Strategic Supply Chain Network Design and Optimization Training Course

02 - 06 Nov 2026

Barcelona

5900 € (Per Person)

Ref: #LOG8190_152125

Course Introduction / Overview:

This comprehensive course provides a deep dive into the critical discipline of supply chain network design and optimization. In today's volatile global market, a well-designed supply chain network is no longer a competitive advantage but a fundamental necessity for survival and growth. This program moves beyond basic logistics to address the strategic questions that define an organization's operational backbone: where to locate facilities, how to manage inventory flows, and how to build a network that is both efficient and resilient. As highlighted by the renowned academic Dr. David Simchi-Levi in his seminal work "Designing and Managing the Supply Chain", strategic network decisions have long-lasting impacts on cost, service levels, and risk exposure. This training, offered by BIG BEN Training Center, equips participants with the analytical frameworks and quantitative modeling techniques needed to design, evaluate, and optimize complex supply chain networks. We will explore the intricate trade-offs between transportation costs, inventory holding costs, and customer service expectations, ensuring that participants can develop data-driven strategies that align with their organization's overarching business objectives and prepare them for future disruptions.

Target Audience / This training course is suitable for:

- Supply Chain Managers and Directors.
- Logistics and Distribution Planners.
- Operations Managers and Analysts.
- Procurement and Sourcing Professionals.
- Strategic Planners and Business Analysts.
- Industrial Engineers and Operations Research Specialists.
- Consultants specializing in supply chain and logistics.
- Finance professionals involved in operational budgeting and investment.

Target Sectors and Industries:

- Manufacturing and Industrial Production.
- Retail and Consumer Packaged Goods (CPG).
- E-commerce and Direct-to-Consumer (DTC) businesses.
- Third-Party Logistics (3PL) and Freight Forwarding.
- Pharmaceuticals and Healthcare.
- Automotive and Aerospace.
- Technology and Electronics.
- Governmental agencies and public sector logistics operations.

Target Organizations Departments:

- Supply Chain Management.
- Logistics and Distribution.
- Operations Management.
- Strategic Planning and Corporate Strategy.
- Procurement and Sourcing.
- Finance and Controlling.
- Information Technology (IT) supporting supply chain systems.

Course Offerings:

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

- Develop a strategic framework for supply chain network design.
- Analyze the key cost and service trade-offs in network configuration.
- Apply quantitative models for facility location and capacity decisions.
- Master techniques for inventory placement and transportation optimization.
- Evaluate and mitigate risks within the supply chain network.
- Integrate sustainability principles into network design strategies.
- Utilize data analytics to support complex network decisions.
- Develop a business case for network redesign and transformation projects.

Course Methodology:

The training methodology at BIG BEN Training Center is designed to be highly interactive, practical, and engaging, ensuring that participants can immediately apply their learning. This course blends expert-led instruction with a variety of hands-on learning techniques. Theoretical concepts will be introduced through clear presentations and then reinforced with real-world case studies from diverse industries, allowing participants to analyze the challenges and successes of actual network design projects. A significant portion of the course is dedicated to collaborative group workshops and simulation exercises where participants will work in teams to solve complex network problems, fostering teamwork and critical thinking. These interactive sessions provide a safe environment to test different strategies and understand their financial and operational implications. Ample time is allocated for open discussions, Q&A sessions, and peer-to-peer knowledge sharing. Our expert instructors facilitate these discussions, providing personalized feedback and guiding participants to connect the course content directly to their own professional challenges, ensuring a rich and impactful learning experience.

Course Agenda (Course Units):

Unit One: Foundations of Strategic Network Design

- Introduction to supply chain network design.
- The strategic importance of network configuration.
- Key drivers of network design: cost, service, and resilience.
- Aligning network strategy with overall business objectives.
- Major components of a supply chain network.
- Understanding key performance indicators (KPIs) for network evaluation.
- The framework for a network design project.

Unit Two: Data Collection and Analytical Modeling

- Identifying and collecting essential data for network analysis.
- Techniques for data aggregation and validation.
- Introduction to demand forecasting in a network context.
- Fundamentals of network optimization and simulation models.
- Understanding cost components: transportation, facility, and inventory costs.
- Modeling customer service requirements and constraints.
- Introduction to network modeling software concepts.

Unit Three: Facility Location and Capacity Planning

- Qualitative and quantitative factors in facility location decisions.
- Center-of-gravity models for single-facility location.
- Advanced multi-facility location models and heuristics.
- Global vs. regional vs. local facility placement strategies.
- Determining optimal facility size and capacity.
- Planning for future capacity expansion and flexibility.
- Analyzing the role of cross-docking facilities and distribution centers.

Unit Four: Inventory and Transportation Network Optimization

- Strategic inventory positioning across the network.
- Multi-echelon inventory optimization principles.
- The impact of network design on transportation costs and efficiency.
- Mode selection and its strategic implications.
- Designing optimal inbound and outbound transportation flows.
- Strategies for last-mile delivery network design.
- Integrating reverse logistics into the network structure.

Unit Five: Risk, Sustainability, and Future Trends

- Identifying and assessing risks in the supply chain network.
- Designing for supply chain resilience and agility.
- Incorporating sustainability and green logistics into network design.
- The impact of digitalization and technology on network strategy.
- Developing a phased implementation plan for network changes.
- Change management for successful network transformation.
- Final project presentation and course wrap-up.

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:

In an era of unprecedented disruption, how can a company balance the efficiency of a lean supply chain network with the necessity of a resilient and agile one?

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

This course distinguishes itself by focusing on the strategic art and science of network design, moving beyond a purely software-driven approach. While many programs focus on the technical execution within a specific tool, this training emphasizes the critical thinking and strategic frameworks that precede any modeling effort. We delve into the 'why' behind network decisions, teaching participants how to formulate the right questions and align network strategy with C-level business objectives. The curriculum is uniquely structured to address the modern challenges of volatility, risk, and sustainability, equipping leaders to design networks that are not just cost-effective but also resilient and socially responsible. The course content is rooted in established academic principles, yet it is delivered through a highly practical lens, using contemporary case studies and interactive problem-solving sessions. Participants will leave not just with an understanding of optimization techniques, but with a holistic, strategic mindset to architect the robust and adaptive supply chains of the future, capable of navigating uncertainty and securing a long-term competitive edge.