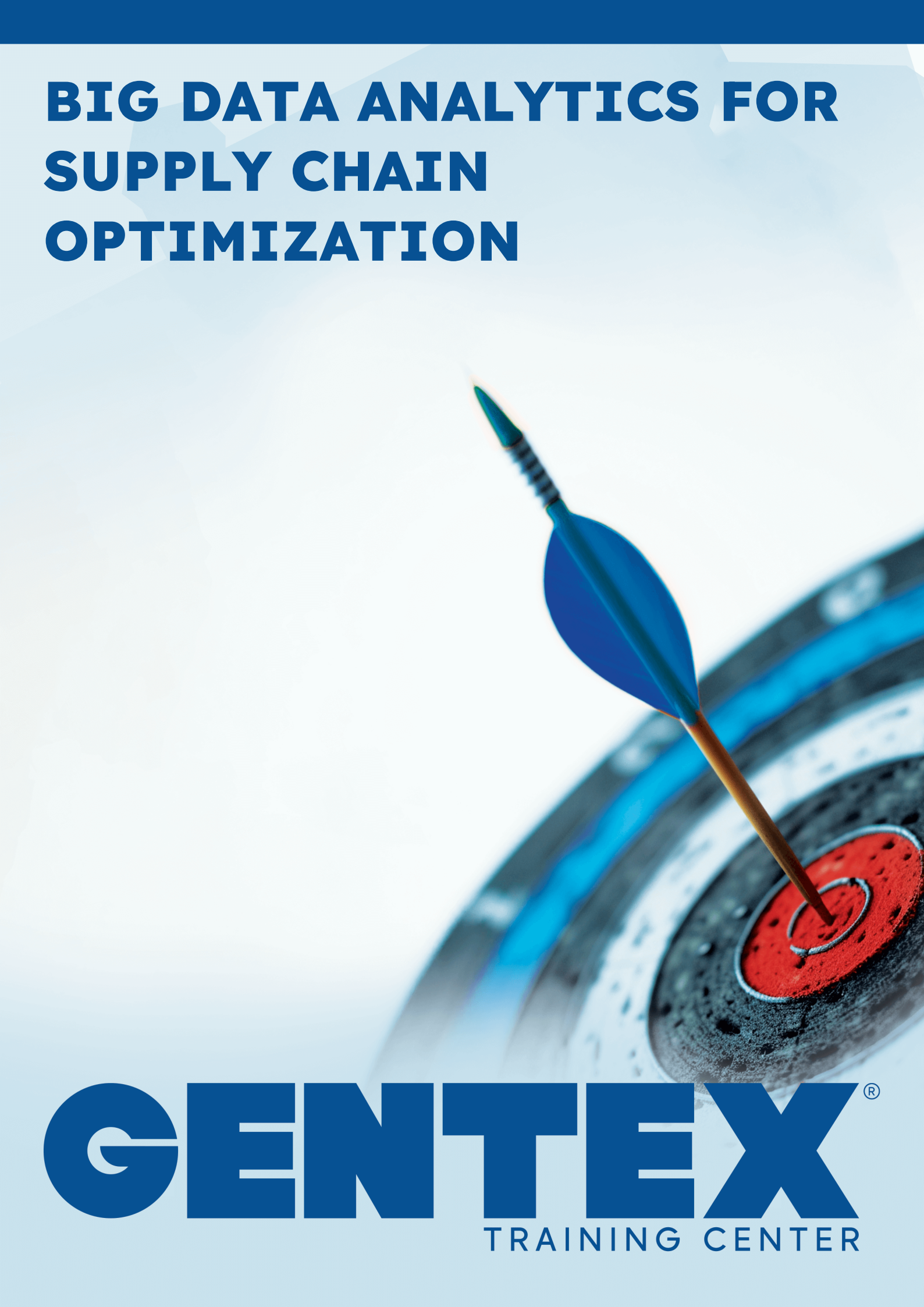
BIG DATA ANALYTICS FOR SUPPLY CHAIN OPTIMIZATION



GENTEX®
TRAINING CENTER

GENTEX Training Center LLC | Orlando - FL, USA
Info@gentextraining.com

Introduction

Supply chains generate enormous volumes of data every day: order records, shipment scans, sensor readings, supplier transactions, and demand histories. Most of it sits unused while decisions are made on last month's report. This Big Data Analytics for Supply Chain Optimization Training Course gives supply chain analysts, planners, and data professionals a complete method for turning that data into operational decisions. Participants learn how to source and prepare large datasets, build demand and inventory analytics, apply optimisation techniques, and design dashboards that management uses. Furthermore, the course covers data governance, quality, and the skills needed to run analytics as a routine rather than a project.

Big Data Analytics for Supply Chain Optimization Course Objectives

- Identify big data sources across procurement, production, warehousing, and transport.
- Apply the five V's of big data: volume, velocity, variety, veracity, and value.
- Prepare, clean, and integrate large datasets from multiple systems.
- Build demand forecasting models and evaluate their accuracy.
- Apply inventory analytics for safety stock, reorder points, and segmentation.
- Use network optimisation methods for distribution and routing decisions.
- Apply predictive maintenance analytics to critical equipment and fleets.
- Design supply chain dashboards with KPI and exception reporting.
- Apply data governance, quality controls, and privacy requirements.
- Measure analytics value with cost, service, and cycle time indicators.

Course Methodology

- Facilitated sessions built on real supply chain datasets and system extracts.

