



# THE LEAN JOBSITE REVOLUTION

SkillSignal presents an original beginners guide to lean construction

SkillSignal is the fastest growing safety & compliance platform in Construction, trusted by thousands of users every day. Our 1-stop solution supports jobsite safety and simplifies compliance across the country for small, medium and large contractors. Our mission is to use mobile technology and data to improve the safety and lives of the men and women who build our beautiful cities.



Over the last few decades, lean methodologies (also called Agile) sparked an operational revolution for manufacturing, supply chain, airlines and other billion-dollar industries. The approach has extensively reduced the waste of precious time & material resources and produced massive process improvements. The results for these industries are much greater efficiency, output value and profitability!



**So, how are Lean principles applied to construction projects, and what are their benefits?**

**[Felipe Engineer-Manriquez](#)**

an award-winning Lean master practitioner who has trained countless construction teams globally illuminates us:

**“Lean Construction is radically focused on identifying where resources are lost and where processes can be upgraded. This constant flow of small and big incremental improvements leads to surpassing the competition by working first easier, then better, next, faster, and much safer.”**

# CONTENTS

06	Why Lean?	30	Lean and communication
10	Introduction To Lean Project Management	34	Lean and efficiency
14	Lean For The Construction Field	38	Delivering greater value with lean
18	The benefits of lean in the field	42	Lean principles, and how they make a difference
22	Lean & Worker Safety	46	References
26	Lean And Compliance		



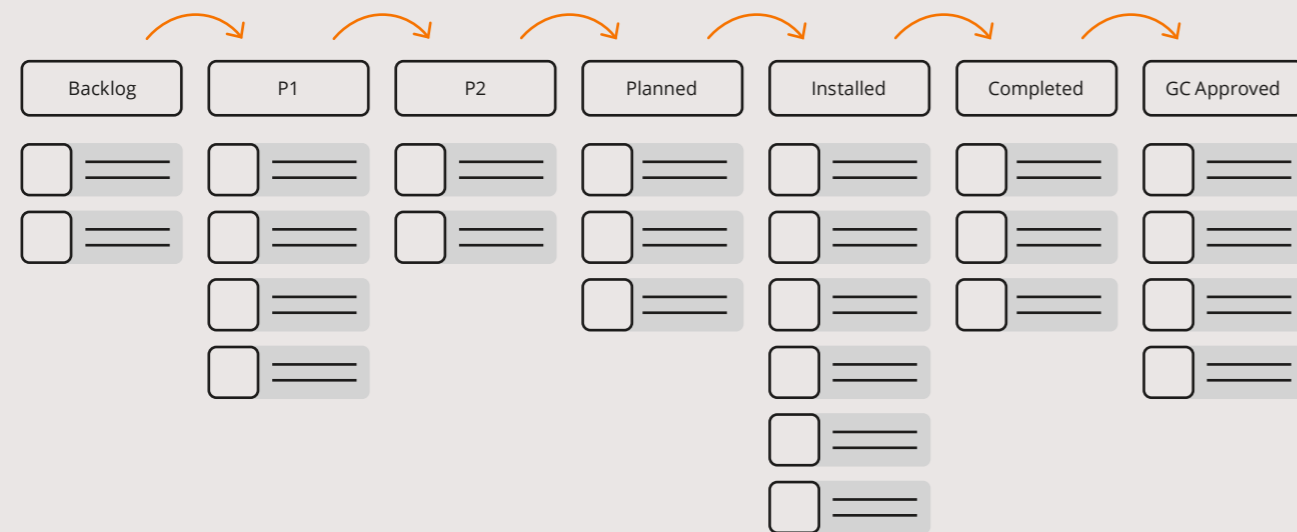
## WHY LEAN?

In a discussion, a Senior Project Manager in New York noted:

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**“One of the most impactful ways to apply Lean Construction is on the jobsite because that’s where money is lost quickly if you’re not careful. A Lean Jobsite avoids wasted trade time, excess resources, and protects my margin and delivery schedule.”**

Introducing Lean or Agile principles on construction jobsites allows for an all-around improved work environment. The practices are also very useful as they help to break projects down into smaller tasks, which has several benefits.



### Worker Safety

There have been numerous studies that correlate high incident rates with the design of the project. [Between 1990 and 2003](#), 42% of injuries in the U.S. construction industry were related to decisions made during the design process.

Implementing Lean design practices can prevent safety hazards and improve construction site safety. By reducing waste and labor-intensive operations, Lean Construction is more efficient.

This reduces the amount of time that workers will spend on a potentially dangerous jobsite - thus reducing risk and improving worker safety.

Lean Construction also enhances the organizational processes meaning that construction companies can better monitor and manage their construction sites. As such, they can mitigate accidents onsite and reduce any confusion or misunderstandings.



### Compliance

Not only does Lean improve worker safety, but it also improves compliance. By using Lean practices, construction companies can lay everything out clearly. This way, they can make sure that they adhere to all safety regulations. Lean practices generally comply with safety criteria as they result in less time

spent on site. This cuts down the risk of potential accidents or fatalities.

Because Lean also focuses on delivering value, there is a great focus on [customer requirements](#) and expectations. Therefore, Lean Construction ensures that companies comply with these requirements better.



### Communication

A break in the communication chain can result in many problems. These can include rework, delays, using too many or wasting resources, and even going over budget.

Lean principles emphasize communication and collaboration. With all team members working together in an integrated approach, there is less room for error. Because of this emphasis on communication, workers feel more comfortable pointing out any potential issues or coming forward with their ideas and solutions. This helps to promote more efficient operations, as well as identify and solve problems faster. It also ensures that everyone is working toward the same

objectives. So not only does it enhance communication, but leads to better end-results as well.

Improved communication also lowers the risk of errors and decreases the need for rework. Most Lean Construction projects will have an effective platform in place to facilitate planning and real-time communication. This ensures that everyone is on the same page and knows their tasks and responsibilities. In addition, communicating well on-site helps site managers to track progress more accurately. This way, they can see where to focus their efforts to ensure that the project stays on schedule.



