

# ADVANTAGE OF 5S TECHNIQUE IN INDUSTRY

INDRA JEET YADAV<sup>1</sup>, DHEERAJ KUMAR VERMA<sup>2</sup>

<sup>1</sup>M.Tech Production, Department of Mechanical Engineering MUIT Lucknow U.P. India

<sup>2</sup>Assistant Professor, Department of Mechanical Engineering MUIT Lucknow U.P. India

## Abstract :

5S may well be a structured approach to getting a geographical stop working, organized, standardized, creating efficiency rather than waste, and sustaining enhancements created. It's named as "5S" supported five Japanese words starting with "s" that describe the five steps this involves. There are many articles describing 5S, but what are the benefits of 5S? 5S was developed in Japan and was known together of the techniques that enabled simply in Time producing. Two major frameworks for understanding and applying 5S to business environments have arisen, one planned by Osada, the opposite by Hirano.[9][10] Hirano provided a structure to boost programs with a series of diagnosable steps, every building on its forerunner. As noted by John Bicheno, Toyota's adoption of the Hirano approach was '4S', with Seiton and Seiso combined.[verification needed] Some claim that the principles of 5S came from industrialist, WHO was victimization the CANDO (Cleaning up, Arranging, Neatness, Discipline and current improvement) methodology before the event of 5S

**Key:** Less Waste (Improved Efficiency), Reduced Space Used For Storage, Improved Maintenance Improved Safety, Better, More Committed Employees, Improved Quality

## ADVANTAGE

### 1. Less Waste Equals Improved Efficiency:

A key principle of 5S is to induce eliminate things that aren't used, and build it easier to search out things that are required. This gets eliminate litter, redundant tools, scrap materials and unused provides. It organizes, labels and places shut at hand those tools and materials that are required on an everyday basis. The result's that point is spent additional fruitfully and fewer time is wasted finding required tools and materials.

In 5S, materials, tools, machines and instrumentation are positioned in engineering locations. This helps scale back fatigue, quickens access, and leads to a additional economical geographic point. engineering positioning helps to handle and eliminate the seven wastes.

Standardization is additionally an area of 5S. Standardization ensures that the foremost economical work practices are known and used, which wasteful work practices, redundant tools, unused materials are eliminated

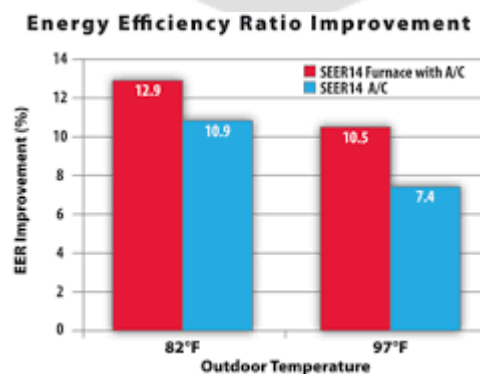


Fig.1: less waste equal improved efficiency

## 2. Less Space Used For Storage Equals Reduced Costs:

By eliminating unused materials, tools and instrumentation, and obtaining eliminate muddle, a stunning quantity of area can unlock. there's a value related to area, not solely within the rental or lease prices, however in heating/cooling, clean up and maintaining of that area.



Fig.2: space used for storage

## 3. Clean Equals Improved Maintenance & Less Down Time:

When machines, equipment, and tools are unbroken clean and free from litter, it's easier to identify defects, half failures, associated issues like an oil leak. this permits preventative maintenance to deal with the matter before it becomes a additional significant issue.

For example, if a machine is unbroken clean, associate oil leak would at once be noticed . The supply and reason behind the leak are often quickly known and therefore the drawback mounted, before low oil levels cause additional serious harm to the machine



Fig.3:clean improved maintenance

## 4. Implementing 5S Equals Improved Safety:

- Cleanliness ensures spills get cleansed up ASAP, eliminating the potential for slips and falls
- Clutter is removed, revealing hidden electrical, chemical or mechanical hazards.
- Having required tools, materials and provides near wherever they're required greatly reduces travel (movement) and as a result reduces the potential for injury.
- Unsafe practices are eliminated through the standardization step of 5S
- Employees World Health Organization have their eyes open for recognizing ways in which to boost mistreatment 5S principles are additional alert to their surroundings and potential safety hazards.



