



The latest news, views, and announcements

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*There is significant activity in Lean Construction with increased Owner initiatives to apply lean philosophy and tools to improve reliability and productivity."*

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*Stephanie Pretorius highlights benefits from controlling what you can control.*

## LEAN CONSTRUCTION ANZ (LCANZ) NEWSLETTER Volume 4

Over the last few months, we have been busy working on our body of knowledge and preparing for the IGCLC conference coming to NZ in July 2024. We thank you for your support this year and look forward to another great year next year!



## What's News?

**Pg 6:** The body of knowledge of lean construction: an update

- What is a body of knowledge?
- What are the key Lean concepts to include?



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# Message from the Chair



Michael Ward, Chair LCANZ

Welcome to our last Newsletter for 2023.

There is significant activity in Lean Construction with increased Owner initiatives to apply lean philosophy and tools to improve reliability and productivity.

We hope to be able to report on specific initiatives over the next few months.

Planning for the IGLC32 conference in Auckland in July 2024 is ongoing, with Lean Construction Australia and New Zealand co-hosting with Auckland University of Technology. There are opportunities for sponsors to support and benefit from their participation and for speakers to share knowledge and raise their profile as Lean researchers and practitioners.

We are in discussion with the Lean Construction Institute (UK) concerning leveraging their experience in training programs and implementing a Lean Competency accreditation program.

We are working towards launching similar programs in 2024. Government agencies in the UK, notably Highways, use procurement criteria to drive lean competency into their supply chain. We understand that the initiative is creating measurable productivity improvements in project delivery.

As a not-for-profit volunteer organisation, we would like as many of our Newsletter readers to become members of Lean Construction ANZ and be actively engaged in local community of practice events. Notification of upcoming events are posted on our website.

Our library of past webinars and conference papers has some great content that will benefit experienced and inquiring lean practitioners.

On behalf of the Lean Construction Australia and New Zealand Board and our wider lean community, we wish everyone well for the festive season and 2024!

For more information on LCANZ please contact me as the Chair of LCANZ [michael.ward@leanconstructionanz.org](mailto:michael.ward@leanconstructionanz.org)

## Board Member Profiles



**Michael Ward**

LCANZ LTD BOARD CHAIRPERSON, LCANZ NSW REGIONAL COUNCIL



**Ken Panitz**

LCANZ LTD DIRECTOR, PUBLIC OFFICER



**David Whatmough**

NSW REGIONAL COMMITTEE CHAIRPERSON



**Stephanie Pretorius**

LCANZ LTD DIRECTOR, NZ REGIONAL COUNCIL



**Shang Gao**

LCANZ LTD DIRECTOR, VIC REGIONAL COMMITTEE



**Phil Hendy**

LCANZ LTD DIRECTOR, VIC REGIONAL COMMITTEE



**Christina Levinson**

LCANZ LTD DIRECTOR, QLD REGIONAL COMMITTEE CHAIRPERSON

Our mission is to promote and support higher levels of sustainable performance in the Australia and New Zealand Construction Sector.

Our development objectives to be progressively implemented include:

- Lean Training and Accreditation
- Lobbying body for Lean and Collaborative Contracting
- Becoming the body that sets the Lean Standards for AUS and NZ
- Research and research summary
- Community of Practice on all levels

In our last newsletter Matt Stevens contributed a piece on the IGLC Conference 31.  
Thank you Matt for this contribution!

# Elevating Lean Construction with Simulation Generation Z

**Dr Mani Poshdar, AUT**

Simulation, with roots stretching back to the precision of ancient Babylonian astronomers predicting celestial events, has transformed into an indispensable tool within today's construction industry. It plays a crucial role in tasks ranging from energy analysis to project tracking. However, as we delve into the dynamic world of Lean Construction, we encounter a fascinating paradox: simulation, while invaluable, often falls short of capturing the very essence of Lean's cornerstone principle - collaboration.

Lean Construction is more than a mere philosophy; it's a dynamic approach that thrives on collaboration. It transcends the realms of mere efficiency or cost-cutting; instead, it's about orchestrating the collective efforts of a diverse team to achieve project excellence. Collaboration isn't just a buzzword; it's the lifeblood of Lean Construction, and the individual behaviours within the team serve as the catalysts for success.

**But here's the challenge: how do we effectively simulate collaboration, human interactions, and the nuanced interplay of personalities? This is where traditional computer simulation encounters its limitations.**

Simulation models usually fall into three primary categories: physical, mathematical, and computer simulations. Now, let's envision a groundbreaking hybrid approach that seamlessly amalgamates the strengths of physical and computer simulations. This is what we call **Simulation Generation Z**. In this innovative approach, physical simulation takes centre stage, replicating potential scenarios that a project team may encounter, much like conducting a meticulously planned drill. **Instead of imposing unrealistic rationality onto computer models, Simulation Generation Z embraces the unpredictability intrinsic to human decision-making and performance.** The results from physical simulations then serve as invaluable inputs for computer simulations.