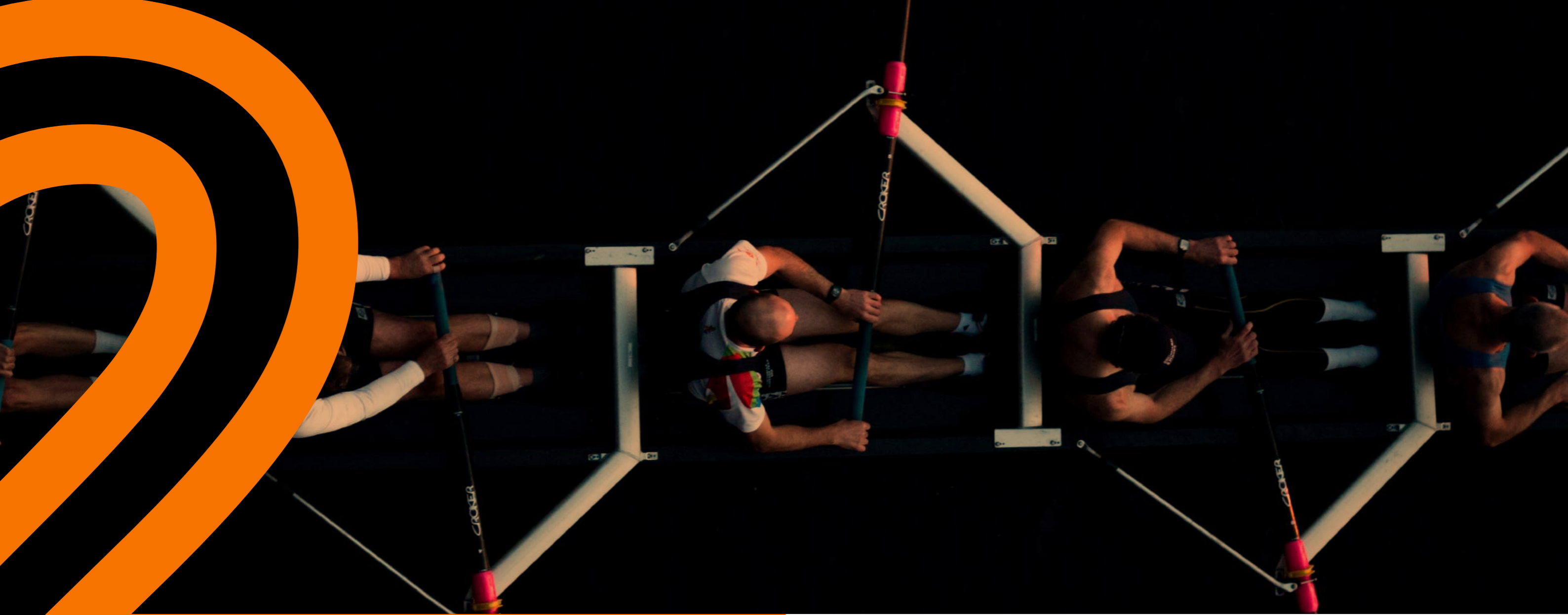
### Profitability

By reducing waste and using fewer resources, construction companies using Lean principles can deliver greater value. In the construction industry, waste doesn't always refer to physical waste from unused supplies and materials. It can also refer to inefficiencies that waste time, money, and resources. By following Lean principles on jobsites, construction companies can optimize efficiency and reduce several different categories of waste. This ensures that they deliver value in the best, most cost- and time-effective way possible.

With a Lean framework, construction companies can better adapt to changes. If any requirements change during the project, they can quickly adjust and

make sure that they meet the demand. Agile and Lean focus on delivering high value to the customer. So, by using these approaches in construction, companies can ensure that they meet all expectations and deliver quality results.

During their annual congress, the Lean Construction Institute (U.S.) asked why people adopted Lean Construction practices? A [word cloud](#) emerged, showing that people valued Lean's emphasis on efficiency, improvement, and teamwork. "Efficient", "Improvement", "Value", "Flow", "Collaboration", "People" and even "Respect" emerged as the most significant insights. This word cloud shows that Lean is a valuable part of the construction industry.



# INTRODUCTION TO LEAN PROJECT MANAGEMENT

## What Is Lean Project Management?

The main focus of Lean project management is to minimize waste and maximize efficiency. Lean is all about working smarter and not harder.

In essence, Lean is about creating more value for the customer with fewer resources. The aim is to think and work from the perspective of the consumer and how to deliver value to them. The Lean philosophy is used in many industries such as software development,

engineering, construction, and even healthcare. This is because Lean is an easily adaptable project management approach that allows for enhanced efficiency and the elimination of waste.

There are five key principles of Lean thinking that apply to the project management approach. If a project applies these Lean thinking principles, it can be considered a Lean project.

## Principles Of Lean Project Management

There are [five core principles](#) that apply to Lean project management:

1

### Understand or Identify Value

The first principle is about understanding the value of the product or service in the customer's eyes. You can determine how much they value a product or service by how much they are willing to pay for it. Thus, understanding the value of the product or service is the first principle of Lean project management.

2

### Map The Value Stream

Value stream mapping details the complete sequence of activities involved with delivering the end-product. Mapping the value stream means using visualization techniques such as Kanban or flowcharts.

This process makes it easy to find any potential problems or unnecessary steps and take them out. It gives you a direct view of the project as a whole. This allows you to see the big picture and find areas where you can cut down waste or improve efficiency.

3

### Create A Flow

The next principle is ensuring that the value stream flows. The goal of value stream mapping is to optimize the flow of the whole project. Synchronization is key to optimizing workflow in addition to identifying work that does not add any value.

In this step, it's important to keep an eye out for potential bottlenecks as these could interrupt the flow of work and halt progress.

4

### Establish A Pull System

Adopting a pull approach to production allows customer demand to determine production. Therefore, it reduces waste caused by overwork and inventory costs. The pull approach can be challenging but it allows for better prioritization as you don't start working on something before there is a need to.

5

### Pursue Continuous Improvement

The final principle of Lean project management is pursuing continuous improvement. The Sino-Japanese word "[kaizen](#)" is adopted for this concept in Lean as it means "improvement". Practicing kaizen ensures the optimization of the value stream as well as the improvement or replacement of processes that do not work.

## Scrum vs Kanban In Lean Project Management

You might have heard the terms "Scrum" and "Kanban" mentioned along with Lean project management. These are two different approaches to managing work with the aim of enhancing efficiency and delivering value.

Scrum is used mostly in software development but can be applied to other industries. It is an agile process that aims to help the business value in the shortest amount of time. While Scrum does differ from Lean, both approaches emphasize continuous improvement and the reduction of waste.

[Kanban](#) is a visual system that aims to improve efficiency in manufacturing. It is a Lean methodology that allows you to visualize your work, improve workflow, and increase efficiency. When implementing Kanban, you identify potential bottlenecks in the workflow. This allows you to fix them before they cause any unwanted delays. Overall, Kanban's primary goal is to optimize the workflow so that it runs more smoothly.

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## Industries Using Lean Project Management

### Manufacturing

Since its origins in manufacturing with [Toyota](#), Lean thinking has had a steady hold on the industry. Lean is optimized for an industry like manufacturing, where minimal waste is the goal. The approach enables manufacturing companies to take full advantage of their resources to minimize waste while providing value.

Along with Agile or Scrum approaches, software developers can constantly make improvements and adjustments. This allows them to ensure that they deliver a product of maximum value to the end-user.

### Other

Lean principles have also made their way into marketing and even eBook publishing industries. Using Lean, these industries can use feedback from consumers to improve their products or strategies so that they can deliver better value. This just goes to show how versatile the approach is.

Lean project management has become increasingly popular among many industries. With an emphasis on value, using a Lean approach ensures that you meet the requirements of your customers. This makes it a very useful methodology to cut out things that do not add value, which minimizes waste and improves efficiency at the same time.

### Construction and Engineering

The main principle of Lean (minimal waste with maximized work) can apply to construction and engineering where it is easy to go over budget and use excess resources. This puts less pressure on the workforce to get a project done and optimizes the whole process.

### Software Development

Software development is one of the leading industries that use Lean project management.



# **LEAN FOR THE CONSTRUCTION FIELD**

Lean's main principles can apply to the construction field, where it is very easy to go over budget and use excess resources. This is why many construction companies are using Lean practices as they improve safety, efficiency, and communication.



## How Lean/Agile Works On Construction Job Sites

Introducing Lean principles on construction job sites allows for an all-around improved work environment. Agile practices are also very useful as they help to break projects down into smaller tasks, which has several benefits.

### Worker Safety

There have been numerous studies that correlate high incident rates with the design of the project. [Between 1990 and 2003](#), 42% of injuries in the U.S. construction industry were related to decisions made during the design process. Implementing Lean design practices can prevent safety hazards and improve construction site safety. By reducing waste and labor-intensive operations, Lean construction is more efficient. This reduces the amount of time that workers will spend on a potentially dangerous job site - thus reducing risk and improving worker safety.

Lean/Agile construction also enhances the organizational processes meaning that construction companies can better monitor and manage their construction sites. As such, they can mitigate accidents onsite and reduce any confusion or misunderstandings.

### Compliance

Not only does Lean improve worker safety, but it also improves compliance. By using Lean/Agile practices, construction companies can lay everything out clearly. This way, they can make sure that they adhere to all safety regulations. Lean practices generally comply with safety criteria as they result in less time spent on site. This cuts down the risk of potential accidents or fatalities.

Because Lean/Agile also focuses on delivering value, there is a great focus on [customer requirements](#) and expectations. Lean construction ensures that companies comply with these requirements better.

### Communication

A break in the communication chain can result in many problems. These can include rework, delays, using too many or wasting resources, and even going over budget. Lean principles emphasize communication and collaboration. With all team members working together in an integrated approach, there is less room for error.

Because of this emphasis on communication, workers feel more comfortable pointing out any potential issues or coming forward with their ideas and solutions. This helps to promote more efficient operations, as well as identify and solve problems faster. It also ensures that everyone is working toward the same objectives. So not only does it enhance communication, but leads to better end-results as well.

Improved communication also lowers the risk of errors and decreases the need for rework. Most Agile construction projects will have an effective platform in place to facilitate planning and real-time communication. This ensures that everyone is on the same page and knows their tasks and responsibilities.