Fig.4: implementation 5S equal improved safety

#### 5. Improved Morale Equals Greater Commitment to Job:

When your staff see you care regarding them, their work space, which you price their input, they care additional regarding their job. The clean, organized geographical point that results from 5S could be a additional pleasant geographical point that ends up in improved worker attitudes. the main focus on cleanliness, organization, labour-saving potency, having the correct tools, Associate in Nursing victimization quality standards ends up in an magnified pride in attainment.

Add within the improved safety (lower numbers of injuries) ensuing from 5S and you get a men that's happier (less turn-over), additional actuated, is obtaining additional through with less effort, and is fascinated by rising their geographical point and your merchandise.



Fig.5 : safety, clean

#### 6. 5S Checklists:

In addition to method tools, you may want alternative tools to assist support your 5S system. These tools embody checklists and charts. Some common checklists that may facilitate keep your program centered include:

**5S Audit Checklists:** associate degree audit list will facilitate keep your program on task by creating it straightforward to trace enhancements and areas that may use further enhancements. every department ought to build its own list to best meet its desires.

**Trend Charts:** These charts show trends in knowledge over time. Trend charts facilitate managers keep track of changes in processes, outputs, and far a lot of. These charts will assist you quickly establish areas or processes that require to be improved, similarly as processes that may got to be improved within the future.

**Preventive Maintenance Checklists:** Preventive maintenance is what keeps operations running smoothly without excessive downtime. Using a preventive maintenance checklist ensures that maintenance is done on time and new maintenance requirements are addressed.



Fig.6 : 5S checklist

#### CONCLUSION:

5S is one in every of the foremost efficient lean techniques obtainable, and it's the muse to any or all different lean techniques. that creates it the right start line for transportation the advantages of lean to your geographical point.

It is easy to induce started with 5S, it begins with improvement and organization. employing a DuraLabel label printer you'll be able to mark and label everything so tools, supplies, instrumentation and materials are often properly known and keep. Mark machines and instrumentation with labels providing standardized operative and maintenance directions. make sure you area unit totally in compliance with all Occupational Safety and Health Administration needs by creating required safety signs, pipe markers and GHS labels. build way-finding signs to spot work locations and also the safest and best ways through your facility.

5S is foundation to any or all different lean techniques and having correct labeling and signs is foundational to 5S.

#### REFERENCES

- [1] Osada, "The 5S's: Five keys to a Total Quality Environment", US: Asian Productivity The Industry, ISBN 9283311167, 1995
- [2] M.Titu, C. Oprean, D. Grecu, "Applying the Kaizen Method and the 5S Technique in the Activity of Post-Sale Services in the Knowledge-Based Industry", Proceedings of International MultiConference of Engineers and Computer Scientists, vol. III, Hong Kong, 2010
- [3] J. Michalska, D. Szewieczek, "The 5S methodology as a tool for improving the industry", JAMME Journal, vol. 24, is. 2, October 2007
- [4] Indra Jeet Yadav, Dheeraj Kumar Verma, Durgesh Kumar, Anurag Mishra, Ajit Kumar Yadav , "STUDY ON CHANGE IN TEXTILE INDUSTRY USING 5S TECHNIQUE", International Journal of Advanced Research in Engineering and Technology (IJARET) Volume 9, Issue 1, Jan - Feb 2018, pp. 26-32, Article ID: IJARET\_09\_01\_003 Available online at <http://www.iaeme.com/IJARET/issues.asp?JType=IJARET&VType=9&IType=1> ISSN Print: 0976-6480 and ISSN Online: 0976-6499