Strategic AI for Procurement and Supply Chain Excellence Training Course



09 - 13 Nov 2026

Barcelona

5900 € (Per Person)

Ref: #PSC4759_33002

Course Introduction / Overview:

The global supply chain is undergoing a monumental shift, driven by the convergence of digital technologies and artificial intelligence. This transformation, often termed Supply Chain 4.0, is no longer a futuristic concept but a present-day competitive necessity. This course provides a comprehensive roadmap for navigating this new landscape, moving beyond theoretical discussions to offer practical, actionable strategies for integrating AI into procurement and supply chain operations. As detailed by academic thought leader Thomas H. Davenport in works like "Competing on Analytics", the ability to leverage data is the cornerstone of modern business success. This program, offered by BIG BEN Training Center, is meticulously designed to equip professionals with the skills to harness AI-driven sourcing, predictive analytics, and supply chain automation to build resilient, agile, and cost-effective operations. We will explore how to transition from traditional, reactive processes to a proactive, data-centric model, enabling organizations to anticipate disruptions, optimize inventory, and enhance supplier relationships. This training course is your definitive guide to mastering the tools and strategies that define the future of procurement and supply chain management, ensuring your organization not only survives but thrives in an increasingly complex digital ecosystem.

Target Audience / This training course is suitable for:

- Procurement Managers and Directors.
- Supply Chain and Logistics Professionals.
- Sourcing and Category Managers.
- Operations Managers.
- IT Professionals involved in supply chain systems.
- Data Analysts and Business Intelligence Specialists.
- Finance and Cost Control Managers.
- Strategic Planners and Business Development Executives.
- Consultants specializing in supply chain transformation.

Target Sectors and Industries:

- Manufacturing and Industrial Production.
- Retail and Consumer Packaged Goods (CPG).
- Logistics and Transportation Services.
- Pharmaceuticals and Healthcare.
- Technology and Electronics.
- Automotive and Aerospace.
- Energy and Utilities.
- Government Agencies and Public Sector Procurement.
- Construction and Engineering.

Target Organizations Departments:

- Procurement and Purchasing Department.
- Supply Chain Management Department.
- Logistics and Distribution.
- Operations Management.
- Information Technology (IT).
- Finance and Accounting.
- Strategic Planning.
- Risk Management and Compliance.

Course Offerings:

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

- Develop a strategic framework for digital procurement transformation.
- Evaluate and select appropriate AI technologies for specific supply chain challenges.
- Implement machine learning models for demand forecasting and inventory optimization.
- Utilize predictive analytics to identify and mitigate supply chain risks.
- Automate routine procurement tasks using Robotic Process Automation (RPA).
- Enhance strategic sourcing and supplier negotiation using AI-driven insights.
- Analyze the role of blockchain and IoT in creating transparent supply chains.
- Master data-driven decision-making for improved operational efficiency.
- Design and lead change management initiatives for AI adoption.
- Formulate ethical guidelines for the use of AI in procurement and supply chain.

Course Methodology:

The training methodology at BIG BEN Training Center is designed to be immersive, interactive, and directly applicable to real-world business challenges. We move beyond traditional lecture-based formats to create a dynamic learning environment that fosters deep understanding and practical skill acquisition. The course combines expert-led instruction with hands-on workshops, allowing participants to work with simulated data and AI-powered procurement scenarios. A significant portion of the training is dedicated to analyzing real-world case studies from various industries, dissecting both successful AI implementations and common pitfalls. Collaborative group discussions and team-based problem-solving exercises encourage participants to share insights and develop strategic solutions to complex supply chain problems. Participants will receive continuous, constructive feedback from the instructor and peers, ensuring a clear path to mastering the concepts. This blended approach ensures that attendees not only grasp the theoretical underpinnings of AI in the supply chain but also leave with the confidence and competence to apply these advanced strategies within their own organizations.

Course Agenda (Course Units):

Unit One: The Digital Revolution in Procurement and Supply Chain

- Foundations of Supply Chain 4.0 and the Digital Ecosystem.
- Understanding the Shift from Traditional to Digital Procurement.
- Key Drivers and Benefits of AI Integration in Supply Chains.
- Mapping the Digital Procurement and Supply Chain Maturity Model.
- Core Concepts: Big Data, IoT, and Cloud Computing.
- Challenges and Barriers to Digital Transformation.
- Case Study: Early Adopters of Supply Chain Automation.

Unit Two: Core AI Technologies and Their Applications

- Introduction to Artificial Intelligence, Machine Learning, and Deep Learning.
- Natural Language Processing (NLP) for Contract Analysis and Chatbots.
- Robotic Process Automation (RPA) for Transactional Procurement Tasks.
- Predictive Analytics for Demand Forecasting and Risk Assessment.
- Computer Vision for Warehouse Management and Quality Control.
- Understanding Algorithms: From Regression to Neural Networks.
- Hands-on Workshop: Identifying Use Cases for AI in Your Organization.

Unit Three: AI-Powered Strategic Procurement

- Transforming Sourcing with AI-Driven Supplier Discovery and Vetting.
- Cognitive Procurement: Automating Spend Analysis and Category Management.
- AI in Negotiation and Supplier Relationship Management (SRM).
- Smart Contracts and Blockchain for Secure and Transparent Transactions.
- Developing a Data-Driven Contract Lifecycle Management (CLM) Strategy.
- Ethical Considerations and Bias in AI-Powered Sourcing Decisions.
- Case Study: Implementing an AI Platform for Strategic Sourcing.

Unit Four: Optimizing Supply Chain Operations with AI

- AI-Driven Demand Forecasting and Inventory Optimization Models.
- Intelligent Logistics: Route Optimization and Predictive Maintenance.
- Building a Resilient Supply Chain with AI-Powered Risk Management.
- The Role of Digital Twins in Supply Chain Simulation and Planning.
- Enhancing Warehouse Automation with AI and Robotics.
- Improving End-to-End Supply Chain Visibility and Traceability.
- Workshop: Designing an AI-Based Supply Chain Control Tower.

Unit Five: Strategy, Implementation, and the Future Outlook

- Developing a Roadmap for AI Implementation in Procurement and Supply Chain.
- Leading Change: Managing the Human Element of Digital Transformation.
- Building the Business Case and Measuring ROI for AI Projects.
- Data Governance, Security, and Privacy in AI-Enabled Supply Chains.
- The Future of Procurement: Autonomous Systems and Cognitive Agents.
- Integrating Sustainability and Circular Economy Principles with AI.
- Final Project: Creating a Strategic AI Initiative for a Sample Company.

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 tactical procurement tasks, how does the strategic role of the human procurement professional evolve to create new forms of value?

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

This training course distinguishes itself by adopting a holistic and strategic perspective, moving beyond a narrow focus on specific software or algorithms. While many programs concentrate solely on the technical aspects of AI, this course integrates technology within a broader business framework, emphasizing strategy, implementation, and change management. We focus on how to build a business case, measure ROI, and lead the organizational shift required for successful digital transformation. The curriculum is uniquely balanced, dedicating equal importance to both digital procurement and the wider AI-driven supply chain, ensuring participants understand the full end-to-end impact of these technologies. Furthermore, the course places a strong emphasis on the ethical dimensions and sustainability implications of AI, preparing professionals to build responsible and future-proof supply chains. Rather than just teaching what AI can do, we empower participants with a strategic framework to decide what AI *should* do for their organization, fostering a new generation of leaders who can navigate the complexities of Supply Chain 4.0 with foresight and confidence.