### Efficiency

One of the most significant advantages of using Lean/Agile is that it improves efficiency in the construction process. Lean's principles are about driving productivity and efficiency within the field while Agile enables flexibility and the ability to adapt to changes quickly.

Following Lean/Agile principles results in workers becoming more efficient and using fewer resources.

### Deliver Greater Value

By reducing waste and using fewer resources, construction companies using Lean principles can deliver greater value. In the construction industry, waste doesn't always refer to physical waste from unused supplies and materials. It can also refer to inefficiencies that waste time, money, and resources.

By following Lean principles on jobsites, construction companies can optimize efficiency and reduce several different categories of waste. This ensures that they deliver value in the best, most cost- and time-effective way possible.

With an Agile framework, construction companies can better adapt to changes. If any requirements change during the project, they can quickly adjust and make sure that they meet the demand.

Both Agile and Lean focus on delivering high value to the customer. So, by using these approaches in construction, companies can ensure that they meet all expectations and deliver quality results.

## The Impact Of Lean In The Construction Industry

During their annual congress, the Lean Construction Institute (U.S.) asked why people adopt Lean construction practices. A [word cloud](#) emerged, showing that people valued Lean's emphasis on efficiency, improvement, and teamwork.

This word cloud shows that Lean has become a valuable part of the construction industry. The results show that Lean practices lead to increased productivity, respect, efficiency, better flow, value, safety, and more.

Multiple studies have been done to show the impact of Lean practices on the construction industry. In one study, [McGraw Hill](#) asked contractors about the benefits of Lean construction and discovered that over 60% of them reported:

84%  
Higher quality of work

80%  
Greater customer satisfaction

77%  
Improved productivity

64%  
Reduced costs or increased profitability

77%  
Improved safety

74%  
Reduced project schedules

This research just goes to show the positive impact that this approach can have in the construction industry and on job sites. Agile/Lean is the best-kept secret in the industry to achieve goals faster!

Lean has made a significant impact on the construction industry showing many benefits. Companies need to start applying Lean/Agile practices to stay ahead and better balance their projects' increasing complexities. Lean helps to maximize project efficiency and reduce risk to workers. This means that you can work smarter and faster while also making sure that your workers are safe.



## **THE BENEFITS OF LEAN IN THE FIELD**

In the years passed, the inefficiency of construction projects, and of the construction industry as a whole, has had detrimental impacts on profits among other things. Introducing a Lean construction method, rather than sticking with the traditional model, will eradicate all these difficulties and inefficiencies. Additionally, taking the Lean approach ensures that firms using it are several times more competitive.

## How Lean Benefits The Construction Industry

Lean is a specific way to design the construction process. This design optimizes the entire process and brings several benefits, which we will outline below.

To show the benefits of the use of lean to the construction industry we will be referring to two studies. The first is by [McGraw Hill Construction](#) (bringing together the opinions of 94 lean practitioners). The second is a [case study presented by David MacNeel](#) of Baker Concrete comparing the construction of two identical buildings (hot-dip galvanizing lines) of which one used traditional methods and the other applied the Lean method.

### The Quality of Construction

According to the study by McGraw Hill, the quality of construction increased as more Lean practices were implemented in a job or project. In fact, 84% of the survey participants said that Lean contributed to high construction quality. When workers use more Lean practices on-site, there is a higher level of quality in the outcome of the construction project. This means that the more comprehensive your approach is to Lean, the bigger your benefits in terms of construction will be.

### Customer Satisfaction

All firms have the goal of keeping their customers happy. Both studies show that using Lean methods improves customer satisfaction. For instance, MacNeel's customer was happy with the Lean project - noting that it was the fastest build of a Galvanizing line anywhere in the world. Based on the McGraw Hill study, the faster rates of project completion, lowered costs, and better quality construction (all brought on by the use of Lean) directly affected the levels of customer satisfaction that each practitioner achieved. As a sub-benefit, the firms making use of a Lean approach became more competitive in the industry.

### Increased Levels of Safety on Jobsites

MacNeel reported that the potential of implementing Lean was that there would be 50% fewer injuries on site. He explained that this is a result of better planning, which takes safety measures and procedures into account. After the completion of the project, his comparison between the Lean project and the traditional one showed that there was 65% better safety on the lean project.

Similarly, 77% of the 94 Lean practitioners interviewed by McGraw Hill reported that safety was one of the best benefits of taking a lean approach. According to these practitioners, the more in-depth planning process necessitated by Lean allowed them to place more emphasis on each individual worker. Thus, they increased their safety standards significantly.

### Cost Reduction

When comparing his Lean and traditional projects in the case study, MacNeel found that formwork rental was lowered by 75% on the Lean project. He also found that equipment rental was lowered by 28%. This was because the team was able to use fewer generators and lifts, for example, as they had made plans to share. McGraw Hill proved the same point as 78% of their interviewees reported higher levels of sustainability and reduced waste.

### Additional Benefits

Using the Lean approach comes with several other benefits too. This includes increased productivity, higher levels of risk management, saved time, and more reliable information from other parties.

Looking at the saved time in more detail, you can see how powerful the Lean method really is. Through the use of pull planning (instead of push planning), there is a much smoother flow of work. How it works is that the planning starts at the end and works backward. This leads to several time-saving benefits, including the fact that things become more predictable

and fewer errors occur. Not to mention, it emphasizes the end-goal or objective, thereby ensuring that the project meets the customer's needs best. Similarly, planning in this way helps to predetermine all requirements so they are unlikely to change. This includes labor, equipment, and materials - resulting in fewer delays throughout construction.

Due to planning, communication, and clear objectives, Lean construction is also much more efficient. On construction sites, [workers tend to finish their daily goals on time](#) meaning that Lean enables firms to stay on schedule.

## It's Time To Start Implementing Lean

There are many benefits that come with implementing Lean construction practices. Ultimately, the approach makes firms more competitive and gives them an edge in the industry. It would be difficult to dispute that Lean is the way of the future. In fact, it is possibly the best tool to help take construction firms to the next level of success.

Some may argue that the time it takes to plan using the Lean method makes the entire process not worth it. Yet, it is clear that those extra planning hours only serve to benefit firms tenfold. In addition, using tools like [SkillSignal](#) can significantly ease the process of implementing Lean methods.





## **LEAN & WORKER SAFETY**

When it comes to construction work, the goal is always to have injury-free projects. This leads us to mitigate safety risks on construction sites. The principles of lean construction aim to decrease any factors of the work process that are considered to be wasteful and non-value adding. As such, one would assume that you can apply lean principles to increase worker safety on construction sites. Below, we discuss the application of lean strategies to mitigate safety risks on construction sites as well as their advantages.

## Applying Lean To Improve Worker Safety

There are many connections between lean practices and safety protocols on construction sites. For instance, there is a connection between the use of lean and the idea of Prevention through Design (PtD) - physically removing the hazard. Using the lean concept of set-based design (SBD), teams come up with various design alternatives at the beginning of the project to mitigate risk. This is a great way to tailor safety solutions for each project or facility through lean thinking.

Make use of cross-functional teams, for example, ensure that there is a wider variety of design alternatives that all reduce waste and hazards. This is due to the fact that every team member will come up with different ideas due to different perspectives. Not only is everyone

involved and able to share their opinions, but they also have access to all the information available, and have a full understanding of everything going on. This ensures that there are little to no misunderstandings or miscommunications, which commonly result in mistakes that cause safety risks.

You can also solve this challenge of narrowing down the designs to arrive at one optimal design using lean. More specifically, you can do this by using the lean decision-making system called the [Choosing by Advantages system](#). Generally increased efficiency of lean projects also ensures fewer mistakes. This means fewer risks. Lean is all about communication, planning, transparency at all levels.

### A Deeper Look

Within lean, there is a process called the [5S methodology](#). This ensures that the worksite is tidy and sustainable. The five steps are as follows:

- Sort - Remove things you don't need from the site.
- Set in Order- Identify and arrange what you do need, and organize them so they are easily accessible in the most optimal way.
- Shine - Clean up all clutter.
- Standardize - Create a schedule to regularly tidy up and sort out the workplace.
- Sustain - Ensure that you make these steps a habit.

