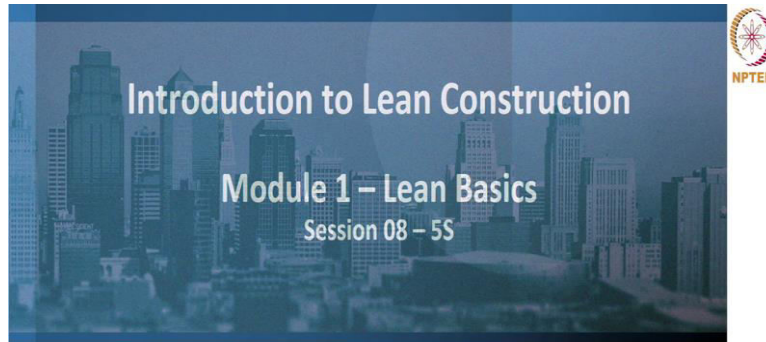


Introduction to Lean Construction
Professor N Raghavan
Department of Civil Engineering
Indian Institute of Technology Madras
Understand the Basics of 5S, Explanations and 5S Steps

(Refer Slide Time: 00:21)



Prof. N Raghavan, FNAE, FICE(UK), FIE(I)
Department of Civil Engineering
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Hello everyone, in our NPTEL program on Lean Construction, we have been looking at the lean basics. And today we will look at a very interesting tool called 5S.

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5S

- Basics of 5S, Explanations and 5S Steps
- Understand Each "S" in Detail
- Understand 5S: Key Points, Benefits, Experiment with Yourself First
- Project Implementation, Signs of a 5S Site, Facilitations, Why 5S May Fail?, Recap (The 5S Journey)
- Understand the Applications of 5S through Case Study

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We will have a basics of 5S, some brief explanations, then there are 5 S's and we will understand them each by turn, then we will look at what are the key points, the key benefits and then how you can experiment with yourself using 5S. And of course, we will look at a typical project and finally, we also will look at a few case studies.

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Session 08 – 5S



Topics to be Covered

- [S08.01](#): Understand the Basics of 5S, Explanations and 5S Steps
- [S08.02](#): Understand Each “S” in Detail
- [Supplementary Module](#)



So, there are two broad parts in this session, one is understanding the basics of 5S, the explanations and the process. And the second part, we will look at each 5S in greater detail and take up the case studies thereafter.

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The slide content for S08.01 is displayed. It features a blue banner at the top with the text 'S08.01: Definition of 5S, Explanations and Steps'. Below the banner, the learning objectives are listed. The slide also includes the IIT Bombay logo, the NPTEL logo, and the text 'Introduction to Lean Construction: Module 1 – Lean Basics – Session 08 – 5S'. A video frame of the speaker is visible in the bottom right corner.

S08.01: Definition of 5S, Explanations and Steps

- Learning objective(s)
 - To Understand the Definition of 5S and Explanations
 - To Understand the 5S Process

The learning objectives for this session would be to understand the definition of 5S and the explanations and then to actually understand the 5S process itself.

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WHAT IS 5S?



- An Effective Tool in Lean Management for improving *Workplace Organization*
- A *Visual Workplace!* Part of Digitalization!
- Not just housekeeping, but a methodical and powerful tool to improve the working environment & *improve work Efficiencies and Safety*
- Helps eliminate & reduce *Wastes* at the *Site Level* - Project can be 10% to 30% more efficient than otherwise
- Compare a typical Site here with what you may find in a World-class Organization!



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Now, what exactly is 5S, is actually a visual tool, a very effective tool, part of Lean Management. It covers the workplace organization, you can call it a visual workplace is part of the digitalization drive, which we have today as part of construction. And some people may think it is just housekeeping. It is much more than that, it is a very methodical and powerful tool to improve the working environment and consequently improve the efficiencies and also the construction safety.

As part of the basic tenets of lean, it helps us to eliminate and reduce waste at the site level, some people can even experience about something like 10 to 30 percent improvement in efficiency by practicing 5S properly. You can look at a typical site, what is shown here and then compare it with the best of sites, which you see in a world class organization at the difference could be practice of 5S.

