Procurement & Supply Chain Management · PS183

Big Data Analytics for Supply Chain Optimization

Madrid · 23 - 27 Nov 2026

Date	Venue	Duration
23 - 27 Nov 2026	**Madrid**	**1 Week**
Fee	Ref	Language
£5,000 GBP	**PS183**	**English**

Introduction

As Industry 4.0 emerges, the Supply Chain and Logistics will continue to be its lifeblood, and clogs and interruptions in the flow can choke the life out of the industry and reduce the benefits from industry improvements, as these improvements will not be able to reach customers on time. As a result, Supply Chain and Logistics 4.0 is required to transport all of the goods and information generated by the industry and enable the final product to reach customers.

Even if we consider 3D printing technology to be a new way of manufacturing, entities and businesses will still need to transport the same 3D printers to the location where the printing will take place.

As data availability grows, so does the opportunity to move away from previously used forecasting techniques and into the realms of Big Data and Artificial Intelligence. Data analysis, planning, and real-time response to changes in the supply chain have become "must haves," and with the tools available for Big Data analysis and dynamic simulation, we can now see into the future and make decisions based on the dynamic simulation of agent and process behavior.

This training course is designed to assist institutions, businesses, and individuals in transforming their existing supply chain to a Supply Chain 4.0 and remaining competitive in the fourth industrial revolution.

This training course on Big Data Analytics for Supply Chain Optimization will highlight:

- What are the Big Data sources in Supply Chain and Logistics?
- Methods for Big Data analysis and its use for forecasting
- Using a Big Data analysis results for a dynamic simulation basis
- Focus on both increasing market share and profit as well as cost reduction
- Improving decision-making in real-time, by forecasting events based on complex behavior

Course Objectives of Big Data Analytics for Supply Chain Optimization

At the end of this training course, attendees will learn to:

- Use Big Data analysis tools and techniques to identify patterns in Supply Chain behavior
- Create virtual models of Supply Chains and choose between alternatives with the highest profits
- Identify the sources of Big Data in their Supply Chain and Logistics and streamline their use
- Create a customer behavior pattern and recognize possible changes in these patterns
- Plan for the improvement in their Supply Chain with existing facilities and workforce
- Prepare for the incoming Supply Chain 4.0 as an integral part of Industry 4.0

Course Methodology of Big Data Analytics for Supply Chain Optimization

This training course on Big Data Analytics for Supply Chain Optimization uses a guided training approach where the delegates will be guided through real-life examples of Big Data use in Supply Chain optimization. The delegates will be provided with a Personal Learning Edition of the AnyLogic and anyLogistix software and will learn how to use this software to develop models themselves.

Delegates will learn how to identify the sources of the Big Data within their Supply Chain and through practical exercises learn how to connect the data from these sources with simulation models to get the outputs from a Supply Chain and learn how to acquire valuable insights from these outputs and use them in real-time decision making. The possible opportunities of removing the human decision from certain elements of supply chain planning and execution will also be presented.

Organizational Impact of Big Data Analytics for Supply Chain Optimization

As Big Data becomes part of our everyday life the decisions within the Supply Chain become more frequent and time-constrained, the organizations that manage to transfer decisions that can be made by artificial intelligence away from their personnel and enable their people to make the decisions based on the accurate predictions will be the ones that will not only survive in the competitive world but also thrive and create large returns on investment to their stakeholders.

This Purchasing & Logistics training enables organizations and entities to benefit from:

- **Big Data sources within their own Supply Chain**
- Interoperability with other Supply Chains
- Dynamic simulation based on the Big Data analytics results and real-time cost / benefit analysis
- Easy and fast short-term forecasting for immediate decision making
- Moving the cumbersome decision-making to the artificial intelligence field
- Enabling people to make long terms decisions while leaving short-term decisions to technology

Personal Impact of Big Data Analytics for Supply Chain Optimization

Delegates will realize the potential of Supply Chain 4.0, learn Big Data Analysis, and acquire the knowledge on the software and solutions that can help them perform their regular jobs easily and efficiently; specifically, delegates will acquire:

- The knowledge of Big Data sources within the Supply Chain and Logistics
- Insight into the Big Data analysis techniques
- Available software for Big Data analysis and dynamic simulation
- The way how to decide which decisions should be made and which left to the machines and systems
- Know how on using AnyLogic and anyLogistix software
- How to incorporate simulation software with their existing ERP software?

Target Audience of Big Data Analytics for Supply Chain Optimization

This training course on Big Data Analytics for Supply Chain Optimization is designed for any professionals within industries and entities which are heavily dependent on Supply Chain and Logistics as well as production, mass services, etc.

This training course is suitable for a wide range of professionals within many industries but will greatly benefit:

- Business Improvement Specialists
- Industry 4.0 Pioneers and Practitioners
- Supply Chain Managers
- Operation Managers
- Project Managers
- Finance Managers
- IT Managers
- Consultants

Course Outline of Big Data Analytics for Supply Chain Optimization

DAY 1

Industry 4.0 and Its Impact on Supply Chain

- Industry 4.0 Introduction
- Industry 4.0 Drivers and Impacts
- Supply Chain and Logistics within the Industry 4.0
- A vision of the Supply Chain 4.0 and the Future of Logistics

DAY 2

Big Data in Supply Chain and Logistics

- Big Data 5V’s in Supply Chain and Logistics
    - Volume
    - Velocity
    - Variety

    - Value
    - Variability
    - Veracity
- Sources of Big Data within the Supply Chain and Logistics
- Data-Driven Supply Chain Optimization (k-means, Apriori, Aykin, and Babu algorithms)

DAY 3

Supply Chain Optimization

- Framework Oriented on Customer Requirements
- Optimizing the Sell Operations
- Optimization of Distribution
- Optimization of Inventory Management

DAY 4

Optimization of Manufacturing Process

- Optimizing Product Design and Innovation
- Optimizing the Production Process
- Big Data Analysis of Logistics Activities
- Using Created Models as Agents for Future Models Creation

DAY 5

Integration of Modern Software with Existing ERP Software

- The AnyLogic Cloud
- Interoperability of AnyLogic and anyLogistics with ERP Software Platforms
- RFID and Vehicle Tracking Systems Connectivity
- Data Extrapolation for Faster Analysis and Computation

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https://www.hplustraining.com/cities/madrid/57766

training@hplustraining.com · +44 74 0108 8599 · +90 539 827 59 14