## The Advantages Of Using Lean For Worker Safety In Construction

As you can imagine, there are various advantages for worker safety when applying lean construction principles. Here are some of the top advantages that lead to improved worker safety:

### Forecasting

Applying lean to safety on construction sites allows for the forecasting of any potential risks. This is due to involving everyone in the planning stage. Because of this collaboration, all parties are able to bring their knowledge and experience to the table to predict what is to come after considering the specifications of the project.

### Process Mapping

With lean construction comes the idea of process mapping. Essentially, this involves laying out every single step of the project that needs to be completed in a visual way. This results in a spread of ideas and information that anyone and everyone can access at every level or stage of the project. Here, it becomes easier to visualize any potential issues or problems. As a result of this method, you can prevent hazards before they occur and mitigate risk before the construction work even begins.

### Cleaning Up

Implementing lean construction means that the work environment, or rather the construction site, will be cleaner. Anyone who works in construction will be aware of how many injuries are caused by an unclean working environment - especially when it comes to chemical spills that have not been taken care of. These spills result in falls, intoxication, and a few other types of physical harm.

There are methodological cleaning procedures involved in lean as well. Using lean, you consider these cleaning procedures during the planning phases at the beginning of the project. This means that there will never be a mess left unattended. In turn, this results in a lower likelihood of an accident taking place due to an uncleaned mess.

### Maneuvering Through The Construction Site

Everything is considered in the planning stages in lean construction. This means that all equipment, resources, and materials will be put in specific places to increase the efficiency of workflow.

As a result, there is less need for workers to travel through the construction site in search of materials. This minimizes potential exposure to on-site dangers including dangerous substances.

### Reduction Of Overproduction

Once again, since there is more extensive planning in lean construction, it lessens overproduction. This not only reduces waste in terms of money and materials, but it also helps to mitigate health issues.

With overproduction comes longer working hours, which leads to tired workers and an increased risk of injuries and accidents. So, improving efficiency with lean planning ensures happier, healthier workers thereby minimizing risks onsite.

Lean construction is perfect for ensuring worker safety. It comes with built-in processes that allow workers to be kept out of harm's way and it does so in the most efficient way possible.



## LEAN AND COMPLIANCE

Despite the acclaim it has garnered in various industries, most notably the manufacturing industry, lean hasn't been openly welcomed in the construction industry. There seems to be strong resistance to making use of lean principles in the industry.

That is not to say that it hasn't been used at all though. In fact, many recognize its ability to ensure that construction companies remain competitive in a rapidly growing and changing field of work.

Additionally, lean's promise to bring several benefits to construction companies (including its ability to reduce costs, increase safety, ensure customer satisfaction, and higher the quality of construction) has been noted several times, for example, in a [case study presented by David MacNeel of Baker Concrete](#). Yet, some are still not convinced that they should implement it.

Here we will discuss how lean affects compliance, to further show how lean can be beneficial to construction.

## The Impact of Lean Construction on Compliance

Lean, a specific method of designing the construction process, has fueled many debates in the construction industry. The method changes the way you organize your site and the way your building process unfolds. This makes many people wary of adopting it because they're hesitant to change their practices.

However, as mentioned, lean construction has had many notable positive impacts on projects in which it has been used. But how does lean impact compliance specifically? Well, the short and easy answer is that it impacts it in many ways that are beneficial to construction projects. But, for the purpose of convincing you to make use of lean, let's dig a little deeper.

Here are the impacts of lean construction on compliance.

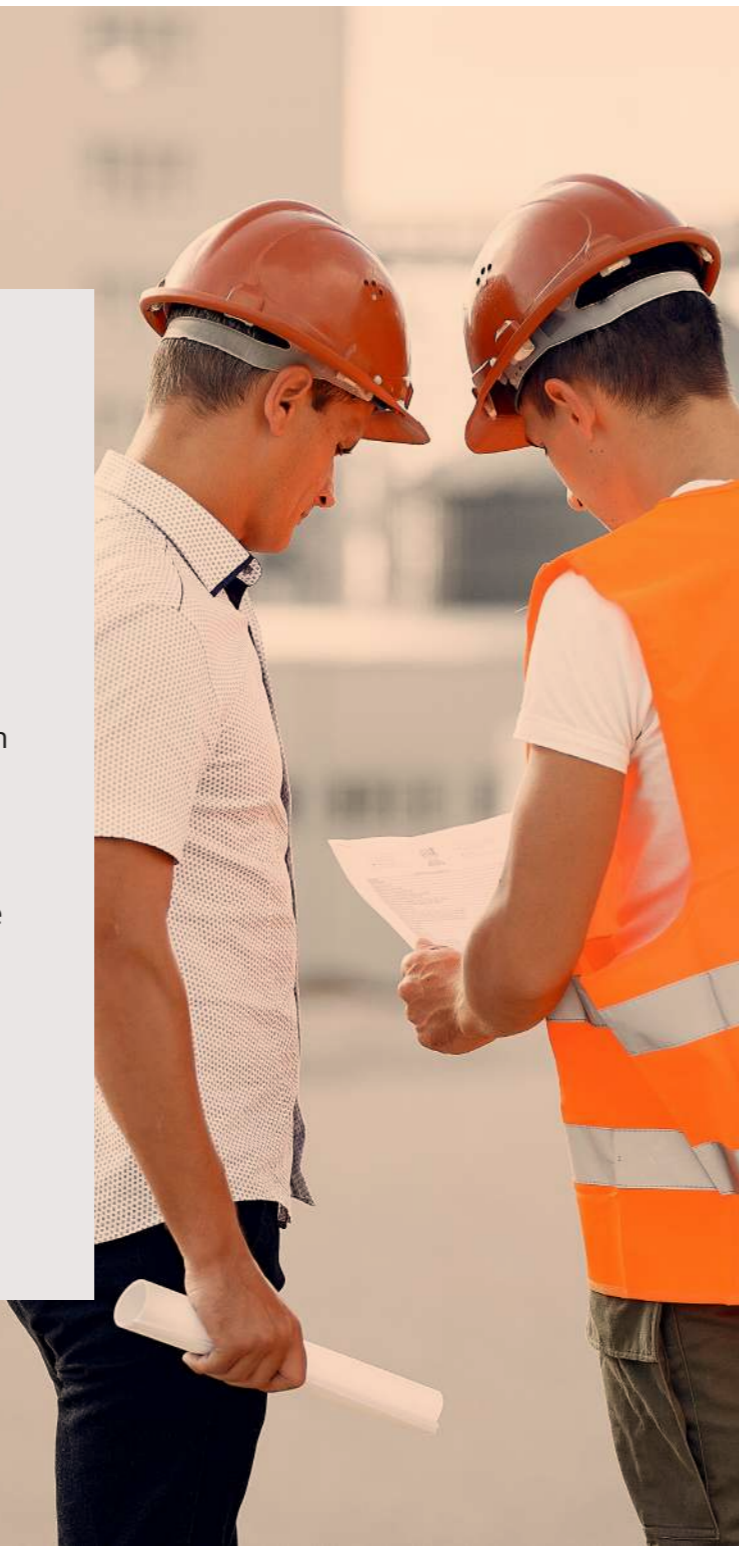
### Emphasizes Compliance While Giving Room For Innovation

One of the ways that lean affects compliance is that it effectively increases compliance on site. This is done through incentivizing. Using lean allows you to provide your workers with the opportunity to innovate - as long as they comply with the standard first.

You can do this by including this incentivization in your work structure. It will enable a cycle within your work structure that flows like this:

First, workers comply with the standard. Next, if they find a better way to do something while complying with the standard, their suggestion will become part of the following standard process. Lastly, you can publicly commend them for innovating the process.

By incentivizing compliance in this way, your compliance will drastically improve along with productivity.



### Collaboration Improves Alignment With CoS

In every construction project, conditions of satisfaction (CoS) are a critical component of the contract. In fact, the CoS of the project will determine the success or failure of your team. Examples of CoS may be to ensure that everyone is profitable or to complete the project in the amount of time that was stipulated at the beginning of the project.

Using lean improves compliance with the CoS, which, clearly, is imperative for the success of the project as a whole. Lean contributes in two main ways. First, it promotes increased collaboration in teams. Consequently, there will be better decision making, and decision making will be more closely aligned to the CoS. This means closer compliance with the CoS.