It's like preparing pilots with flight simulations before they take off on a real flight. Here, architects, engineers, and contractors engage in a dynamic, interactive, and collaborative environment, much like pilots in a flight simulator. They make real-time decisions and experience the immediate consequences of their choices on project performance, allowing them to confidently navigate potential scenarios. This approach is a quantum leap beyond static simulations, vividly breathing life into Lean Construction principles.



As we sail into the future of Lean Construction, with collaboration and human behaviour at the forefront, transformations such as Simulation Generation Z emerge as imperative. In this way, we don't merely simulate but immerse ourselves in a dynamic, interactive, and collaborative world where the true spirit of Lean Construction thrives.

#LeanConstruction #Innovation #Sustainability  
#Leadership

## LCANZ Webinar Library

We have lots of great webinars on lean topics available for you to view.

Access our webinar library online at  
<https://leanconstructionanz.webcastcloud.com/>



### FOR ACADEMICS / CONSULTANTS / CONTRACTORS

In July 2024 the 32nd internationally renowned conference IGLC (International Group for Lean Construction) is coming to New Zealand for the first time. This conference, unlike any other construction conference, combines a blend of industry, education and academic research to bring together productivity improvement practitioners to share knowledge and drive adoption.

***The IGLC conference connects individuals and organisations from around the world committed to changing how construction projects are delivered to reduce waste, increase productivity and deliver value.***

Industry Day, the first day of the conference, will set the scene with the theme of Productivity Improvement in Construction. We are seeking expressions of interest from potential speakers and sponsors for [Industry Day to be held in Tāmaki Makaurau Auckland at AUT on the 1<sup>st</sup> July 2024.](#)

If you plan to come to the conference, would like to present at the conference or to sponsor the conference please let us know. We are seeking practical case studies and knowledgeable presenters for the agenda with the goal of creating interest in productivity improvement methods and how they can be successfully applied to reduce cost or improve outcomes. Workshop day presentation slots are also available for presenters with educational content.

We are open to expressions of interest for topics that align with the overall Productivity Improvement theme, so please let us know if you have a particular topic or case study that you would like to present. We are also looking for presentations that include evidence of positive outcomes in Cost / Collaboration / Predictability / Quality / Reliability/ Safety / Value for projects and / or Lean methods. An online application form is available to all parties interested in presenting - see [IGLC32 / Exhibitions](#).

Sponsorship is not a prerequisite for presenting on any topic at the conference, but is a means of supporting us in organising and running IGLC. All presentations must be delivered in person in NZ.

### **LCANZ Memberships:** **How to get Involved**

The construction sector in Australia and New Zealand exhibits a high incidence of project cost and time overruns, business insolvencies and stagnant productivity.

Applying lean construction principles in your organisation or even as an individual contributor offers a way to enhance project success and increase the likelihood that projects will be more collaborative, have less wasted effort and deliver appreciable customer value.

If you are interested in attending our webinars, community of practice events or want to become a member, visit the [LCANZ website](#) for more details. Student and Individual Membership start at just \$200/year.

Membership benefits include:

- Reduced rate for thought leadership events
- Access to LCANZ webinar library
- Lean site visit member rate
- Reduced rate for training ... and more!

Join the [LCANZ mailing list](#) to get started!



**Library of Webinars FREE for Members**  
**\$15 per webinar for Non-Members**

**Join now!**

**Visit the [LCANZ Website](#)**

# What is world class construction?

**Ian Walsh, Partner Argon & Co**

*Recently I was at a business session with a number of owners of construction companies discussing world class and this question arose. In a construction environment the people and the process move (sometime daily) so the waste changes and the customers (internal and external) may change, so what does world class in this environment mean?*

Interestingly when asked if they had looked at understanding why their customers choose them, only 10% of companies had nailed (excuse the pun) that down. Only half of those had established measurement systems to track this and only half again had defined the wastes and educated their teams. Less than 3% had actually had defined value, understood what the wastes are and were measuring it. This is before we get to actually taking action to eliminate the waste!

Perhaps we start to have an understanding why productivity in construction has not moved for 50 years.

So focus on the value and eliminate the waste! The goal is not perfection but to deliver value better than your competitors. This is called "survive and grow". Over time the business can reach a standard that is unassailable by your competitors and a develop a culture that relentlessly drives customer (and therefore shareholder) value through eliminating waste.

