

# NIRMITEE '17

Post Seminar Report

## Lean Kaizen For Smart Construction

February 24 & 25, 2017  
MIT, Pune

[www.vedzen.com/nirmittee-2017](http://www.vedzen.com/nirmittee-2017)

### Highlights

2 – day Seminar for Academia, Government Officials and Professionals in Construction Sector

1 Keynote Session & 2 Panel Discussions

3 Knowledge Sessions & 3 Success Case Studies

11 Concurrent Competitions participated by 2500+ students

16 Supporting Associations



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## Executive Summary

Nirmitee 2017 closes with a “Big Applause” on Feb 24 & 25, 2017 at Swami Vivekanand Hall, MIT Pune,

Vedzen Institute in collaboration with the Civil Engineering Student Association (CESA) of MAEER’s Maharashtra Institute of Technology, Pune, organized a 2-day seminar which recently concluded on February 24 & 25, 2017 at Swami Vivekanand Hall, MIT Pune with a big bang. The much awaited event was attended by who’s who of construction industry. More than 2500+ Civil Engineering Students along with hundreds of Construction Professionals participated at the Nirmitee 2017 from a cross section of Academia, Government Officials and Construction, Infrastructure and Services Sector Professionals to name a few.

The 2-day conference was addressed by 21+ high profile thought leaders / speakers and eminent personalities sharing their experience and insights on Modern and Smart methods of Construction.

The theme of Nirmitee 2017 was “Lean Kaizen for Smart Construction” highlighting best practices, case studies, and discussions on wide range of issues related to realizing Smart Construction. Keeping in line with the theme the 2-day conference focused and deliberated on key topics such as:

- ✓ Academic Rigour in Real life Construction
- ✓ Adopting Lean Kaizen practices for Smart Construction
- ✓ Culture at the Construction Site
- ✓ Construction Process – Manufacturing Model and Project Management Process
- ✓ The Last Planner for Lean Construction Management
- ✓ Digital Enablers for Lean Construction – Integrated Project Controls

These along with other key challenges were put together in the form of case study presentations, high profile panel discussions and highly interactive group discussions to enable the participants and speakers share insights and benchmark industry best practices over the 2 days of the conference.

## Day 1

### Keynote Session on Lean Kaizen for Smart Construction

This session focused on embedding the theoretical attitude of research and application in the real world and construction practicality.

Mr Dhirendra Kumar Dubey, Lean Coach, Lean Transformation, presented a highly interactive session on the theme “Lean Kaizen for Smart Construction”. Mr Dubey shared that the Construction projects generally see a cost overrun caused due to poor cash flow, problems in logistics, materials, delay in clearances and adverse natural/social/political environment. Trillions of dollars can be saved by adopting Lean Kaizen practices for Smart Construction. It can be achieved by systematically developing the capability of people to optimize processes using new techniques and technologies to provide better value to customers while minimizing waste, striving to achieve the goal of Zero Defect & Zero Effect.

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Mr Dubey shared that the Construction industry has to transition from “one big batch” construction process with Milestones and Metrics where material is delivered to the site, tons of pouring and fabrication takes place to Smart Construction. In the current scenario, engineering is completed, procurement orders at one shot, makes schedule and engages contractors for the whole project. While Lean Construction Strategy involves processing a bunch of small invoiceable units to sign off delivery sequence of each unit and deliver on time.

The implementation of Lean Construction begins with identifying and eliminating Non-value-adding activities from the processes. The non-value adding activities or the 7 waste of construction are: Overproduction, Waiting, Transportation, Rework, Over-Processing, Inventory & Motion. Rework, Over-Processing and Waiting for materials, clearances comprise 73% of the overall non-value adding activities performed in a project which can be eradicated. A Quality first approach can also save 29% of the cost overruns. He presented modern techniques such as the Last Planner System for weekly & daily planning; Obeya for Goal alignment; Kanban for visually controlled minimum inventory with no stock-out; Milk run for lower logistics and supply to fulfill fluctuating demand; Visual Management and Total Effective Equipment Performance.



### Panel Discussion on “Adopting Lean Kaizen for Smart Construction in Infrastructure Projects”

The first panel discussion of day 1 was an interactive session with eminent panelists such as Dr Anil Agarwal, Dean, NICMAR, Mohit Goyal, MD Goyal Properties, Ganesh Sirsikar, Chief Engineer, Nyati Group, Rahul Ralegaonkar, Professor, Civil Engineering and Ujjwal Kunte, Managing Director, Durocrete which discussed on the critical aspects of adopting Lean Kaizen practices for Smart Construction. This panel reflected that we are indeed facing challenges at a society level. The Urban poor and migrating workforce both need a better eco-system to live. In terms of adopting tools and techniques, professional got to be crystal clear about processes in order to create a positive cash flow. There is a need for adopting modern practices such as BIM, RERA, technology apps and minimizing accidents by improving safety standards. Though Technology has helped in terms of evolution of practices but the bottom line is only customer satisfaction has utmost value.