The other way lean ensures compliance with the CoS is that it encourages regular reviews. In each review, the team is able to measure its progress against the CoS. So, they will notice if the two are not aligned, and they can change things as they need to.

### Strong Performance Management

It's very easy to overlook compliance issues on larger projects. This is because there are multiple activities happening on-site at any given time, and this makes it difficult for managers and on-the-ground staff to get a clear picture of what is going on and what progress is so far.

With lean, however, there are performance management systems in place that increase the transparency of the project and its progress. It incorporates the task of measuring compliance into these systems so that you can constantly track it. What this means is that compliance will never fall by the wayside. This is also ensured due to the regular meetings to review the progress, and thus the compliance, of the project.

### Safety Goes Beyond Compliance

Of course, as lean increases compliance, it increases the overall safety of the project as well. We can't ignore the importance and relevance of this. However, there is another level at which lean improves safety

We mentioned earlier that lean improves compliance by incentivizing workers to comply in hopes of being able to innovate and improve processes. Well, this also applies to safety. Workers comply with safety regulations and rules, and, in the process, find better ways of ensuring safety.

### Better Task Performance

A common practice, when using lean, is to use compliance with the standard in a current task as a measure against which compliance with the standard in subsequent tasks is judged. In this way, construction companies can improve task performance.

In other words, companies can increase the efficiency and effectiveness of their task performance by using the practice of measuring their compliance with the standard in one task against the compliance with the standard in the next task.

By doing this, they will see when there are issues and they can investigate why these problems occur. This will enable them to fix the issue quickly (by bettering compliance or changing the standard).

As you can see, using lean has many ways of improving compliance on any given construction project. And, it would be difficult to argue against these benefits since compliance is such an imperative part of the success, effectiveness, and efficiency of projects.



## LEAN AND COMMUNICATION

By now, most construction companies are aware of the benefits that lean methodologies bring to projects. Lean increases the safety on site and the quality of projects, while reducing inaccuracies and errors. And, it decreases wasted time. What many are unaware of, though, is that using lean also affects communication in construction projects.

The consequences of ineffective and generally bad communication in construction projects include running over on the budget, waste, disputes, and running over on time. As a result, the quality, cost, and duration of projects are less than optimal. This means that the construction company's reputation may come into question.



## How Lean Affects Communication in Construction

In lean construction, it is common to use a combination of traditional and digital tools to improve communication and collaboration. The normal methods of communication like using a telephone or emailing are still prevalent. But, more contractors now choose to use lean methods to better their communication practices.

For example, advanced modeling and production techniques are used to create detailed models. These models are used as a single source of data that is critical to the coordination process. They serve the needs

of both contractors and fabricators. This is a collaborative process and involves several team members. As such, it increases communication and collective effort within the team.

In general, lean principles promote collaboration in teams. This is because it encourages regular reviews and meetings. In addition, through the increased transparency of any given project, lean helps to keep everyone involved in the project on the same page. For example, things like progress, compliance, and performance are communicated better to everyone.

## The Advantages of Lean Communication Practices

If you need more convincing about why you should make use of lean, to enhance your communication, then look no further. Below, we detail some of the top advantages of lean communication practices.

As you will see, you can leverage these practices to take your communication to the next level. By doing so, you can greatly improve your efficiency on any given project.

### Encourages Collaboration Between Team Members

One of the main reasons contractors use lean is to increase the speed and efficiency of projects. This is done through streamlined workflow and organization, which they can achieve through pull planning.

Thanks to lean, contractors will map out every stage of the construction project before anything begins. As such, every team will know exactly when they need to get to work and what they need to do. This includes the construction crew, the electrical crew, and the plumbers, for example.

But, in order to do this, every different team must always be involved and communicating. This is in line with lean construction principles.

Furthermore, lean construction emphasizes the need for regular communication about plans and progress. Because of this, there are often weekly work planning meetings to review what has been done and what the next steps are.

This is an efficient way to ensure that everyone is up to speed at all times and that communication remains constant and clear.

### Managers Are Open To Ideas and Give Feedback

Lean leadership is about establishing a strong and trusting working relationship with workers. This means respecting them for their knowledge, expertise, and experience.

Managers who use lean principles incentivize employees to follow the plan and comply with regulations. They do this by encouraging them to be innovative and give suggestions on how to improve processes afterward.

This way, workers feel heard and valued for their contributions while still ensuring that everything gets done. Similarly, techniques such as Value Stream Mapping have the same effect. This is when upper management specifically asks workers for improvement recommendations. It gives workers the green light to communicate their ideas through lean principles.

With lean, managers also have more opportunities to give feedback to workers. For example, this could include feedback on their performance through performance management systems. Therefore, lean helps to open up communication channels both ways.

### Better Communication (With Both Clients and Workers)

As we mentioned, there are several ways for managers to communicate with workers. It could be through weekly meetings, pull planning, or communication software, for instance. No matter the method, lean ensures that they are always able to get in touch. So, they can provide updates and instructions, as well as find out information quickly.

In terms of communication with clients, lean ensures that the construction company takes what the customer really values into account. Lean principles require contractors to understand what needs to be built. But, more importantly, it requires them to dig deeper and understand why.

This encourages all to understand the customer's perspective. Thereafter, they give their inputs about what will work and what won't. This communication establishes a better relationship between the client and the construction company.

### Easy Access To Information (Transparent And Accessible Communication Systems)

Those companies who use software to implement lean usually have more accessible information. Every piece of relevant information is on the software. Contractors, workers, and stakeholders can therefore access and view it whenever they need to.

The information stored on the software or in the cloud could include:

- compliance data
- daily reports
- training documents and videos
- any and all forms
- project libraries and more.

What makes this even better is that management can control who has access to what. This improves security while ensuring everyone still has all the information for their jobs at their fingertips.

From improving relationships with workers to enhancing communication with clients, lean clearly adds additional value to communication in construction projects. There is no denying that lean, with its underlying techniques and methods, improves communication.



## LEAN & EFFICIENCY

Adopting a lean approach is an important step towards improved efficiency and reduced waste in the construction industry.

Originally conceived in the manufacturing industry, the lean approach is a philosophy that can apply to construction and other industries. It emphasizes constant collaboration and emphasizes value to reduce waste and improve efficiency.

The construction industry certainly stands to benefit from adopting these principles. An estimated [69%](#) of construction projects run over budget and over time. There could be a multitude of reasons why this happens.

But, if construction companies adopted lean, they could reduce costly errors and delays that cause problems. So, let's explore how lean improves efficiency in construction.

## Using The Lean Approach in Construction

Many construction sites and companies favor a kind of mass-production approach. This results in the formation of different groups, each assigned to one type of job. There is usually very little interaction between groups.

The lean approach emphasizes the importance of all teams working together as one. It calls for constant collaboration among all stakeholders involved in the project. This helps to prevent any miscommunication and keeps everyone on the same page.

Lean also encourages thorough planning. Having clear objectives in place from the beginning of the project can help keep everything on track. It also makes it easier to monitor progress.

In the construction industry, you are not dealing with the controlled environment enjoyed by the manufacturing industry. In other words, adopting the Lean construction approach comes with a different set of challenges at each site.

Fortunately, one of the key aspects of the Lean approach is adaptability. The constant collaboration allows teams to continually revisit and improve their plans at each stage of the project. Having this adaptability and flexibility means that it is easier to adjust when something goes wrong. Ultimately, this makes construction projects run smoother and more efficiently.

## How Lean Construction Improves Efficiency

Making the switch to lean construction might seem like a huge initial investment. But it is an approach that will help save you time and money in the long run.

Inefficiency is one of the greatest challenges facing the construction industry today. So let's take a look at the ways in which the lean approach can help improve efficiency in the construction sector.

### Improved productivity

Adopting a lean construction approach at every site will allow for standardization throughout your projects. When this standardization is combined with increased collaboration among stakeholders, you can easily adapt plans to each respective building site.

Constant, adaptive planning will allow for increased schedule reliability and predictability. This reduces the amount of time spent waiting around for materials, equipment, and information. As a result, you reduce delays and

complete projects on schedule or even with time to spare.