The basic steps are:

1. Define what your customers value (want and are willing to pay for)
2. Define your performance in this regard (and your competitors)
3. Identify the gap and who you need on board to change the culture
4. Identify and measure wastes
5. Empower leaders to eliminate waste
6. Measure progress



It is no understatement to say many companies could double their productivity through the adoption of these practices, admittedly can be more difficult in a construction environment but global evidence suggests many have done it with outstanding results.

There are some excellent examples of construction companies applying best practice, so if you can, visit them to discuss their journey or talk to people who have assisted them achieve these world class results.

For more information, contact LCANZ Director, [stephanie.pretorius@leanconstructionanz.org](mailto:stephanie.pretorius@leanconstructionanz.org)

# The body of knowledge of lean construction: an update

In 2023, as part of the Lean Construction Australia and New Zealand (LCANZ) strategic planning process, roadblocks to the adoption of wider lean construction (LC) in the region was identified. A working committee was established to address this issue. During the committee's early discussion, there was a consensus to develop a body of knowledge for lean construction (hereafter LCBoK). This article addresses two questions:

- What is a body of knowledge?
- What are the key Lean concepts to include?

## Developing the LCBoK

A body of knowledge is a collection of essential concepts, terms, and activities within a profession or subject area ([Oliver, 2012](#)). Establishing a BoK involves the development of both structure and content. A structure that represents and contains knowledge domains in a systematic way can also be referred to as a framework. The committee decided to take a two-pronged approach to the development of LCBoK.

1. Scope out the concepts, terms and practices that make up lean construction.
2. Provide pathfinding to professions who have various levels of knowledge of and experience in implementing lean construction.

The next challenge was to determine what concepts are appropriate to include. Based on an extensive literature review and relevant materials from the Lean Construction Institute (LCI), the four following broad knowledge areas emerged:

1. **Lean philosophy and principles.** These are the foundation of lean construction. The five lean thinking principles ([Womack & Jones, 1997](#)), the fourteen Toyota Way principles ([Liker, 2004](#)), and the six LCI tenets are excellent for beginning to comprehend lean philosophy and principles.

2. **Lean practices and methods.** Principles in and of themselves are just descriptive concepts, and are not prescriptive enough for practitioners to apply. Thus, lean methods provide a recipe and guidelines for applying lean construction. A toolbox of lean practices has been collected by LCANZ and contains some excellent material. Well-known lean methods, such as the last planner system (LPS), value stream mapping (VSM), visual management (VM), and others are common lean practices/methods.

3. **Lean people and organisations.** This is the social aspect of lean. It is very clear that lean tools and techniques exist to support people in identifying and solving problems and undergoing continuous development. Drawing on the key lean principle of "Respect for People", this knowledge area focuses on lean leadership, developing people (respect, challenge, and grow) in projects, in organisations, and across the supply chain.

4. **Lean enablers.** This knowledge area is about creating an environment that enables lean practices. Fundamentals of Integrated project delivery (IPD) and lean project delivery system (LPDS), among others are key elements in this area. This is because the traditional constructing model, which is dominated by transactional and adversarial commercial terms, is in need of reform. IPD is currently seen as a good delivery model for increasing value in delivery which combines the design, construction, ownership, and general contractors together onto a single project contract.

**Continued pg7...**

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## The body of knowledge of lean construction: an update

### Continued from pg6

The LCBoK will support government clients, construction firms, consultants, academics, and other disciplines. The LC BoK will only be useful to the profession if people are aware of it and able to use it. Different users may be interested in different knowledge areas:

- Internal construction teams in lean principles and practice
- Chief procurement and contract teams in lean procurement, i.e., integrated project delivery
- Capability teams in lean people and organisation

### Acknowledgement

The Increasing Lean Capability initiative committee comprises of members from different councils and independent consultants.

VIC council: Phil Hendy, Hunter Dean and Gao Shang

QLD council: Robin Drogemuller and Christopher Lunson

NZ council: Mani Poshdar and Robert Hales

Independent consultants: Roger Hilton and Aled Roberts

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## Controlling the Controllable

Stephanie Pretorius | Managing Principal & LCA NZ Director

Construction as a whole is vulnerable to many external factors. The level of integration and collaboration needed by multiple parties also adds uncontrollable elements. These factors undoubtedly affect performance outcomes and are outside the control of any one company. So how best to respond in this environment?

There are significant benefits from simply working on what is controllable and targeting the realisable benefits directly under the influence of the company.

Within every project, and every organisation delivering those projects, is controllable work. There are also controllable opportunities to manage or reduce costs. While construction has every right to claim that external factors are a causal factor for performance, if the controllable is not being controlled it is an opportunity to realise value missed.

Practice controlling the controllable to deliver consistently better outcomes.

#construction #leanconstruction #lcanz  
#operationalexcellence #problemsolving  
#continuousimprovement #productivity  
#constructionindustry

### Thank you to the support of our Member Companies!

