

SUPPLY NETWORK DESIGN & OPTIMIZATION

“Optimizing Supply Chains for Maximum Efficiency and Cost Reduction”

Schedule

Date	Venue	Fees (Face-to-Face)
05 – 09 Apr 2026	Kuwait	USD 3495 per delegate

► Available delivery methods: Face-to-Face & Online Training

Introduction

Supply network design and optimization are essential for ensuring that businesses can meet customer demand while minimizing costs and maximizing efficiency. This 5-day course focuses on the best practices, tools, and techniques required to design and optimize supply networks. Participants will learn how to analyze and improve supply chain networks, optimize transportation and distribution systems, and implement cost-effective strategies for managing inventory and resources.

The course combines theoretical knowledge with practical exercises to help participants apply supply network design concepts in real-world scenarios. Attendees will gain the skills to build and optimize supply networks that align with organizational goals, improve customer satisfaction, and reduce operational costs.

Objectives

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

- Understand the principles of supply network design and its importance in supply chain management.
- Analyze supply chain networks and identify areas for optimization.
- Apply optimization techniques to reduce transportation costs and improve distribution efficiency.
- Design inventory management systems that balance cost and service levels.
- Use software tools to model, analyze, and optimize supply networks.
- Understand the impact of network design on overall supply chain performance.
- WHY YOU SHOULD ATTEND

Why Attend

- Learn how to design and optimize supply networks for increased efficiency and cost reduction.
- Gain a comprehensive understanding of how supply network decisions impact overall supply chain performance.
- Master the tools and techniques used to model, analyze, and optimize supply networks.
- Enhance your ability to make informed decisions about transportation, distribution, and inventory management.
- Learn strategies to reduce operational costs while improving customer satisfaction.

Target Audience

This program is designed for:

- Supply chain and logistics professionals
- Network planners and supply chain analysts
- Operations and distribution managers
- Procurement and sourcing strategists
- Consultants and decision-makers involved in logistics design

Individual Benefits

Key competencies that will be developed include:

- Advanced skills in supply network design and optimization.
- Expertise in optimizing transportation, inventory, and distribution systems.
- Proficiency in using modeling and optimization tools for supply network analysis.
- Ability to analyze trade-offs between cost and service levels in network design decisions.
- Enhanced understanding of how network design decisions impact overall supply chain performance.
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Organizational Benefits

Upon completing the training course, participants will demonstrate:

- Improved efficiency and cost savings through optimized supply networks.
- Enhanced ability to design and implement effective transportation and distribution systems.
- Better management of inventory levels to balance cost and customer service.
- Stronger alignment between supply network design and organizational goals.
- A more agile and responsive supply chain capable of adapting to changing market demands

Instructional Methodology

The course follows a blended learning approach combining theory with practice:

- Strategy Briefings - Detailed presentations on supply network design, optimization techniques, and case studies.
- Case Studies - Real-world examples of successful supply network optimization in various industries.
- Workshops - Hands-on exercises using modeling tools to design and optimize supply networks.
- Peer Exchange - Group discussions to share experiences and insights into supply network challenges and solutions.
- Tools - Practical software tools and templates for supply network analysis and optimization.

MAWA EVENTS

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Course Outline

Training Hours: 7:30 AM – 3:30 PM Daily Format: 3–4 Learning Modules | Coffee breaks: 09:30 & 11:15 | Lunch Buffet: 01:00 – 02:00

Day 1: Introduction to Supply Network Design

- Module 1: Fundamentals of Supply Network Design (07:30 – 09:30)
 - The role of network design in supply chain management
 - Key components of a supply network: suppliers, manufacturers, distributors, customers
 - Principles of network design: location, capacity, and flow optimization
- Module 2: Analyzing Supply Chain Networks (09:45 – 11:15)
 - Methods for analyzing and mapping supply chain networks
 - Identifying inefficiencies and bottlenecks in supply chains
 - Data collection and analysis techniques for network optimization
- Module 3: Designing Effective Supply Networks (11:30 – 01:00)
 - Best practices for designing efficient supply networks
 - Trade-offs in network design: cost vs. service level
 - Modeling network designs to optimize performance

Day 2: Optimizing Transportation and Distribution

- Module 1: Transportation Network Optimization (07:30 – 09:30)
 - Techniques for optimizing transportation routes and modes
 - Balancing cost and service level in transportation decisions
 - Strategies for reducing transportation costs and improving delivery times
- Module 2: Distribution System Optimization (09:45 – 11:15)
 - Key principles of distribution network design and optimization
 - Analyzing and improving warehouse and distribution center locations
 - Techniques for optimizing inventory levels and order fulfillment
- Module 3: Technology and Tools for Transportation and Distribution (11:30 – 01:00)
 - Software tools for transportation and distribution optimization
 - Using data and analytics to improve decision-making in transportation
 - Real-world examples of transportation and distribution network optimization

Day 3: Inventory Management and Supply Chain Integration

- Module 1: Inventory Management and Optimization (07:30 – 09:30)
 - Techniques for managing and optimizing inventory across supply networks
 - Balancing inventory costs with customer service levels
 - Methods for forecasting demand and managing stock levels
- Module 2: Integrating Supply Networks and Optimizing Flow (09:45 – 11:15)
 - The importance of integration in supply network optimization
 - Methods for improving flow and reducing delays in supply networks
 - Integrating suppliers, manufacturers, and customers to optimize performance
- Module 3: Lean Principles in Supply Network Design (11:30 – 01:00)
 - Applying lean principles to optimize supply networks
 - Eliminating waste and improving efficiency in supply chain operations
 - Using lean tools to streamline supply chain processes

Day 4: Supply Network Modeling and Optimization Tools

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Module 1: Introduction to Supply Network Modeling (07:30 – 09:30)

- Overview of network modeling tools and techniques
- Steps for building a supply network model
- Using models to test different network design scenarios
- Module 2: Optimizing Supply Networks Using Modeling Tools (09:45 – 11:15)
- Practical exercises in supply network optimization using modeling software
- Analyzing results and making decisions based on network models
- Case studies on the successful use of modeling tools for supply chain optimization
- Module 3: Advanced Techniques in Supply Network Optimization (11:30 – 01:00)
- Advanced optimization techniques: multi-objective optimization, stochastic modeling
- Using advanced tools to improve supply chain resilience
- Real-time optimization and decision support in supply network management

Day 5: Case Studies and Real-World Application

- Module 1: Case Studies in Supply Network Design and Optimization (07:30 – 09:30)
- Review of successful supply network optimization projects
- Lessons learned from supply chain optimization in various industries
- Best practices for applying course concepts to real-world scenarios
- Module 2: Implementing Supply Network Optimization in Your Organization (09:45 – 11:15)
- Developing an action plan for implementing supply network optimization strategies
- Aligning optimization strategies with organizational goals
- Overcoming challenges in implementing changes to supply networks
- Module 3: Final Review and Action Plan (11:30 – 01:00)
- Recap of key concepts and strategies covered in the course
- Developing a personalized action plan for applying course learnings
- Final Q&A and feedback session

Certification

Upon completing the training course, participants will receive a Certificate of Completion in Supply Network Design & Optimization, recognizing their ability to design, optimize, and implement supply networks that enhance efficiency, reduce costs, and improve overall supply chain performance.

Why Choose MAWA Events

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Interested in running this course for your team?

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