In fact, a study by McKinsey showed a [10-30%](#) reduction in estimated project completion times when contractors followed a collaborative lean approach!

The lean approach also allows for innovation as long as standard processes are followed first. This empowers everyone on the construction team. They have the opportunity to find ways to improve their operations and make things more efficient while delivering value to the client. This freedom to innovate boosts productivity thereby improving efficiency at the same time.

### Reduced waste

A lean construction approach reduces waste, not just in terms of materials, but also in terms of time, effort, and, at the end of the day, money.

The construction industry is famous for its high volumes of material waste. It is estimated that of the total weight of building materials delivered to a site, around [30%](#) will become construction waste.

Let's put that into perspective. A study conducted in 2003 reported 170 million tons of waste stemming from the construction industry in the US alone!

Lean construction, with its emphasis on planning, allows for the utilization of prefabrication. Prefabrication is when building components are cast and cured at a manufacturing site. Then, they are transported to the construction site and assembled.

Prefabrication is the definition of efficient construction. It greatly cuts down on wasted material and allows for rigorous quality control checks at each step - saving time and money.

### Reduced costs

Reduced waste and improved productivity at construction sites improve cost controls. In turn, this results in higher profit margins.

Implementing a lean approach means placing a focus on planning. As a result, there will be fewer errors and less need for rework - meaning fewer delays.

Because lean promotes collaboration and transparency, workers will also feel comfortable reporting any incidents. This contributes to a safer working environment as site managers can take care of problems quicker. Fewer accidents and mistakes will save a construction team both time and money.

## Implementing Lean in Construction

When implementing the lean philosophy, remember that it is a continuous process. There are always going to be fluctuating conditions in the construction industry that cause errors or delays. But, adopting a lean approach can significantly reduce inaccuracies and help you keep on schedule.

With lean construction practices, you can better manage your projects. This includes materials, labor, waste, and more. Utilizing this type of collaborative approach means that you will always know what's going on with your projects.

The adaptability of lean also makes it easier to mitigate any problems that do occur so that you can stay on schedule and within budget. Over time, you can identify areas that need improvement and put new strategies in place to reduce inefficiencies.

So, implementing lean principles is highly beneficial for construction companies as it saves you a lot of time and money.

What lean construction aims to do is maximize the efficiency and value of the output. At the same, it places a focus on minimizing waste.

Essentially: use only that which is absolutely necessary. To achieve this, teams need to practice the cornerstones of the lean philosophy. This includes adaptive planning and constant collaboration.

When these approaches are combined with standard construction procedures, construction companies can minimize waste and maximize productivity. In the long run, switching to this style of construction will save you and your team time, money, and effort.



## LEAN AND DELIVERING GREATER VALUE

When you think about optimized construction practices, you think about one of the main things that encompass a well-executed project: value. Great value means lower costs and construction times, and higher levels of productivity and efficiency.

As such, value is one of the key things to look out for - whether you work in construction or would like to employ the right practices in your own project. Of course, you cannot achieve greater value without optimizing the process. This is where lean construction comes in.

Lean construction is all about minimizing

waste: waste of time, waste of money, waste of resources, and waste of effort. Of course, all four of these aspects of construction are inextricably linked to value. Lean construction lends itself to 'lean thinking'. This is a mindset that encompasses dedication to the implementation of these four aspects.

In this article, we will explore the links between lean and delivering greater value. This includes how it is done, what the underlying principles are, and all the benefits thereof. Keep reading to find out more about how lean thinking can result in greater value on your construction projects.

## How Lean Construction Delivers Great Value

### Lean identifies value from the get-go

When we think of value, we immediately think about the worth that the outcome of a project demonstrates. How do we ensure that labor, equipment, and materials are all optimized to produce the best results?

However, lean thinking is also about asking not only what needs to be done, but why. Essentially, greater value stems from actually gaining knowledge on expectations. This includes truly understanding the project from the point of view of the customer. Only once you do this can you begin to provide helpful advice and define the necessary steps for action.

Once you know exactly what the customer wants, you can begin to implement all of the processes necessary to achieve that value. Lean construction does this by [value stream mapping](#). This takes a service on the journey from request to optimized delivery.

### Lean identifies, analyzes, and eliminates waste

The next step that lean construction takes toward delivering greater value is to try to eliminate waste on every level of the construction project. This links with the first step of identifying value. You cannot decide what would be considered a waste without first defining what the outcome can and should be.

Lean thinking optimizes value by making sure that waste is either eliminated or at least minimized to the best of the project's ability. At its core, lean thinking is all about this elimination of waste. It achieves this through the creation of new opportunities that do not diminish the value of the work.

### Continuous improvement

The best way to create these new opportunities is to engage in a process of continuous improvement. The lean construction philosophy demonstrates a belief that continuous improvement is both possible and necessary.

Essentially, by engaging in continuous improvement, the project not only improves upon itself but also on future projects. What to do in order to allow for continuous improvement is simple:

- constantly review the value expectations of the customer
- and identify ways to achieve this value in such a way through which you can eliminate waste.

This way, you can make sure that you can meet or exceed the value that the customer expects. It may seem like an obvious principle to adhere to - and it is. However, lean thinking and practices are the best ways to optimize and emphasize this.

## The Underlying Principles Behind Value In Lean Construction

These are some of the underlying principles behind lean construction that can contribute towards overall value delivery:

1. The elimination of waste. As we have already mentioned, eliminating or minimizing waste means removing anything that does not add value to the customer. These include over-production, unnecessary transportation, inventory, motion, defects, over-processing, and waiting.
2. A focus on quality. Of course, building quality into your work will always result in added value in the delivery of it. This seems simple, but can often be executed in the wrong way. But, lean principles also emphasize standardization of processes. By following set standards and improving them, you can ensure you deliver quality projects.
3. Knowledge creation. Both creating as well as documenting and retaining the knowledge gained through lean construction principles can allow for greater value.
4. Fast delivery. Putting good value into the hands of your customers as quickly as possible is something that everyone wants to be able to achieve. Lean thinking helps you to offer fast delivery that doesn't skimp on quality or value.
5. Achieving flow of work processes through communication. Reliability and predictability will always result in greater value. As such, another key principle behind adding this kind of value is clarity of communication, which leads to the flow of work processes. Using helpful platforms like [SkillSignal](#) can help you with this.

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## The Benefits Of Lean Thinking

It is clear that lean thinking and applying lean principles can add value to any construction project. Of course, the benefits of adding value are numerous.

It does not only result in customer satisfaction and continuous support. But, it also means saving time and money on the part of the construction company too. It enables you to execute projects with greater ease, allowing efficiency and productivity to increase exponentially.

As such, an application of lean thinking can truly yield strong business benefits and make firms far more competitive.

Delivering great value is the name of the game for most construction firms. Providing value truly encompasses everything that these firms are about. This includes waste elimination, knowledge creation, and the growth of the business as a whole.



# CONCLUSION-REAL EXAMPLES OF HOW LEAN CONSTRUCTION PRINCIPLES MADE A DIFFERENCE

To “think lean” is to dedicate yourself and your construction practices to the elimination of waste and the maximization of value. This minimization of the waste of resources, time, money, and effort all contribute towards the maximization of value.

There are [five core principles of lean](#), developed by Womack and Jones (1996). These are considered by many as the top five things you need to adhere to in order to implement lean thinking successfully. They are:

1. Defining value
2. Mapping the value stream
3. Creating flow
4. Establishing pull
5. Pursuing perfection

## 5 Examples of the Impact of Lean Construction Principles

### 1. Defining value = higher quality of output and operations

When defining value in the lean thinking process, you need to think about what the customer is willing to pay for. Value will always be defined by the needs of your customer. Collaboration, then, in the form of things like interviews and surveys, can really help you to understand what value means to your customer.

This is exactly the route that Modubuild, an international specialist contractor, took. In one of their 2019/2020 projects, Modubuild conducted a case study in conjunction with an off-site project. The application of lean thinking and strategy underpinned their traditional construction methods and sequencing.

What was found was that an end-to-end collaboration with the client regarding value definition helped to:

- increase the quality of output and operations
- eliminate waste, and
- maximize value-add.

This collaboration also led to the accurate planning of resources for Modubuild's project. As such, "all personnel were always adding value".

