monitoring, and regulatory compliance

CBM Leads and Condition Monitoring Specialists

Practitioners responsible for condition monitoring programs, diagnostics, asset health assessment, and maintenance optimization.

Target Industries

The methodologies and technologies covered in this program are applicable across a wide range of asset-intensive industries, including:

Oil & Gas: Upstream, midstream, and downstream operations where reliability, availability, and asset integrity directly influence production and profitability.

Petrochemical and Chemical Industries: Process-intensive facilities seeking to improve operational performance, reliability, and risk management.

Energy and Power Generation: Conventional and renewable energy organizations focused on maximizing availability and optimizing asset performance.

Utilities and Water Infrastructure: Organizations managing critical infrastructure where reliability, resilience, and operational efficiency are essential.

Mining and Mineral Processing: Operations dependent on large fleets of critical assets where downtime has significant operational and economic consequences.

Manufacturing and Industrial Production: Facilities seeking to improve equipment reliability, reduce downtime, and accelerate digital transformation initiatives.

About the Instructor



Prof. Diego Galar

Chairman, European Federation of National Maintenance Societies (EFNMS) Professor of Condition Monitoring, Luleå University of Technology (LTU), Sweden Vice President, Sisteplant

Prof. Diego Galar is an internationally recognized authority in Reliability Engineering, Asset Management, Condition-Based Maintenance (CBM), Prognostics & Health Management (PHM), Digital Twins, and Industrial Artificial Intelligence. Over the past two decades, he has worked at the intersection of academia and industry, helping organizations transform maintenance and reliability practices through the application of advanced engineering methodologies and digital technologies.

As Chairman of the European Federation of National Maintenance Societies (EFNMS), Prof. Galar plays a leading role in shaping the future of maintenance and asset management across Europe. Through EFNMS, he actively promotes best practices, professional development, standardization initiatives, and international collaboration between industry, academia, and maintenance professionals.

In parallel, he serves as Professor of Condition Monitoring at Luleå University of Technology (LTU) in Sweden, one of the world's leading universities in maintenance and reliability engineering. His academic work has contributed significantly to advancing the understanding of condition monitoring, diagnostics, prognostics, asset management, and intelligent maintenance systems.

Prof. Galar also holds the position of Vice President at Sisteplant, where he supports industrial organizations in implementing advanced maintenance strategies, reliability improvement programs, Asset Performance Management initiatives, and digital transformation projects. His work spans multiple sectors including Oil & Gas, Energy, Utilities, Manufacturing, Transportation, and Mining.

Areas of Expertise

Reliability Engineering and Reliability Excellence: Development and deployment of reliability-centered strategies that improve asset availability, reduce operational risk, and support long-term business objectives.

Asset Performance Management (APM): Integration of maintenance, operations, engineering, and business objectives to maximize asset value throughout the lifecycle.

Condition-Based Maintenance (CBM): Design and implementation of monitoring strategies that enable maintenance decisions based on actual asset condition rather than fixed schedules.

Prognostics & Health Management (PHM): Application of diagnostics, prognostics, Remaining Useful Life (RUL) estimation, and risk-based decision frameworks to support proactive maintenance.

Digital Twins: Development and deployment of Digital Twin solutions supporting monitoring, diagnostics, simulation, virtual commissioning, lifecycle management, and decision support.

Industrial AI and Data Science: Application of Artificial Intelligence, Machine Learning, Industrial Analytics, and advanced decision-support technologies to improve maintenance and operational performance.

Self-Preserving Assets and Cognitive Maintenance: Research and industrial application of next-generation intelligent systems capable of assessing operational risk, supporting autonomous decision-making, and enhancing asset resilience.

Research, Innovation and International Leadership

Prof. Galar has coordinated and participated in numerous national and international research projects involving:

Industrial AI • Industry 4.0 and Industry 5.0 • Cyber-Physical Systems • Internet of Things (IoT) • Digital Twins • Big Data Analytics • Smart Maintenance • Asset Management • Reliability Engineering.

His work has been conducted in collaboration with major industrial organizations, research institutions, and governmental agencies across Europe and internationally.

Publications and Scientific Contributions

Prof. Galar has authored and co-authored more than 500 scientific publications, including journal articles, conference papers, technical reports, and books. His research has been widely cited and has contributed to the development of new methodologies and practical solutions in maintenance and reliability engineering.

He is a frequent keynote speaker at international conferences and regularly contributes to scientific committees, editorial boards, and professional organizations dedicated to advancing maintenance and asset management practices worldwide.

Why Learn from Prof. Diego Galar?

Participants benefit from a unique combination of academic excellence, industrial experience, international leadership, practical implementation expertise, and a strategic asset management perspective. His ability to bridge engineering, maintenance, reliability, data science, and business strategy provides participants with practical insights that can be directly applied within asset-intensive industries.

Core Expertise:

- » Reliability Engineering
- » Asset Performance Management (APM)
- » Condition-Based Maintenance (CBM)
- » Prognostics & Health Management (PHM)
- » Digital Twins
- » Industrial AI & Data Science
- » Maintenance Ontologies
- » Risk-Based Maintenance
- » Cognitive Maintenance
- » Self-Preserving Assets

International Roles:

- » Chairman, European Federation of National Maintenance Societies (EFNMS)
- » Professor, Luleå University of Technology (LTU)
- » Vice President, Sisteplant
- » International Keynote Speaker
- » Research Project Coordinator
- » Industry Advisor

Connecting engineering excellence, industrial experience, and digital innovation to build the future of maintenance and reliability.