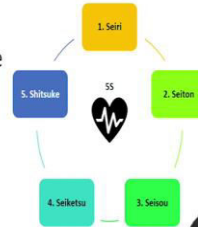
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5S – THE EXPLANATIONS



Workplace Organization method uses a list of Five *Japanese* words:

- **Seiri** : Sort, Sifting, Clearing, Classify
- **Seiton** : Straighten, Simplify, **Set in order**, Configure
- **Seisou** : **Shine**, Sweep, Scrub, Clean and Check
- **Seiketsu** : **Standardize**, Stabilize, Conformity
- **Shitsuke** : **Sustain**, Self discipline, Customize &



Practice

Juan Felipe Pons (2016) - Keys and Tips to Implement the 5S Methodology; Karen Martin & Associates (2010); <https://leanmanufacturingtech.org/5s/>; https://en.wikipedia.org/wiki/5S_methodology



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We have been talking about the 5Ss. What exactly are they? Each S actually is a short form of a Japanese term like for example, Seire, Seiton, Seisou, Seiketsu, Shitsuke, and this stands for the first one sort, second one is set in order, shine, standardize and sustain. And you can have more clarifications like sifting, clearing, classification and the second one set in order.

You can think of it as straightening, simplifying and configuring the various components, you can shine, sweep, then you can scrub, clean, and check as a result of all that then standardize, stabilize and see if it confirms to our standards. And finally, the whole process has to be sustained in a long-term basis. And for that we need self-discipline. And so, the involvement of the customer and the various practices.

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THE 5S STEPS

1. **Sort** – Clearly distinguish needed items from un-needed and eliminate the latter
2. **Set in Order** – Keep needed items in the correct place to allow for easy and immediate retrieval
3. **Shine** – Keep the workplace and the equipment neat and clean
4. **Standardize** – The method by which Sort, Set-in-order and Shine are made “habitual”
5. **Sustain** – Maintain established procedures for sustained operation of 5S

Juan Felipe Pons (2016) – Keys and Tips to Implement the 5S Methodology; Karen Martin & Associates (2010); <https://leanmanufacturingtech.org/>; https://en.wikipedia.org/wiki/5S_methodology

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So, looking at it more detail sort actually what we need to do is, at the site, there are so many materials lying around, we need to clarify ourselves and sort out what exactly is required for the task at hand and what is not. And whatever is not useful in the immediate future when you take that out of the site itself, so we have a clutter free site, that is sort.

Then set in order. Again, there are so many items there which you keep using and they need to be kept in proper order. So, we are able to reach them quickly. And there is no confusion and there is no clutter again. And whatever you are using, it has to be in top order. It has to be clean. It has to be well visible. That is the shine part of it, the third S. And then these or there are a number of people at the site, many stake holders and we need to bring them all on the same board. How do we do that? That is by standardizing.

So, standardization, again is an important part of 5S. And finally, whatever we practice, we need to make it sustainable in the long run, it has to continue. And you will remember that one of the key tenets of lean is continuous improvement. And we cannot do that unless we keep practicing 5S on a continuous basis. That is where the sustain part comes in. So, these are the five steps which we have in 5S.

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THE 5S STEPS (cont.,)

Sort

Set in Order

Shine

Standardize

Sustain

Juan Felipe Pons (2016) – Keys and Tips to Implement the 5S Methodology, Karen Martin & Associates (2010); <https://leanmanufacturingtech.org/5s/>, https://en.wikipedia.org/wiki/5S_methodology

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And you can look at it here, sort, then you have the set-in order, then we have shine, then we have the standardization part. And finally, the sustaining over the long Run.

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Quiz

1. If you want to describe the 5S process in two words, what would you choose?
Workplace organization, efficiency and safety, eliminate waste, lean culture

2. What are the 5 elements of 5S?
Sort, Set-in-order, Shine, Standardize, Sustain

3. Give at least three simple words to describe each of the 5S's
**Sort (clear, remove, eliminate)
Set-in-order (configure, straighten, simplify)
Shine (clean, sweep, scrub)
Standardize (conformity, stabilize)
Sustain (customize, self-discipline)**








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Supplementary Module

Link (to read and contribute)
<https://tinyurl.com/yeureghs>



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