### 2. Mapping the value stream = greater cost control

Mapping the value stream is another crucial principle of lean construction and thinking. This principle is all about eliminating waste from the process by using the customer's definition of value as a reference point. This, in turn, allows the construction process to achieve two things:

- the customers receive exactly what they want, and
- the company saves money.

The electrical, mechanical, and instrumentation company Suir Engineering put this principle to the test in a project that started in April of 2019. They conducted a case study to assess the impact of applying the "lean way" in this project.

Suir Engineering had been using lean ideas on a small scale for a while. But, it was for this project that the company truly embraced lean thinking, ideas, and tools.

Suir found, among other things, that mapping the value stream and eliminating waste was especially beneficial. By using the Last Planner System (LPS) and Just in Time (JIT) delivery methods that underpin the value stream mapping process, the company found a significant reduction in cost. In addition, their value stream mapping system practically eliminated rework. Thus, it enhanced project efficiency.

### 3. Creating flow = reduced risks

Creating flow is also important when it comes to lean thinking and its application. By creating flow, you create an environment where processes run smoothly without any delays or interruptions.

The lower the chance of delays and interruptions, the lower the chance of risk. Reducing the risk of a compromised project is very important in the process of all construction projects. Lean thinking can help to optimize this process.

All companies wishing to apply lean thinking to reduce risks (and receive a multitude of other benefits) should think carefully about creating a flow. The construction firm, Collen Construction, did exactly this over a 12 month period.

The results of this were that they were able to identify potential risks. As such, a risk management strategy became part of the flow,



which greatly reduced risk. Collen Construction also found that de-risking the process resulted in yet another benefit. This was improved schedule adherence, which minimized the potential for delays.

### 4. Establishing pull = improved planning and scheduling

Implementing a pull planning system is extremely important when making sure that planning and scheduling run smoothly. The goal of a pull planning system is to ensure that the necessary materials and information are available when needed. As such, this type of system helps to optimize management and planning.

DPS Group is a company that provides engineering, consulting, and construction management services. In a recent case study, they assessed the impact of Takt planning on one of their projects. Takt refers to the "required product assembly duration that is needed to match the demand".

The DPS Group found that implementing Takt resulted in tighter crew planning and management. This was because of the Takt-time concept of assigning smaller batches

of work. With smaller batches of work came clarity and improved scheduling.

### 5. Pursuing perfection = higher employee and customer satisfaction

This principle may seem true of all types of thinking and construction methods. However, it is no less important to the application of lean. Here, the concept of continuous improvement is at the forefront. Continuous improvement refers to allowing employees and customers to always improve upon and share their ideas.

Mace Technology Ireland is just one of many companies that have noticed the improved rates of employee and customer satisfaction that come with lean thinking and a pursuit of perfection. Their study on how this affected their company shows great results.

Through Visual Management, Mace Technology created an open, inclusive environment for its employees. This allowed for greater collaboration and better preparation for meetings. Their teams could communicate better and challenge each other. As a result, they continuously strived for improvement. Ultimately, it enabled them to deliver greater value to their clients.



**RESOURCES:  
PEOPLE, ORGANIZATIONS,  
AND SOCIAL MEDIA  
ACCOUNTS THAT MATTER  
IN THE WORLD OF LEAN  
CONSTRUCTION**

The world of lean construction is an ever-growing one. More and more people are realizing (and capitalizing on) the benefits of lean thinking.



## Leading Organizations in the Lean Construction Industry

There are a number of organizations that are dedicated to promoting lean thinking and practices across the construction industry. Here are some that provide information, resources, and even training.

### [Lean Construction Institute](#)

The Lean Construction Institute is a college that aims to educate and inform on a lean approach to construction. They describe their mission to be to “transform the fragmented design and construction industry through lean thinking, tools and technology”.

### [Lean Construction Blog](#)

This blog is all about advancing and promoting lean construction around the world. They share articles and encourage debate, knowledge sharing, and inspiration. Their mission is to improve the construction industry on a global scale.

### [Shift2Lean](#)

Shift2Lean is an organization that offers interactive lean development sessions. Their target market is other organizations or individual projects that are looking for help in delivering greater value in their lean construction endeavors.

### [Lean Construction Advisory](#)

The Lean Construction Advisory offers the help of specialists that can advise and support all levels of lean construction. Their mission is to assist their clients in undergoing full lean transformations when it comes to their construction projects.

### [Lean Rise](#)

Lean Rise is an organization that strives to revolutionize the construction industry through the implementation of lean thinking. Ultimately, they hope to promote sustainability and increase project efficiency.

### [Lean IPD](#)

Lean IPD’s mission is to share information and best practices in the world of lean construction. It aims to improve the outcomes of projects and offers case studies, resources, courses, and a blog.

### [Lean Construction Ireland](#)

Lean Construction Ireland is recognized in the construction sector as a leader in the promotion of Lean. This organization is a voluntary, not-for-profit association. They make materials and resources on lean thinking freely available for people and projects.

## Prominent People In The World Of Lean Construction

Lean Construction is nothing without the people that make it possible. Here, we detail just a few of the prominent people in the world of lean construction. These are people who are dedicated to the promotion of lean thinking and practices in the construction sector.

### [Eric Ahlstrom](#)

Eric Ahlstrom works at Amgen, one of the world’s largest biotech companies, as the Lean Leader and Senior Manager of Engineering Projects. He leads Lean Construction implementation and previously led Lean transformation in manufacturing.

### [Paul Akers](#)

Paul Akers is the CEO of FastCap and the author of 2 Second Lean. He educates and informs people about lean thinking on Youtube. Akers is also an enthusiast when it comes to promoting lean and continuous improvement for people’s projects worldwide.

### [Bernita Beikmann](#)

Bernita Beikmann is on the Board of the Lean Construction Institute. She is known as a lean design advocate and works as the Principal and Chief Process Officer at HKS. Beikmann and her team monitor compliance and manage process improvements for HKS.

### [Felipe Engineer-Manriquez](#)

Engineer-Manriquez is the Lean Director at McCarthy. He works to promote Lean continuous improvement principles not

only within McCarthy but also among project participants across the lean construction industry.

### [James Pease](#)

James Pease is the executive editor of Lean IPD. He uses Lean Integrated Project Delivery to build and develop projects. These projects include ground-up medical centers, tenant improvements, and mission-critical infrastructure.

### [David MacNeel](#)

MacNeel is the founder of On Point Lean Consulting and a coach on all things lean construction. He coaches across the US as well as internationally. MacNeel helps people and projects to implement lean thinking, the Last Planner® System, and Integrated Project Delivery.

## Social Media Accounts On Lean Construction

### Lean Construction Institute on [Instagram](#) and [Twitter](#)

These are the social media Instagram and Twitter accounts for the Lean Construction Institute. Here, they provide updates on the courses that they offer. They also provide information and resources relevant to lean construction.

### Lean Construction Blog on [Facebook](#)

The Facebook page for the Lean Construction Blog helps its followers to keep up to date on all their new posts. This page also makes it easier for people interested in lean construction to share, learn, and connect.

They also regularly post updates about different online conferences and sessions happening in the world of lean construction.

### Lean Construction Ireland on [Twitter](#)

On Twitter, Lean Construction Ireland aims to keep its followers up to date in all things concerning Lean Thinking and Practices. The page provides resources from multiple organizations to help educate and inform others.

If you want to implement lean thinking and practices in your construction projects, it is a good idea to know all about who’s who in the field. It’s also useful to know how best to access information and resources that can better your understanding of lean.

## 7 Great Podcasts To Listen To If You Want To Learn More About Lean Construction

If you're looking for some good podcasts to listen to on lean construction, then look no further. We have compiled a list of seven great podcasts about lean construction that you can try out.

### 1. Construction Industry Podcast with Cesar Abeid

Cesar Abeid hosts [this podcast](#) that deals with all things construction. This podcast series has 52 great episodes that you can listen to. These podcasts provide you with tips, trends, and interviews relevant to the construction sector.

The host, Abeid, is a Project Management Professional. He is also an author, professional speaker, business coach and consultant, and entrepreneur.

