Lean Six Sigma for Inventory and Supply Chain Optimization Training Course

02 - 06 Nov 2026

Cape town

4600 € (Per Person)

Ref: #IM2033_288214

Course Introduction / Overview:

This intensive training course provides a comprehensive framework for applying Lean Six Sigma methodologies to revolutionize inventory management and supply chain operations. In today's competitive landscape, efficient inventory control is not just a cost-saving measure but a strategic imperative for business success. This program moves beyond theoretical concepts to offer practical, data-driven strategies for reducing waste, minimizing carrying costs, preventing stockouts, and improving overall process flow. Participants will delve into the powerful DMAIC (Define, Measure, Analyze, Improve, Control) cycle, a cornerstone of Six Sigma, specifically tailored to address inventory-related challenges. We will explore the principles of Lean thinking, heavily influenced by pioneers like Taiichi Ohno and his work on the Toyota Production System, to systematically identify and eliminate non-value-added activities within the supply chain. The course integrates key concepts from influential works such as "The Goal" by Eliyahu M. Goldratt to foster a holistic understanding of system constraints and throughput. At BIG BEN Training Center, we are committed to empowering professionals with the skills to transform their inventory processes into a source of competitive advantage, ensuring operational excellence and enhanced customer satisfaction.

Target Audience / This training course is suitable for:

- Supply Chain Managers and Analysts.
- Inventory Planners and Controllers.
- Logistics and Distribution Managers.
- Warehouse Supervisors and Team Leaders.
- Operations Managers.
- Procurement and Sourcing Professionals.
- Process Improvement Specialists and Consultants.
- Quality Assurance Managers.
- Finance professionals involved in inventory costing.

Target Sectors and Industries:

- Manufacturing and Industrial Production.
- Retail and Consumer Goods.
- E-commerce and Direct-to-Consumer Businesses.
- Third-Party Logistics (3PL) and Distribution.
- Pharmaceutical and Healthcare.
- Automotive and Aerospace.
- Food and Beverage.
- Government agencies and public sector supply chain operations.

Target Organizations Departments:

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

Course Offerings:

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

- Apply the DMAIC methodology to solve complex inventory and supply chain problems.
- Utilize Value Stream Mapping (VSM) to visualize process flow and identify waste.
- Conduct root cause analysis using tools like 5 Whys and Fishbone diagrams.
- Implement key Lean inventory strategies such as Just-In-Time (JIT) and Kanban systems.
- Use statistical process control (SPC) to monitor and maintain inventory process stability.
- Develop effective key performance indicators (KPIs) to measure inventory performance.
- Optimize warehouse layouts and workflows for maximum efficiency.
- Lead Kaizen events to drive rapid and continuous improvement in inventory processes.
- Reduce inventory carrying costs while improving service levels and availability.
- Develop robust control plans to sustain improvements over the long term.

Course Methodology:

The training methodology at BIG BEN Training Center is designed to be highly interactive, engaging, and practical, ensuring that participants can immediately apply their learning in the workplace. We believe in a blended learning approach that combines expert-led instruction with hands-on application. The course will feature in-depth presentations on Lean Six Sigma principles, tools, and techniques, grounded in real-world examples. A significant portion of the training will be dedicated to practical workshops and group exercises where participants will work on simulated inventory process improvement projects. This includes creating process maps, analyzing data sets, and brainstorming solutions in a collaborative team environment. Case studies from various industries will be analyzed to provide insights into successful implementations and common challenges. Interactive sessions, Q&A periods, and peer-to-peer discussions are integral to the learning process, fostering a dynamic and supportive atmosphere. Our experienced instructors provide continuous feedback and guidance, helping participants build confidence in using Lean Six Sigma tools to drive tangible results in their own organizations.

Course Agenda (Course Units):

Unit One: Foundations of Lean Six Sigma in Supply Chain

- Introduction to Lean Principles and the 8 Wastes (Muda).
- Core Concepts of Six Sigma and the DMAIC Framework.
- The Synergy of Lean and Six Sigma for Inventory Optimization.
- Understanding Value from the Customer's Perspective.
- Roles and Responsibilities in a Lean Six Sigma Project.
- Identifying and Scoping High-Impact Inventory Improvement Projects.
- Introduction to Change Management for Process Improvement Initiatives.

Unit Two: Define and Measure for Inventory Excellence

- Developing a Project Charter for an Inventory Initiative.
- Defining Process Boundaries and Stakeholders (SIPOC).
- Voice of the Customer (VOC) in Supply Chain Operations.
- Introduction to Value Stream Mapping (VSM) for Inventory Flow.
- Data Collection Planning for Inventory Metrics.
- Measuring Process Performance with KPIs (e.g., Inventory Turnover, Fill Rate).
- Understanding Process Variation and its Impact on Inventory.

Unit Three: Analyze Phase for Root Cause Identification

- Conducting Detailed Process Analysis and Flow Analysis.
- Root Cause Analysis Techniques (Fishbone Diagrams, 5 Whys).
- Introduction to Basic Statistical Analysis for Inventory Data.
- Identifying Bottlenecks and Constraints in the Supply Chain.
- Analyzing Inventory Carrying Costs and Their Components.
- Using Pareto Charts to Prioritize Inventory Issues.
- Validating Root Causes with Data before Jumping to Solutions.

Unit Four: Improve Phase for Optimal Inventory Solutions

- Brainstorming and Selecting Improvement Solutions.
- Implementing Just-In-Time (JIT) and Kanban Systems.
- Optimizing Safety Stock and Reorder Points.
- Warehouse Layout and Slotting Optimization Techniques.
- Error-Proofing (Poka-Yoke) for Inventory Accuracy.
- Running Kaizen Events for Rapid Process Improvement.
- Piloting and Testing Solutions before Full-Scale Implementation.

Unit Five: Control Phase for Sustaining Gains

- Developing a Process Control Plan for New Inventory Procedures.
- Introduction to Statistical Process Control (SPC) Charts.
- Standardizing Work and Documenting New Processes.
- Implementing a Continuous Improvement (Kaizen) Culture.
- Monitoring Performance and Reporting on Project Success.
- Handover of the Improved Process to the Process Owner.
- Celebrating Success and Planning Future Projects.

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:

Beyond cost reduction, how can the principles of Lean Six Sigma be leveraged to build a more resilient and agile supply chain in an era of global uncertainty?

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

This course distinguishes itself by moving beyond a purely theoretical or statistical examination of Six Sigma, focusing intensely on its practical application within the specific, high-stakes context of inventory and supply chain management. While many programs teach the tools, we emphasize the strategic thinking required to deploy them effectively to solve real-world problems like excess stock, inaccurate forecasting, and inefficient warehouse flow. Our curriculum is built around a narrative that follows the entire DMAIC lifecycle of a typical inventory improvement project, allowing participants to experience the journey from problem identification to sustained control. We place a strong emphasis on Value Stream Mapping, not just as a diagramming exercise, but as a critical diagnostic tool to uncover hidden inefficiencies in the flow of materials and information. The course content is enriched with case studies and scenarios directly relevant to modern supply chain challenges, such as demand volatility and supplier disruptions. The focus is less on becoming a statistician and more on becoming a strategic problem-solver who can use data-driven insights to create a lean, responsive, and cost-effective inventory system that directly supports business objectives.