Digital Twin and Predictive Modelling for Supply Chain Resilience

COURSE OVERVIEW

This course provides a comprehensive exploration of how Digital Twin technology and predictive modeling are revolutionizing supply chain management by creating dynamic, virtual replicas of physical systems. Participants will learn to integrate IoT data, AI, and machine learning to simulate scenarios, predict disruptions, and optimize operations in real-time. Through practical case studies and analytical exercises, the course demonstrates to participants how these advanced technologies enable proactive decision-making, enhance end-to-end visibility, and build unprecedented resilience against volatility and unexpected events.

WHO SHOULD ATTEND?

This program is designed for supply chain directors, operations managers, logistics planners, data scientists, and technology innovators seeking to leverage cutting-edge tools for strategic advantage. It is also valuable for IT professionals supporting supply chain systems, risk management specialists, and business leaders in manufacturing, retail, and logistics who aim to future-proof their operations. The content is tailored for both technical experts and strategic decision-makers responsible for building robust and responsive supply networks.

COURSE OUTCOMES

Delegates will gain the skills and knowledge to:

- Define the architecture and core components of a supply chain digital twin.
- Develop predictive models to forecast demand fluctuations and potential disruptions.
- Implement real-time monitoring using IoT and sensor data for continuous feedback.
- Run "what-if" simulations to assess the impact of decisions and external shocks.
- Optimize inventory levels, transportation routes, and production schedules proactively.
- Translate data-driven insights into actionable strategies for enhancing resilience.
- Build a business case for investing in digital twin technology.

KEY COURSE HIGHLIGHTS

At the end of the course, you will understand;

- The fundamental architecture and components of a supply chain digital twin.
- How to leverage predictive analytics for forecasting disruptions and demand shifts.
- Methods for integrating IoT data streams into dynamic supply chain models.
- Techniques for running scenario simulations to test resilience strategies.
- Approaches to optimize inventory and logistics through predictive modeling.
- Implementation challenges and data requirements for digital twin deployment.
- How AI and machine learning enable autonomous supply chain decision-making.

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