

### *What Is Lean Construction?*

The concepts behind “lean construction” emerged in the early 1990s, and the term was formalized with the first meeting of the International Group for Lean Construction in 1993. Lean construction is a holistic approach where a construction “project” is recast as a “process”, and is thoughtfully designed to allow for empowerment and collaboration across the construction value chain, including the architects, technical consultants, general contractor, select subcontractors, and the client.

The underlying philosophy behind lean construction, lean production management, was developed in the [late 1980s and early 1990s](#) (and perfected by Toyota). By creating a system that provides exceptional quality control and keeps costs low, lean management soon became the norm in the automotive industry, and within a few years almost the entire global manufacturing sector had gone lean.

Lean construction was developed just in time to bolster a global construction industry that had fallen behind the curve. Construction industry analysts highlight that the construction sector had been suffering from declining productivity since the 1970s, and industry thought leaders had been clamoring for a need for a new, systematic approach to construction project management for some time.

### *Key Principles of Lean Construction*

One key tenet of lean construction is systematically identifying and eliminating non-value-added activities (inefficiencies) in processes by focusing on continuous improvement and encouraging new ways of thinking.

The concept of “right first time” is also an important part of the lean philosophy. This means a rigorous, questioning analysis of every possible detail of the process, with an ongoing effort to determine the ultimate source of problems so they can be permanently eliminated.

Another key principle of lean construction is a “just in time” approach to all aspects of a project. The ultimate goal with lean is to plan so carefully that you create an automated flow or “pull” so that the correct materials and labor are delivered exactly where and when needed. This kind of detailed planning results in much less wasted supplies and a significantly more efficient use of labor.

### *Benefits of a Lean Construction Approach*

Applying lean principles to a construction projects very quickly leads to notably improved employee communication, more carefully thought-out, win-win partnerships with suppliers, empowered workers and a highly efficient worksite.

According to a [recent study by Aziz and Hafez \(2013\)](#), compared to conventionally managed construction jobs, “lean construction projects are easier to manage, safer, completed sooner, cost less and are of better quality.”

The construction industry is inherently conservative, but lean construction is rapidly becoming the norm in the sector today, especially among larger construction firms. Given the collaborative nature of the lean philosophy, this means that construction industry suppliers and materials providers have also had to change their business models to adapt to the just-in-time requirements of the lean

system. In this sense, the lean model can be seen as a key agent for positive change in the global economy, as it works to break down old, inefficient business models and replace them with modern, value-added operational systems.