Lean Six Sigma for Logistics and Supply Chain Excellence Training Course

02 - 06 Nov 2026

Cape town

4600 € (Per Person)

Ref: #LOG1795_286234

Course Introduction / Overview:

This intensive training course provides a comprehensive framework for applying Lean Six Sigma methodologies specifically within the logistics and supply chain sectors. It moves beyond theoretical concepts to offer practical, actionable strategies for achieving operational excellence, reducing costs, and enhancing customer satisfaction. The curriculum is designed to integrate the speed and waste-elimination power of Lean with the quality and process-control rigor of Six Sigma, creating a powerful synergy for modern logistics challenges. As detailed by authors like Thomas Goldsby in works such as "Lean Six Sigma Logistics," the application of these principles is critical for navigating complex global supply networks. Participants will learn to systematically identify and eliminate inefficiencies, from warehousing and inventory management to transportation and final delivery. BIG BEN Training Center has developed this program to empower professionals to lead impactful improvement projects, utilizing the structured DMAIC (Define, Measure, Analyze, Improve, Control) framework. This course is not just about learning tools; it is about cultivating a mindset of continuous improvement and data-driven decision-making to transform logistics operations into a source of competitive advantage.

Target Audience / This training course is suitable for:

- Logistics and Supply Chain Managers.
- Operations Managers and Supervisors.
- Warehouse and Distribution Center Managers.
- Procurement and Sourcing Professionals.
- Quality Assurance and Process Improvement Specialists.
- Supply Chain Analysts and Planners.
- Freight and Transportation Coordinators.
- Project Managers involved in logistics projects.

Target Sectors and Industries:

- Manufacturing and Industrial Production.
- Retail and E-commerce.
- Third-Party Logistics (3PL) and Freight Forwarding.
- Automotive and Aerospace.
- Pharmaceutical and Healthcare Supply Chains.
- Food and Beverage Distribution.
- Governmental and Public Sector Logistics Operations.
- Construction and Engineering.

Target Organizations Departments:

- Supply Chain Management.
- Logistics and Distribution.
- Operations Management.
- Warehouse and Inventory Control.
- Procurement and Purchasing.
- Quality Assurance and Control.
- Continuous Improvement and Process Excellence.
- Transportation and Fleet Management.

Course Offerings:

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

- Apply the DMAIC methodology to solve complex logistics and supply chain problems.
- Utilize Value Stream Mapping (VSM) to identify and eliminate waste in logistics processes.
- Implement Lean tools such as 5S, Kaizen, and Just-In-Time (JIT) in a logistics environment.
- Conduct root cause analysis to uncover the source of defects and delays in the supply chain.
- Use statistical process control (SPC) to monitor and control key logistics performance indicators.
- Develop effective project charters and lead process improvement teams.
- Measure and analyze supply chain performance using relevant metrics and data.
- Create robust control plans to sustain gains from improvement projects.
- Enhance warehouse efficiency, optimize inventory levels, and reduce transportation costs.
- Align logistics improvement projects with strategic business objectives.

Course Methodology:

The training methodology at BIG BEN Training Center is designed to be highly interactive, engaging, and application-focused, ensuring that participants can translate theoretical knowledge into practical skills. This course employs a blended learning approach that combines expert-led instruction with hands-on exercises. Mornings will often be dedicated to introducing core concepts, frameworks like DMAIC, and essential Lean Six Sigma tools. The afternoons will be centered on practical application through real-world logistics case studies, team-based workshops, and process simulation games. Participants will work in groups to map a supply chain process, conduct a root cause analysis on a common logistics failure, and design an improvement plan. This collaborative environment encourages peer-to-peer learning and the sharing of diverse industry experiences. We emphasize interactive discussions, Q&A sessions, and continuous feedback to ensure a deep understanding of the material. The goal is to create a dynamic learning environment where participants actively engage with the content, practice using the tools, and leave with the confidence to implement Lean Six Sigma in their own organizations.

Course Agenda (Course Units):

Unit One: Foundations of Lean Six Sigma in Logistics

- Introduction to Lean Principles and the 8 Wastes (Muda) in Supply Chains.
- Understanding the Six Sigma Philosophy and the DMAIC Framework.
- The Synergy of Lean and Six Sigma for Operational Excellence.
- Identifying Value-Added vs. Non-Value-Added Activities in Logistics.
- The Role of Leadership and Culture in a Lean Six Sigma Transformation.
- Key Performance Indicators (KPIs) for Logistics and Supply Chain Management.
- Introduction to Project Charters and Defining Project Scope.

Unit Two: The Define and Measure Phases for Logistics Processes

- Defining a Logistics Problem and Crafting a Problem Statement.
- Capturing the Voice of the Customer (VOC) in a Supply Chain Context.
- Developing a High-Level Process Map (SIPOC).
- Detailed Process Mapping and Value Stream Mapping (VSM) for Logistics.
- Data Collection Planning for Logistics Metrics.
- Understanding Process Variation and its Impact on Performance.
- Introduction to Basic Statistics and Data Types.

Unit Three: The Analyze Phase for Identifying Root Causes

- Conducting Root Cause Analysis using the 5 Whys and Fishbone Diagrams.
- Analyzing Process Data to Identify Trends, Patterns, and Bottlenecks.
- Graphical Analysis Tools (Histograms, Pareto Charts, Scatter Plots).
- Introduction to Statistical Process Control (SPC) Charts.
- Hypothesis Testing to Validate Potential Root Causes.
- Analyzing Flow and Constraints in Warehousing and Transportation.
- Quantifying the Financial Impact of Process Inefficiencies.

Unit Four: The Improve and Control Phases for Sustainable Solutions

- Brainstorming and Selecting Improvement Solutions using Kaizen Events.

- Implementing 5S Methodology for Workplace Organization in Warehouses.
- Applying Just-In-Time (JIT) and Kanban Systems for Inventory Control.
- Mistake-Proofing (Poka-Yoke) Logistics Processes.
- Developing a Future State Value Stream Map.
- Creating Control Plans to Sustain Improvements.
- Monitoring Process Performance with Control Charts.

Unit Five: Advanced Applications and Project Management

- Leading and Managing a Lean Six Sigma Improvement Project.
- Stakeholder Management and Communication Strategies.
- Applying Lean Six Sigma to Transportation Network Optimization.
- Leveraging Technology and Data Analytics in Lean Six Sigma Projects.
- Risk Management in Supply Chain Improvement Initiatives.
- Presenting Project Findings and Recommendations to Management.
- Capstone Simulation: Applying DMAIC to a Comprehensive Logistics Case Study.

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:

How might the principles of Lean Six Sigma be adapted to address the unique challenges of reverse logistics and the circular economy?

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

This course distinguishes itself by its unwavering focus on the specific application of Lean Six Sigma within the logistics and supply chain domain. Unlike generic programs that use manufacturing-centric examples, every case study, exercise, and discussion is tailored to the real-world challenges of warehousing, transportation, inventory management, and distribution. We move beyond a simple "toolbox" approach; instead of just teaching what a tool is, we emphasize when and why to use it in a logistics context, fostering critical thinking and strategic application. The curriculum is structured to build a deep, practical understanding of how to manage the flow of materials and information more efficiently. Another key differentiator is the emphasis on integrating data-driven Six Sigma analysis with the rapid-improvement, waste-elimination focus of Lean. Participants learn not only to fix problems but also to redesign processes for sustained, long-term excellence. The course fosters a holistic perspective, connecting process improvements directly to key business outcomes such as cost reduction, lead time optimization, and enhanced customer value, ensuring the skills learned are immediately relevant and impactful.