Advanced AI Applications in Supply Chain and Logistics Training Course



13 - 17 Dec 2026

Manama

4400 € (Per Person)

Ref: #AI1356_211533

Course Introduction / Overview:

This training course is designed to provide a comprehensive understanding of how artificial intelligence is transforming supply chain management and logistics. In a globalized economy, optimizing supply chains is critical for competitive advantage, and AI is proving to be a game-changer. This program goes beyond a theoretical overview and offers practical insights into using machine learning, predictive analytics, and automation to create more efficient, resilient, and responsive supply chains. Drawing on the work of prominent academic authors like Dimitri J. Spanos and William S. R. Jones from their book "Supply Chain Management with Artificial Intelligence," the course explores how AI can be used to forecast demand more accurately, automate warehouse operations, and optimize delivery routes. Participants will learn how to leverage AI to solve complex problems, from risk management and inventory control to enhancing transparency and sustainability across the supply chain. BIG BEN Training Center has developed this curriculum with a strong focus on real-world applications and hands-on projects. It gives participants the skills to implement intelligent solutions that can significantly reduce costs, improve efficiency, and enhance customer satisfaction. The course is an essential resource for any professional looking to lead the next wave of supply chain innovation.

Target Audience / This training course is suitable for:

- Supply chain managers and directors.
- Logistics and operations professionals.
- Warehouse and inventory managers.
- Business analysts and data scientists.
- Procurement and sourcing specialists.
- Transportation and fleet managers.
- Production planners.

Target Sectors and Industries:

- Manufacturing and production.
- Retail and e-commerce.
- Logistics and transportation.
- Technology and software.
- Food and beverage.
- Pharmaceutical and healthcare.
- Government defense and logistics.

Target Organizations Departments:

- Supply chain management.
- Operations and logistics.
- Procurement and purchasing.
- Inventory control.
- Transportation and distribution.
- Planning and forecasting.
- Research and development.

Course Offerings:

By the end of this course, the participants will have able to:

- Formulate a strategy for integrating AI into their existing supply chain.
- Develop and apply predictive models for demand forecasting and inventory management.
- Implement AI-driven automation in warehouse operations and logistics.
- Use machine learning to optimize transportation routes and fleet management.
- Enhance supply chain transparency and traceability with AI and blockchain.
- Analyze and mitigate supply chain risks using AI-powered analytics.
- Improve supplier selection and management through data-driven insights.

Course Methodology:

The training course at BIG BEN Training Center is built on a practical, case-study-driven methodology that ensures participants gain real-world skills. We believe that to master AI in supply chain management, it is crucial to move beyond theory and engage with actual business problems. The course uses case studies from diverse industries, allowing participants to analyze complex challenges like disruptions and bottlenecks and propose AI-driven solutions. Group discussions and collaborative projects are a core part of the program, fostering a learning environment where participants can share insights and perspectives. Hands-on exercises and simulations are used to help participants apply AI concepts to practical scenarios, such as building a predictive model for inventory or using an algorithm to optimize a delivery route. The training also includes expert-led sessions and interactive Q&A periods to ensure a comprehensive and well-rounded learning experience. This approach ensures that participants leave with a clear understanding of how to implement AI and create a more intelligent supply chain.

Course Agenda (Course Units):

Unit One: Foundations of AI in Supply Chain

- Introduction to AI and its role in logistics.
- Data and analytics for a smart supply chain.
- The Internet of Things (IoT) and supply chain visibility.
- Key AI technologies for supply chain optimization.
- The future of AI in logistics and automation.
- Defining a problem for a practical project.
- Global case studies of AI in supply chain management.

Unit Two: Predictive Analytics for Demand and Inventory

- Using machine learning for accurate demand forecasting.
- Predictive models for inventory management.
- Optimizing safety stock and reorder points.
- AI for seasonal and promotional planning.
- Risk prediction for supply chain disruptions.
- Big data analytics in logistics.
- Practical project on demand forecasting.

Unit Three: Intelligent Logistics and Transportation

- AI-driven route optimization and dynamic routing.
- Fleet management with predictive maintenance.
- Automating last-mile delivery.
- Smart warehousing and robotic automation.
- Using computer vision for quality control.
- The role of AI in reducing carbon footprint.
- Practical project on logistics optimization.

Unit Four: Supply Chain Transparency and Risk Management

- Using AI to enhance supply chain transparency.
- Blockchain and AI for traceability.
- AI-powered risk assessment and mitigation.
- Supplier relationship management with data analytics.
- Counterfeit detection and fraud prevention.
- Global supply chain resilience with AI.
- Practical project on risk management.

Unit Five: Implementation, Strategy, and Future Trends

- Building an AI strategy for the supply chain.
- Leading organizational change.
- Ethical considerations and data privacy.
- Measuring the ROI of AI initiatives.
- Future trends like generative AI and digital twins.
- AI talent and workforce planning.
- Final capstone project presentation.

FAQ:

Qualifications required for registering to this course?

There are no requirements.

How long is each daily session, and what is the total number of training hours for the course?

This training course spans five days, with daily sessions ranging between 4 to 5 hours, including breaks and interactive activities, bringing the total duration to 20 - 25 training hours.

Something to think about:

How can a supply chain manager use AI to build a supply chain that is not only efficient but also resilient to unforeseen global disruptions and economic changes?

What unique qualities does this course offer compared to other courses?

This training course is designed to be a complete, industry-specific program that goes beyond a general understanding of AI and delves directly into its practical application in supply chain management. While other courses may cover generic AI concepts, this curriculum focuses on the unique challenges and opportunities within logistics and procurement. It uses a hands-on, project-based approach, giving participants the chance to work on real-world problems like route optimization and demand forecasting. This is an indispensable advantage for professionals seeking to apply their skills immediately in their roles. The course also distinguishes itself by addressing the strategic and ethical aspects of AI, including risk management and sustainability, which are crucial for building a future-proof supply chain. Our focus on giving participants a complete skill set that includes technical know-how and strategic insights is what sets BIG BEN Training Center apart and makes this program an indispensable resource for professionals in this field.