AI-Powered Supply Chain and Logistics Management Training Course



30 Nov - 04 Dec 2026

Barcelona

5900 € (Per Person)

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Course Introduction / Overview:

In today's volatile global market, traditional supply chain and logistics models are no longer sufficient to handle the complexities of demand fluctuations, disruptions, and customer expectations. This course provides a comprehensive exploration of how Artificial Intelligence (AI) is revolutionizing the industry, transforming reactive processes into proactive, predictive, and automated operations. We delve into the core principles of AI, machine learning, and data analytics, moving beyond theoretical concepts to focus on practical application in real-world scenarios. Drawing upon the strategic insights of academics like David Simchi-Levi, who emphasizes data-driven decision-making in works such as "Designing and Managing the Supply Chain," this program equips participants with the skills to leverage AI for enhanced forecasting, inventory optimization, and logistics efficiency. BIG BEN Training Center has designed this curriculum to be a definitive guide for professionals seeking to lead the charge in building intelligent, resilient, and agile supply chains. Participants will learn to identify opportunities, develop implementation strategies, and measure the impact of AI, ensuring their organizations gain a significant competitive advantage in the era of Logistics 4.0.

Target Audience / This training course is suitable for:

- Supply Chain Managers and Directors.
- Logistics and Distribution Managers.
- Procurement and Sourcing Professionals.
- Operations Managers and Supervisors.
- Warehouse and Inventory Control Specialists.
- Data Analysts and Business Intelligence Professionals.
- IT Professionals involved in supply chain systems.
- Demand Planners and Forecasting Analysts.
- Transportation and Fleet Managers.
- Consultants specializing in supply chain optimization.

Target Sectors and Industries:

- Manufacturing and Industrial Production.
- Retail and E-commerce.
- Third-Party Logistics (3PL) and Freight Forwarding.
- Pharmaceuticals and Healthcare.
- Automotive and Aerospace.
- Fast-Moving Consumer Goods (FMCG).
- Technology and Electronics.
- Food and Beverage Distribution.
- Government, Defense, and Public Sector Agencies.
- Energy and Utilities.

Target Organizations Departments:

- Supply Chain Management.
- Logistics and Distribution.
- Procurement and Sourcing.
- Operations Management.
- Warehousing and Inventory Control.
- Information Technology (IT).
- Strategic Planning and Business Development.
- Data Analytics and Business Intelligence.
- Transportation.
- Customer Service and Order Fulfillment.

Course Offerings:

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

- Analyze the fundamental impact of AI and machine learning on modern supply chain operations.
- Apply advanced AI-driven techniques for accurate demand forecasting and inventory optimization.
- Develop strategies for automating warehouse and logistics processes using AI and robotics.
- Utilize predictive analytics to identify and mitigate potential supply chain risks and disruptions.
- Design a strategic roadmap for implementing AI solutions within their logistics framework.
- Evaluate different AI tools and platforms for transportation and fleet management.
- Enhance supply chain visibility and traceability through intelligent data systems.
- Understand the ethical considerations and change management required for successful AI adoption.
- Measure the return on investment (ROI) for AI projects in supply chain and logistics.

Course Methodology:

The training methodology at BIG BEN Training Center is designed to be immersive, interactive, and focused on practical application. This course moves beyond traditional lectures to create a dynamic learning environment where participants actively engage with the material. The program is built upon a foundation of expert-led instruction, where complex AI concepts are demystified and made accessible. This is complemented by an extensive use of real-world case studies, examining how leading global companies have successfully implemented AI to solve critical logistics challenges. A significant portion of the course is dedicated to hands-on workshops and simulation exercises, allowing participants to work with sample datasets and apply AI principles to solve practical problems. Collaborative group discussions and teamwork are heavily encouraged, fostering a rich exchange of ideas and experiences among professionals from diverse backgrounds. Our approach ensures that participants not only grasp the theory behind AI in the supply chain but also leave with the confidence and practical skills to initiate and manage AI-driven transformation within their own organizations.

Course Agenda (Course Units):

Unit One: Foundations of AI in Supply Chain Management

- Introduction to Artificial Intelligence, Machine Learning, and Deep Learning.
- The evolution from traditional supply chains to intelligent, autonomous systems.
- Understanding the strategic value of AI in logistics and operations.
- Core AI technologies transforming the supply chain (e.g., NLP, Computer Vision, RPA).
- Data architecture and infrastructure requirements for AI implementation.
- Analyzing case studies of successful AI adoption in global logistics.
- Framework for identifying high-impact AI opportunities in your organization.

Unit Two: AI for Intelligent Planning and Forecasting

- Limitations of traditional demand forecasting methods.
- Applying machine learning algorithms for superior demand sensing and prediction.
- AI-driven strategies for inventory optimization and reducing holding costs.
- Enhancing Sales and Operations Planning (S&OP) with predictive insights.
- The role of AI in cognitive procurement and strategic sourcing.
- Dynamic pricing and promotion optimization using AI models.
- Workshop on building and interpreting a basic machine learning forecast.

Unit three: Smart Logistics and Warehouse Automation

- The architecture of an AI-powered Warehouse Management System (WMS).
- Automating repetitive tasks with Robotic Process Automation (RPA).
- Optimizing warehouse slotting, picking paths, and labor allocation with AI.
- Intelligent Transportation Management Systems (TMS) for efficiency.
- AI-based route optimization and dynamic, real-time scheduling.
- Transforming last-mile delivery with AI and autonomous technologies.
- The impact of autonomous vehicles, drones, and robotics on distribution networks.

Unit Four: Advanced Analytics and Risk Management

- Developing a supply chain digital twin for simulation and what-if analysis.
- Using AI for predictive risk identification and disruption management.
- Achieving end-to-end supply chain visibility and traceability with AI.
- AI applications in predictive maintenance for fleet and warehouse assets.
- Integrating Blockchain and AI for enhanced security and transparency.
- Strategies for managing and deriving insights from big data in logistics.
- Building a resilient, agile, and self-correcting supply chain with AI.

Unit Five: Strategy, Implementation, and Future Trends

- Creating a phased strategic roadmap for AI adoption in the supply chain.
- Leading change and upskilling teams for an AI-centric environment.
- Navigating the ethical considerations and responsible use of AI in logistics.
- Frameworks for measuring the Return on Investment (ROI) of AI initiatives.
- The future of the cognitive supply chain and autonomous decision-making.
- Exploring the potential of Generative AI in supply chain communication and reporting.
- Final capstone project on developing a business case for an AI solution.

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:

As AI automates complex decision-making in logistics, what is the evolving role of human oversight and strategic intuition in managing unforeseen 'black swan' events?

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

This course distinguishes itself by moving beyond the theoretical buzz surrounding AI to provide a pragmatic and strategy-focused curriculum. While other programs may concentrate solely on the technical aspects of algorithms, our approach integrates technology with business strategy, ensuring participants learn not just what AI can do, but how to make it deliver tangible business value. We emphasize a holistic view of the supply chain, connecting AI applications across procurement, planning, warehousing, and final-mile delivery to create a seamless, intelligent ecosystem. The curriculum is built around a rich portfolio of current, real-world case studies and hands-on workshops, which shifts the focus from passive learning to active problem-solving. Participants will not just hear about AI; they will work on developing implementation roadmaps and ROI justifications relevant to their own operational contexts. This focus on practical application, strategic implementation, and fostering a forward-thinking mindset for the future of logistics makes this training a uniquely valuable investment for any supply chain professional.