Recommended Follow-on Executive Programs

To further develop competencies in specific areas, participants can explore the following specialized advanced programs:

Generative AI & Industrial Copilots for Maintenance: Advanced applications of LLMs, knowledge assistants, retrieval systems and AI-enabled maintenance workflows.

Advanced Digital Twins & Virtual Commissioning: Simulation, synthetic data, hybrid models and next-generation Digital Twin environments

Advanced PHM & Reliability Analytics: Survival analysis, degradation modelling, risk prediction and advanced prognostics.

Reliability Excellence & CBM Strategy: Building world-class reliability organizations and scalable CBM programs.

Self-Preserving Assets & Autonomous Maintenance: The next evolution of intelligent industrial systems.



Certificate of Completion:

Participants who successfully complete the program will receive an official Certificate of Completion recognizing their participation in:

Industrial AI, Digital Twins and Data Science for Maintenance & Reliability Excellence

Please complete this form and send it back to
mithun.siddartha@biiworld.com

Event Code: OL TE 119

Delegate Details

- Name: Mr/Mrs/ Ms
.....
Job Title:
Email:
- Name: Mr/Mrs/ Ms
.....
Job Title:
Email:
- Name: Mr/Mrs/ Ms
.....
Job Title:
Email:

PAYMENT METHOD:

CREDIT CARD ☐

The secured payment link will be shared/sent

WIRE TRANSFER OR BANK TRANSFER ☐

Authorization and Acceptance of Sales Contract & Terms & Conditions

I hereby declare I am authorised to sign this contract and terms
& conditions in the name of the company/organisation:

Name:

Date:

Signature:

Delegate Fee ☐ **USD 1299 per delegate**

20 USD administration charge and any applicable withholding or any other tax or fee will be applied

Company/Organisation Detail

Name:
Person to Contact:
Email:
Address:
.....
City:
Country:
Contact No:
Type of Business:
Website:

TERMS & CONDITIONS:

1. Payment terms: BII World LTD requires the full payment of the invoiced amount within 7 working days from the issue date of the invoice. BII World LTD reserves the right to refuse entry to any client who does not pay the invoice in full and on time. The registration fee includes: Training documentation and admission to all training sessions.

2. Cancellation by client: The client has the right to cancel his/her participation in the event. Cancellation must be received by BII World LTD in writing either by mail or fax. If the client cancels the event, he/she will get two options:

A. CREDIT NOTE: Choose 2-year credit note, BII World LTD will send all the schedule training event details throughout the year. Delegate has the right to choose and attend any of the future training programs of BII World (valid 2 years).

B. NOMINATION: In this option delegate can nominate/refer someone from his/her group/company to attend the particular training program on behalf of the actual delegate.

3. Cancellation by BII World LTD : While every reasonable effort is made to adhere to the advertised program, circumstances can arise which may cause changes in the program, including but not limited to changes in the content, date(s), or special features of the planned event. Such circumstances include but are not limited to acts of terrorism, war, extreme weather conditions, compliance with government requests, orders and legal requirements, failure of third-party suppliers to timely deliver, and failure to register the minimum target number of attendees for a given event. BII World LTD reserves the right to change the content, date(s), and/or special features of an event, to merge the event with another event, or to postpone it or cancel it entirely as appropriate under the circumstances. Client agrees that BII World LTD shall not be liable for any cost, damage or expense which may be incurred by client as a consequence of the event being so changed, merged, postponed or canceled and client agrees to hold BII World LTD harmless and to indemnify BII World LTD in case of liability caused by any such changes, mergers, postponements or cancellations.

4. Cancellation of the event: In case BII World LTD cancels an event, then client can choose any of the below mentioned options:

- BII World LTD will refund full payment to the client within 15 business days.
- Client can choose the credit option for 2 years, for more details please read term no-2 part (a)

5. Postponement of the event : In case BII World LTD postpones the event to a new date, then client can choose any of the below mentioned options.

- The client can attend the course on the postponed dates.
- Client can choose the credit option for 2 years, for more details please read term no-2 part (a)

6. Client's identification information. By signing of this sales contract and these terms and conditions the client gives full right to BII World LTD to share the client's identification information, i.e. client's name, address, email addresses, phone numbers and names of representatives and website with other clients who participated in the same event. The client has the right to opt out of this clause by written notice to BII World LTD.

7. Governing law: This contract shall be governed by and construed in accordance with the laws of the Province of Alberta, Canada. Any disputes arising under or in connection with this registration form shall be sealed before the competent court in Canada.

8. Indemnification: To the fullest extent permitted by the law, you agree to protect, indemnify, defend and hold harmless BII World LTD, its owners, managers, partners, subsidiaries, affiliates, officers, directors, employees and agents, from and against any and all claims, losses or damages to persons or property, governmental charges or fines, penalize, and costs (including reasonable attorney's fees) (collectively "the Claims"), in any way arising out of or relating to the event that is the subject of this contract, and regardless of negligence, included but not limited to, Claims arising out of the negligence, gross negligence or intentional misconduct of BII World LTD employees, agents, contractors, and attendees; provided, however, that nothing in this indemnification shall require you to indemnify BII World LTD Indemnified parties for that portion of any Claim arising out of the sole negligence, gross negligence or intentional misconduct of the BII World LTD parties.

9. Other currencies. In case that client requests payment in other than official currency (USD), BII World LTD reserves the right to apply 5% currency risk surcharge to the actual exchange rate.

10. Other Conditions: Any terms or conditions contained in the client's acceptance which contradict or are different from the terms and conditions of this registration document shall not become part of the contract unless individually negotiated with BII World LTD and expressly accepted by BII World LTD.