Lean Construction Management for Process Improvement Training Course



16 - 20 Nov 2026

Cairo

3700 € (Per Person)

Ref: #CON9423_271988

Course Introduction / Overview:

This course provides a comprehensive exploration of Lean principles specifically adapted for the construction industry, focusing on systematic process improvement to maximize value and minimize waste. In a sector often plagued by delays, budget overruns, and inefficiencies, Lean construction offers a transformative framework for project delivery. Drawing upon the foundational work of pioneers like Lauri Koskela, who bridged manufacturing principles with project-based production, this program delves into practical tools and methodologies. Participants will learn to identify and eliminate the eight wastes of Lean as they apply to construction sites and project workflows. The curriculum is designed to move beyond theory, offering actionable strategies for implementing techniques such as the Last Planner System, Value Stream Mapping, and 5S. As detailed in seminal texts like "Lean Construction" by Gregory A. Howell and Glenn Ballard, the focus is on creating reliable workflow, optimizing supply chains, and fostering a culture of continuous improvement. BIG BEN Training Center has developed this course to empower professionals to lead this change, driving significant improvements in safety, quality, cost, and schedule performance on their projects.

Target Audience / This training course is suitable for:

- Project Managers and Directors.
- Construction Managers and Superintendents.
- Site Engineers and Foremen.
- Architects and Design Professionals.
- Quantity Surveyors and Cost Engineers.
- Project Planners and Schedulers.
- Quality Assurance and Control Managers.
- Procurement and Supply Chain Managers.
- Real Estate Developers.
- Facility Managers.

Target Sectors and Industries:

- Commercial and Residential Construction.
- Industrial and Manufacturing Plant Construction.
- Infrastructure and Civil Engineering Projects.
- Real Estate Development and Property Management.
- Oil and Gas Sector Projects.
- Renewable Energy and Power Generation.
- Governmental agencies and public works departments.
- Healthcare and Educational Facility Construction.
- Consulting and Engineering Firms.

Target Organizations Departments:

- Project Management Office (PMO).
- Operations and Site Management.
- Engineering and Design.
- Planning and Scheduling.
- Quality Assurance and Quality Control (QA/QC).
- Health, Safety, and Environment (HSE).
- Procurement and Contracts.
- Finance and Cost Control.
- Logistics and Supply Chain Management.

Course Offerings:

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

- Identify and categorize the eight forms of waste in construction processes.
- Apply Value Stream Mapping (VSM) to analyze and improve project workflows.
- Implement the Last Planner System (LPS) to enhance schedule reliability and predictability.
- Utilize 5S methodology to organize construction sites for improved safety and efficiency.
- Develop A3 reports for structured problem-solving and communication.
- Integrate Lean principles with Building Information Modeling (BIM) for enhanced project delivery.
- Facilitate pull planning sessions to create collaborative and realistic work plans.
- Measure performance using key Lean construction metrics.
- Foster a culture of continuous improvement (Kaizen) within project teams.
- Analyze the principles of Target Value Design (TVD) and Integrated Project Delivery (IPD).

Course Methodology:

The training methodology at BIG BEN Training Center is designed to be highly interactive, experiential, and directly applicable to the challenges of the modern construction industry. This course moves beyond traditional lectures to immerse participants in the practical application of Lean principles. A significant portion of the training is dedicated to hands-on simulations, such as a detailed Last Planner System simulation, where teams work together to manage workflow and commitments. We utilize real-world case studies from successful Lean construction projects across various sectors, allowing participants to analyze successes and failures in a controlled environment. Group discussions, collaborative problem-solving exercises, and peer-to-peer feedback are central to the learning process, encouraging participants to share their own experiences and develop solutions for their specific work contexts. Our expert instructors act as facilitators, guiding participants through complex concepts and ensuring they can confidently apply tools like Value Stream Mapping and A3 thinking to their own projects immediately upon returning to the workplace. The emphasis is on learning by doing, ensuring a deep and lasting understanding of Lean construction management.

Course Agenda (Course Units):

Unit One: Foundations of Lean Construction

- Introduction to Lean thinking and its origins.
- The core principles of Lean construction.
- Identifying and eliminating the eight wastes (Muda) in construction.
- Understanding value from the customer's perspective.
- The relationship between Lean, quality, and safety.
- Key figures and literature in Lean construction.
- Case study analysis of a traditional vs. a Lean project.

Unit Two: Value Stream Mapping and Process Analysis

- Introduction to Value Stream Mapping (VSM) for construction.
- Creating a current state map of a construction process.
- Identifying bottlenecks, waste, and opportunities for improvement.
- Designing a future state map with improved flow.
- Metrics for measuring process efficiency.
- Practical workshop on creating a VSM for a sample project.
- Integrating VSM with other project management tools.

Unit Three: The Last Planner System (LPS)

- Deep dive into the five components of the Last Planner System.
- Master planning, phase (pull) planning, and look-ahead planning.
- Conducting effective weekly work planning and daily huddles.
- Calculating and interpreting Percent Plan Complete (PPC).
- Overcoming common challenges in LPS implementation.
- Interactive simulation of a pull planning session.
- The role of commitment and accountability in LPS.

Unit Four: Lean Tools for the Construction Site

- Implementing 5S for workplace organization and safety.
- Visual management techniques for clear communication on site.
- Just-In-Time (JIT) delivery for materials and equipment.
- Takt Time Planning for rhythmic and predictable workflow.
- Error-proofing (Poka-Yoke) in construction tasks.
- The A3 problem-solving methodology and reporting.
- Integrating prefabrication and modularization with Lean principles.

Unit Five: Lean Leadership and Integrated Project Delivery

- Cultivating a Lean culture of continuous improvement (Kaizen).
- The role of leadership in a Lean transformation.
- Introduction to Integrated Project Delivery (IPD) contracts.
- Aligning project stakeholders using Target Value Design (TVD).
- Choosing By Advantages (CBA) for decision-making.
- Measuring the success of a Lean implementation.
- Developing a roadmap for implementing Lean in your organization.

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 can project leaders overcome deep-rooted cultural resistance to foster a genuine continuous improvement mindset within traditional construction teams?

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

This course distinguishes itself by focusing intensely on the practical, hands-on application of Lean principles within the unique context of the construction industry. While many courses cover the theory, our curriculum is built around immersive simulations, real-world case studies, and collaborative problem-solving workshops that mirror the complexities of an active project. We move beyond simply defining tools like the Last Planner System and Value Stream Mapping; we guide participants through the process of actually using them. The program emphasizes the integration of Lean methodologies with modern digital tools like BIM, preparing participants for the future of project delivery. Furthermore, a significant focus is placed on the human element of Lean transformation addressing the cultural shifts, leadership styles, and communication strategies necessary to sustain continuous improvement. Rather than just teaching techniques, this course cultivates a Lean mindset, empowering participants to not only implement tools but to fundamentally change the way they see, manage, and deliver construction projects for enhanced value and efficiency.