GENTEX® TRAINING CENTER

- Hands-on labs in data preparation, modelling, and dashboard construction.
- Case workshops on demand volatility, inventory excess, and network cost.
- Optimisation exercises on distribution and routing scenarios.
- Group exercise on a supply chain analytics roadmap with defined use cases.

Who Should Take This Course

- Supply chain analysts and data analysts.
- Demand, supply, and inventory planners.
- Logistics and distribution managers.
- Procurement analysts handling spend and supplier data.
- Business intelligence and reporting officers.
- Operations and continuous improvement professionals.

Big Data Analytics for Supply Chain Optimization Course Outlines

Day 1: Big Data in the Supply Chain

- Data types: transactional, sensor, location, document, and external market data.
- The five V's of big data applied to supply chain operations.
- Data sources: ERP, WMS, TMS, IoT devices, and supplier portals.
- Structured, semi-structured, and unstructured data handling.
- Data maturity assessment and analytics readiness.
- Analytics types: descriptive, diagnostic, predictive, and prescriptive.
- Building the business case for supply chain analytics.

GENTEX Training Center LLC | Orlando - FL, USA
Info@gentextraining.com

Day 2: Data Preparation and Integration

- Data extraction from ERP, WMS, and TMS systems.
- Cleaning, deduplication, and missing value treatment.
- Data integration across systems and master data alignment.
- Units of measure, calendars, and hierarchy harmonisation.
- Data quality dimensions and validation rules.
- Data warehousing and data lake concepts for supply chain data.
- Data governance, ownership, and access control.

Day 3: Demand and Inventory Analytics

- Demand pattern analysis and segmentation.
- Forecasting methods and accuracy measurement.
- Forecast hierarchies and reconciliation practice.
- Safety stock analytics under demand and lead time variability.
- ABC and XYZ segmentation with service level targets.
- Slow-moving, obsolete, and excess stock analytics.
- Exception reporting for planners and replenishment teams.

Day 4: Network, Logistics, and Asset Analytics

- Network cost analysis and distribution optimisation.
- Route optimisation and load planning analytics.
- Carrier performance and freight cost analytics.
- Warehouse throughput, slotting, and labour analytics.
- Predictive maintenance for equipment and fleets.

- Supply risk analytics and supplier performance scoring.
- Simulation and scenario analysis for network decisions.

Day 5: Visualisation, Governance, and Value

- Dashboard design principles and KPI hierarchy.
- Self-service reporting and exception-based alerts.
- Automation of recurring reports and data refreshes.
- Data privacy, confidentiality, and security controls.
- Measuring analytics value: cost saving, service gain, and cycle time.
- Building analytics skills in the supply chain team.
- Constructing a multi-year supply chain analytics roadmap.

Conclusion

By successfully completing the Big Data Analytics for Supply Chain Optimization Training Course, participants will have acquired a solid working knowledge of supply chain data sources, data preparation and integration, demand and inventory analytics, network and logistics optimisation, dashboard design, data governance, and value measurement. They will leave able to turn large supply chain datasets into decisions on stock, capacity, routing, and risk, and to prove the value of analytics with measurable results. Gentex Training Center delivers this programme with supply chain and analytics practitioners who apply these methods in live operations.

FAQs for the Big Data Analytics for Supply Chain Optimization course

GENTEX Training Center LLC | Orlando - FL, USA
Info@gentextraining.com

Q1 What is the "Big Data Analytics for Supply Chain Optimization" course about?

It is a five-day programme on using large supply chain datasets to improve operational decisions. It covers data sources and preparation, demand and inventory analytics, network and logistics optimisation, dashboard design, data governance, and value measurement.

Q2 What are the key benefits of the "Big Data Analytics for Supply Chain Optimization" course?

Participants make stock, capacity, and routing decisions from current data rather than month-old reports, and they cut both excess inventory and shortages with better forecasting. They also gain dashboards and exception alerts that direct attention to the items that actually need action.

Q3 What skills will I gain from the "Big Data Analytics for Supply Chain Optimization" course?

You will gain supply chain data sourcing and preparation, demand and inventory analytics with accuracy evaluation, network, logistics, and asset optimisation analysis, and dashboard design, data governance, and analytics value measurement.

GENTEX Training Center LLC | Orlando - FL, USA
Info@gentextraining.com

Q4 What tools, methods, or standards are covered in the "Big Data Analytics for Supply Chain Optimization" course?

The course works with the five V's of big data, data extraction from ERP, WMS and TMS systems, cleaning and missing value treatment, master data harmonisation across units of measure and calendars, data quality dimensions and validation rules, data warehouse and data lake concepts, demand pattern analysis with forecast accuracy metrics, forecast hierarchies and reconciliation, safety stock models under demand and lead time variability, ABC and XYZ segmentation, ageing and obsolescence analytics, network cost and distribution optimisation, route optimisation and load planning, carrier and freight cost analytics, warehouse throughput and slotting analysis, predictive maintenance modelling, supply risk scoring, dashboard design with KPI hierarchies, exception-based alerting, and data governance and privacy controls.

Q5 How is the "Big Data Analytics for Supply Chain Optimization" course applied in real-world practice?

Teams apply it when rebuilding demand forecasts from transaction history, analysing slow-moving stock across locations, optimising delivery routes, reviewing carrier cost and performance, building a supply chain KPI dashboard, and prioritising analytics projects for the coming year.