Logistics Network Optimization in Manufacturing Training Course

Professional Development Training Course Outline

Category	Manufacturing	**Duration**	5 Days
Base Fee	$1,500 USD	**Delivery Mode**	Online / On-site Hybrid

Course Introduction

In today’s highly competitive global manufacturing environment, Logistics Network Optimization, Supply Chain Digitization, and AI-driven manufacturing logistics are critical for achieving cost efficiency, speed, and resilience. Logistics Network Optimization in Manufacturing Training Course is designed to equip professionals with advanced knowledge of end-to-end supply chain optimization, network design modeling, and data-driven logistics strategy to improve manufacturing performance and customer satisfaction.

Participants will gain hands-on expertise in warehouse optimization, transportation network planning, demand forecasting integration, and lean logistics systems. The course emphasizes modern technologies such as IoT-enabled logistics, machine learning in supply chain, and digital twin simulation for manufacturing networks, ensuring learners are prepared for Industry 4.0 transformation.

Programme Curriculum

Logistics Network Optimization in Manufacturing Training Course

Introduction

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Course Duration

5 days

Course Objectives

1. Master Supply Chain Network Design Optimization
2. Understand Manufacturing Logistics Flow Mapping
3. Apply AI in Logistics Decision Making
4. Improve Warehouse Layout Optimization Techniques
5. Analyze Transportation Cost Reduction Strategies
6. Implement Demand-Driven Supply Chain Models
7. Develop skills in Inventory Optimization Algorithms
8. Use Digital Twin Technology in Logistics
9. Enhance Production-Distribution Synchronization
10. Apply Lean Manufacturing Logistics Principles
11. Optimize Multi-Echelon Supply Chain Networks
12. Understand Risk Management in Supply Chains
13. Leverage Big Data Analytics for Logistics Performance

Target Audience

1. Supply Chain Managers
2. Logistics & Distribution Managers
3. Manufacturing Engineers
4. Operations Managers
5. Procurement Specialists
6. Industrial Engineers
7. ERP/SAP Supply Chain Analysts
8. Business Process Improvement Consultants

Course Modules

Module 1: Fundamentals of Logistics Network Design

- Supply chain structure in manufacturing
- Network configuration models
- Flow optimization principles
- Cost-to-serve analysis
- Service level vs cost trade-offs
- **Case Study:** Toyota’s global production network optimization model and lean logistics integration.

Module 2: Demand Forecasting & Planning Integration

- Statistical forecasting techniques
- AI-based demand prediction
- Sales & operations planning (S&OP)
- Demand variability management
- Collaborative planning systems
- **Case Study:** Unilever demand forecasting system improving global inventory alignment.

Module 3: Warehouse & Distribution Optimization

- Warehouse layout engineering
- Slotting optimization strategies
- Automation in warehousing
- Order picking efficiency models
- Cross-docking systems
- **Case Study:** Amazon fulfillment center automation and robotics optimization.

Module 4: Transportation Network Optimization

- Route optimization algorithms
- Freight consolidation strategies
- Load balancing techniques
- Multi-modal transport systems
- Fuel and cost efficiency models
- **Case Study:** DHL global routing optimization reducing delivery lead time.

Module 5: Inventory Optimization in Manufacturing

- EOQ and dynamic inventory models
- Safety stock optimization
- Multi-echelon inventory systems
- Just-in-time (JIT) integration
- Stockout risk analysis
- **Case Study:** Dell’s build-to-order inventory optimization strategy.

Module 6: Digital Supply Chain & IoT Integration

- IoT in logistics tracking
- Real-time visibility systems
- RFID-enabled supply chains
- Digital twin modeling
- Smart factory logistics
- **Case Study:** Siemens smart factory digital logistics transformation.

Module 7: Risk & Resilience in Supply Chain Networks

- Supply chain disruption modeling
- Risk mapping techniques
- Scenario planning
- Supplier diversification strategies
- Crisis logistics management
- **Case Study:** COVID-19 impact response strategies in automotive supply chains (BMW resilience model).

Module 8: Advanced Analytics & AI in Logistics

- Machine learning forecasting models
- Predictive logistics analytics
- Optimization algorithms (linear/non-linear)
- Data-driven decision systems

- KPI dashboards and performance tracking
- **Case Study:** Maersk AI-driven container logistics optimization platform.

Training Methodology

This course employs a participatory and hands-on approach to ensure practical learning, including:

- Interactive lectures and presentations.
- Group discussions and brainstorming sessions.
- Hands-on exercises using real-world datasets.
- Role-playing and scenario-based simulations.
- Analysis of case studies to bridge theory and practice.
- Peer-to-peer learning and networking.
- Expert-led Q&A sessions.
- Continuous feedback and personalized guidance.

Register as a group from 3 participants for a Discount

Send us an email: info@fineskilltrainingcenter.org or call *+254769199797*

Certification

Upon successful completion of this training, participants will be issued with a globally- recognized certificate.

Tailor-Made Course

We also offer tailor-made courses based on your needs.

Key Notes

a. The participant must be conversant with English.

b. Upon completion of training the participant will be issued with an Authorized Training Certificate

c. Course duration is flexible and the contents can be modified to fit any number of days.

d. The course fee includes facilitation training materials, 2 coffee breaks, buffet lunch and A Certificate upon successful completion of Training.

e. One-year post-training support Consultation and Coaching provided after the course.

f. Payment should be done at least a week before commence of the training, to Fineskill Training Center account, as indicated in the invoice so as to enable us prepare better for you.

Upcoming Scheduled Sessions

Start Date	End Date	Location	Price
23 Nov 2026	27 Nov 2026	Online	$1,000

Start Date	End Date	Location	Price
23 Nov 2026	27 Nov 2026	Physical	$1,500
23 Nov 2026	27 Nov 2026	Physical	$3,000
23 Nov 2026	27 Nov 2026	Physical	$3,000
23 Nov 2026	27 Nov 2026	Physical	$6,000
23 Nov 2026	27 Nov 2026	Physical	$4,500
23 Nov 2026	27 Nov 2026	Physical	$6,000
23 Nov 2026	27 Nov 2026	Physical	$6,000

Ready to enroll or request a customized program? Book online or contact us:

Register Online Now

Email: info@fineskilltrainingcenter.com | Website: www.fineskilltrainingcenter.com