Pic 1

Pic 2

### Panel Discussion on “Culture at the Construction Site”

The second panel discussion included eminent panelists such as Sanat Sankrityayan, Principal Practitioner, MR Apte, Professor Emeritus, MIT Pune, Abhay Kele, CMD, Pirthvi Edifice Pvt Ltd; Yogesh Vaghani, CMD, Vedzen, Prashant Deshmukh, Chief Architect, PD Architects and Mangesh Madurwar, Asst. Professor, VNIT, Nagpur. This panel deliberated that in terms of processes and practices we as an industry have leapfrogged in the last decade. Therefore building a Smart workforce requires integrating People, Processes and Equipment. Since the problem lies in planning, there’s a need for day-day analysis and reporting of work. Training &

education about vision, processes and practices is a must even before excavation starts at the site, There's also a need to incentivizing people for practicing safer standards and ensuring zero accidents rather than enforcing Safety practices. The housing and other needs of the labour force require attention for establishing a win-win situation for the stakeholders of the construction industry.

Pic 1



## Day 1

### Day 2 - Knowledge Sessions

#### The Last Planner for Lean Construction Management

By Prof N Raghavan, Adjunct Professor

A large percentage of Projects suffers from Schedule variance, cost variance, poor site morale, etc. At the same time individual Project variances sum up to an impact on the Organisation's performance. Such variances result in unpredictability and commitments not being met. Most schedule variances are due to Workflow variation – mainly due to coordination problems. The Last Planner System (LPS) aims at improving predictability of the workflow.

The Last Planner System™ of Lean Construction Institute, USA was developed by Gregg Howell and Glenn Ballard. The Last Planner system is a production planning system designed to produce predictable work flow and rapid learning in programming, design, construction and commissioning of projects. Implementation of this best practice has many advantages such as, it focuses on Certainty/ Reliability, production orientation and inclusiveness. Prof Raghavan refers this planning systems as Collaborative Planning System. This system aims at Total alignment of site towards Lean Construction. In order to gain benefits from its implementation, effective direction from the Top Management towards Lean implementation is very important. It begins with getting complete buy-in from top team at site, Project managers, planning managers, departmental heads, in fact, all people. It enables people to move to a culture of cooperation, synergy and adopting a "one for all & all for one" approach. Lean Construction approach helps in correcting mistakes by creating a vulture of Continuous Improvement.

#### Digital Enablers for Lean Construction – Integrated Project Controls

By Kalyan Vaidyanathan, CEO, Nadhi Technologies, Chennai

The current scenario is that the true potential of both people and system is not utilized. It is seldom found that real-time data for analysis is available. There's an economic loss of 3% of the construction spend for owners and 1% of revenue for other stakeholders like Architects etc. There's also a lack of interoperability which costs \$15 billion per year. The way forward begins from understanding that Construction is not just a supply chain but an information supply chain. Lean Construction is all about identifying value which is derived from change in form and shape. Waste is said to be anything which does not add value to satisfy the customer. Its 3 tenets are Impeccable co-ordination, Project as Production System and Collective enterprise. The goal of Digital Lean Enablers is to transition from silo-oriented working style to creating an end to end visibility. It aims to enable Trust, Transparency and Collaboration. It is the transformation of an organisation from conventional, hierarchical planning, command & Control and paper based to Collaborative Lead Indicators System flow based operations. Digital Lean Enablers provide a single location for all project information facilitating significant reduction in data entry duplication, reduction in time to reconcile bills, reduction in time to find information. It also helps in 80% reduction in time to close issues and improves 20% productivity in construction management. The roadmap for future calls for iterative learning, synchronous Physical, Financial, and Virtual Progress.

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### Success Case Study Presentation

#### HIRCO – Construction Process: Manufacturing Model and Project Management

By Akhilesh Laghate, Founder, Schiedo, Mumbai

The implementation of Construction and Project Management at HIRCO resulted in:

- ✓ Leveraging learning of Project A into Project B
- ✓ Pull Based Planning System across all levels
- ✓ Integrating Lean Planning with Strategic planning.
- ✓ Right Skill(ing) at right time
- ✓ Alignment of Performance Management System

#### Godrej Construction – Lean Project Delivery

By Tushar Lahoti, Project Manager, Sr Manager, Projects, Godrej Construction, Mumbai

Implementation of Lean Project Delivery has helped the organisation in following ways:

- ✓ To achieve customer delight by Delivering project on Cost, Time, Quality & Safety
- ✓ Setting up SOP for smoother execution & procurement thereby reducing stress in the system
- ✓ Trend analysis to improve the process & create culture for continual improvement

#### Pegasus Properties – Megapolis Project: Lean Construction for Culture Excellence

By Sandeep Hirawe, Project Manager, Pegasus Properties , Pune

Implementation of Lean Construction for Culture Excellence bough following benefits to the organisation:

- ✓ Strategic Vision based on Continual Improvement
- ✓ Collective Cross Functional Problem Solving
- ✓ Total Employee Involvement – Trained and empowered people
- ✓ Workplace Excellence –Clutter free all the time with everything at its designated place
- ✓ Continuous Improvement by Everyone, Every day, Everywhere with Zero effect and Zero Effect

### Testimonials from attendees

It was very well planned and organized; speakers were selected well to cover various sphere of industry.

~ Managing Director, Shrishti Construction

Excellent in organizing resource persons from different industry to speak on same topic/focus.

~ Professor, Dept Of Civil Engineering , VNIT

You succeeded to have diversified sector people under one roof.

~ Chairman, Kothari Constructions