One of the episodes is entitled '[What is Lean Construction? Greg Howell Explains](#)'. Greg Howell is the co-founder and president of the Lean Construction Institute. In this interview, he details exactly what lean construction is, and how it came about. It's the perfect podcast to listen to if you are in need of an introduction to the world of lean thinking in construction.

### 2. AGC Podcast

The [Associated General Constructors of America](#) host the AGC podcast. This is a podcast that aims to help educate people on the construction industry by providing resources, training, and data. The AGC itself is one of the leading associations for the industry in America. It works with some of America's leading general contractors and specialty-contracting firms.

The AGC podcast has an episode called '[Increasing Lean Construction Engagement on the Jobsite](#)'. This episode features three lean practitioners and advocates (Henry Nutt, Keyan Zandy, and Joe Donarumo). They

talk all about the Builder's Lean model and how it can produce a positive change on construction projects.

You will also learn about how lean engagement on construction job sites can reduce waste and increase value.

### 3. Lean Blog Interviews with Mark Graban

Mark Graban hosts a great podcast that you can find on the [Lean Blog](#). Graban is an advocate for lean thinking and a successful author on lean in hospitals, businesses, and our world. His podcast aims to educate and inform. As such, it often includes interviews with prominent people in the lean construction industry.

One of the episodes that you can listen to is [episode #130](#), which also features Greg Howell of the Lean Construction Institute. Here, Howell and Graban discuss:

- lean design and construction methods
- parallels to general lean thinking
- and lessons learned in the industry.

### 4. Construction Business Insights for Contractors

[CONEXPO-CON/AGG Radio](#) hosts this podcast to provide contractors with updated and relevant construction business insights to help them on their projects. They often host prominent people in the construction industry to interview and gain knowledge from.

In their episode '[Adopting Lean Construction Principles](#)', Michael Carr (president of MOCA's software products division, Touchplan) joins the interviewers to speak about lean construction. This podcast deals with the future of lean construction and what kinds of obstacles and benefits the industry presents.

### 5. Gemba Podcast

[Gemba podcast](#) is hosted by the Gemba Academy. Gemba is an online training center that specializes in flexible training and expert coaching on all things lean. Their podcast reflects their lean principles. They often release episodes that aim to develop listener knowledge and understanding.

One great episode that you can access is '[The Lean Construction Movement with Hal Macomber](#)'. Macomber is a lean project consultant and author of the book series "Mastering Lean Leadership". Here, he speaks with host, Ron Pereira, about the lean construction movement and the Last Planner System.

### 6. The EBFC Show with Felipe Engineer-Manriquez

Felipe Engineer-Manriquez is the Lean Director at McCarthy. He works to promote Lean continuous improvement principles across the industry. He hosts a podcast called the [EBFC Show](#) (Easier, Better, Faster Construction) to share his knowledge and insights with listeners.

His podcast can be accessed on YouTube. The series is mainly focused on lean thinking and principles. He also covers topics like emotional intelligence on the jobsite and building mental health in the industry. You can follow [this link](#) to access some of his Lean Shorts. These quick videos aim to help you to achieve more with less effort.

### 7. The Constructrr Podcast with Brittanie Campbell-Turner

Brittanie Campbell-Turner hosts [The Constructrr Podcast](#). This podcast is all about giving a voice to and shining a spotlight on companies and individuals who are influencing the construction industry. They interview people who utilize lean approaches as a basis for their company's values and visions.

There are a number of great episodes that you can access from The Constructrr Project. These deal with topics ranging from the future of robotics to how to promote and maintain a healthy workplace. Guests are typically those who use lean construction principles to help humanity and foster an environment of empowerment.

## The Positive Impact Of Lean Construction: 8 Case Studies

### 1. Mace Technology Ireland (Mace)

Mace is a general contractor as well as a provider of professional construction services for clients such as Microsoft. Recently, they have begun implementing Visual Management (VM) tools. VM is a tool used by lean practitioners. It is all about communication and a link between data and people.

In this case study, Mace found that the use of a digital platform to convey information in a succinct, transparent, and open way led to greater discipline in the workplace. It allowed for better collaboration and more effective communication. This facilitates continuous improvement, as teams can work together to deliver greater value to customers.

### 2. DPS Group

DPS Group is a global constitution management company specializing in full-service engineering across a range of disciplines. They have carried out a number of case studies regarding lean thinking in their company. Their most recent case study reviews challenges and learnings that came from a trial of Takt implementation.

Takt is all about efficiency in product assembly duration and matching it to demand. Using Takt showed success for the DPS Group. They noticed that the breaking up of activities into the correct size and sequences resulted in tighter, more efficient crew planning and management.

### 3. Ardmac

Ardmac is an international construction specialist that provides specialist services for high-value workspaces and technical environments. Their case study focuses on the digital technology side of lean thinking. It shows how leveraging lean technology can add value and improve efficiencies.

In the case study, it was found that an application of lean construction principles and technology, like the Last Planner System, resulted in better data visibility on-site. Thus, they observed an increase in effective problem-solving.

### 4. Modubuild

Modubuild is a company that specializes in internal modular fit-out and high-tech modular off-site buildings. Recently, they have begun an organizational improvement initiative with a particular focus on lean thinking and practices. One of their main goals is to improve the Tendering Process within the company.

What resulted from implementing lean was improved efficiency throughout the department. It improved efficiency in areas such as task delegation, review, and reallocation of workload.

Overall, the company found that thinking lean and removing Quantity Surveyors from the tendering stage was the reason for these improvements. Their Quality Surveyors could focus on delivering value in project commercial management instead.

### 5. Mercury

Mercury is a European contractor that delivers leading-edge construction solutions for building and management projects. Their Lean journey began in 2014. They have since done a case study on the effectiveness of the Plan, Do, Check, Act (PDCA) continuous improvement cycle.

The implementation of this cycle led to

an increased ability to communicate the necessity and value of projects to sponsors, stakeholders, and project teams. As such, lean thinking and principles made the value stream much clearer.

### 6. Suir Engineering

Suir Engineering provides mechanical and electrical services to high-profile clients in the construction sector. Their case study focuses on the introduction of lean training for their employees and the benefits thereof.

The introduction of lean principles, as a direct result of this training, resulted in:

- improved engagement
- reduction in rework and money spent
- reduced requisitions
- and the better planning of works, which improved the effectiveness of workflows

The company now plans to implement lean ideas and principles on a larger scale.

### 7. Jacobs

Jacobs is a leading global professional services provider. They offer a number of services including construction and project management. Their idea to try out Lean's Last Planner System is the basis for their case study and shows how this system benefited their company.

The implementation of LPS and the deployment of its digital tools resulted in

- a more reliable workflow
- higher levels of engagement
- meaningful collaboration between stakeholders
- higher levels of trust across teams
- and more.

The use of digital tools was also noted as an added benefit during the COVID-19 pandemic.

### 8. PM Group

PM Group is a company that manages the design, construction, and commissioning of high-tech facilities across Europe, the USA, and Asia. Recently, they started implementing lean's Digital enabled Project Delivery (DePD) approach. This enabled PM Group to provide a full digital asset as well as a physical one to their clients.

What the PM Group found was that the DePD expanded delivery capability further. It facilitated innovations in products and services, delivery processes, and their organization and management structures.

This was achieved because of the increased engagement and communication that came with applying a lean approach.

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[The Lean Construction Institute](#) is dedicated to promoting the Lean Framework

[The Lean Construction Blog](#) is an active place where great new content is posted frequently

By Felipe Engineer-Manriquez, [11 Simple Steps to Launch Your Scrum in Construction Pilot](#).

Felipe is a SkillSignal Advisor and National Lean Construction Director at McCarthy Building. He earned worldwide recognition for his trailblazing practice of Lean Construction, is an award-winning speaker, author and industry podcaster.

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**11.8 hrs/week 22x more data 100%**

Saving 11.8 hours/week on paperwork, payroll and admin processes.

Capturing 22x more data, used in compliance dashboards and jobsite reports.

100% paperless jobsite.



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SkillSignal is the fastest growing safety & compliance platform in Construction, trusted by thousands of users every day. Our 1-stop solution supports jobsite safety and simplifies compliance across the country for small, medium and large contractors. Our mission is to use mobile technology and data to improve the safety and lives of the men and women who build our beautiful cities.