

**5S** – A simple, but effective, lean manufacturing methodology that helps organizations to simplify, clean, and sustain a productive work environment. 🌟

### **Overview of the 5S program**

The 5S methodology originated in Japan and is based on the simple idea that the foundation of a good production system is a clean and safe work environment. Translated from Japanese words that begin with the letter “S,” the closest English equivalents normally used are Sort, Set in order, Shine, Standardize, and Sustain. The following list is a combination of many variants of the 5S list found in various publications:

- **Sort** (separate, scrap, sift) – Separate the necessary from the unnecessary and get rid of unnecessary.
- **Set in order** (straighten, store, simplify) – Organize the work area (red/yellow tag campaign, shadow boards, etc.) and put everything in its place.
- **Shine** (scrub, sweep) – Sweep, wash, clean, and shine everything around working area.
- **Standardize** – Use standard methods to maintain the work area at a high level so that it is easy to keep everything clean for a constant state of readiness.
- **Sustain** (systematize, self-discipline) – Ensure that all 5S policies are followed through the entire organization by means of empowerment, commitment, and accountability.

### **Detailed description of the 5S program**

- **Sort** (*Seiri*) focuses on eliminating unnecessary items from the workplace. An effective visual method to identify these unnecessary items is called “red tagging.” A red tag is placed on all items not required to complete the job. These items are then moved to a central holding area. This process is for evaluation of the red tag items. Occasionally-used items are moved to a more organized storage location outside of the work area while unnecessary items are discarded. Sorting is an excellent way to free up valuable floor space and eliminate such things as broken tools, obsolete jigs and fixtures, scrap and excess raw material.
- **Set in order** (*Seiton*) focuses on efficient and effective storage and workplace organization methods and can be summarized with the old adage “A place for everything and everything in its place.” Questions to ask include: What is needed to do this job? Where should this item be located? How many of each item is needed? Strategies for effective “set in order” include painting floors, outlining work areas and locations, shadow boards, and modular shelving and cabinets for needed items such as trash cans, brooms, mops, and buckets.
- **Shine** (*Seiso*) focuses on cleaning the work area. After the first two steps eliminate clutter and locate the necessary items, the shine step thoroughly cleans the work area. One of the main benefits of the shine step is that workers develop a sense of pride and ownership in a clean and organized work area. Another

- benefit is that workers can more quickly see issues such as leaks, contamination, vibration, fatigue, breakage, and misalignment.
- **Standardize** (*Seiketsu*) concentrates on standardizing best practice in each work area. Employees are often a valuable source of information for the development of these standards. McDonalds, Pizza Hut, UPS, Blockbuster, and the United States Military are good examples of the value of good work standards. See *standardized work*.
  - **Sustain** (*Shitsuke*) is by far the most difficult “S” to implement and achieve. Many organizations find themselves with a dirty, cluttered shop only a few months after their attempt to implement 5S. The tendency is to return to the status quo and the comfort zone of the old way of doing things. Sustain focuses on defining a new status quo and new standard for workplace organization. Note that Toyota does not include this last step because it is redundant with Toyota’s system of frequent audits of standardized work.

Some lean practitioners add a sixth “S” for safety. They use this “S” to establish safety procedures in and around the process.

### **Benefits of a 5S program**

The benefits of a 5S program include improved visibility of problem conditions, improved safety, reduced waste, improved morale, an increased sense of ownership of the workspace, improved productivity, improved quality, improved maintenance, shorter lead times, and a better impression on customers. More fundamentally, a well-implemented 5S program helps the culture develop a new sense of discipline and order that carries over into all activities.

### **Indications that an organization needs a 5S program**

- Space is crowded with parts and tools.
- Unnecessary items are stacked between workers.
- Excess inventory.
- Excess items and machines make it difficult to improve process flow.
- Equipment is dirty and a collection point for miscellaneous materials.
- Tools and equipment are difficult to find.

### **Implementation guidelines for a 5S program**

- Practice the old slogan, “a place for everything and everything in its place.”
- Place tools and instruction manuals close to the point of use.
- Design storage areas with a wide entrance and a shallow depth.
- Lay out the storage area along the wall to save space.
- Place items so that they are easy to access.
- Store similar items together and different items in separate rows.
- Do not stack items together. Use racks or shelves when possible.
- Use small bins to organize small items.

- Use color for quickly identifying items.
  - Clearly label items and storage areas to improve visibility.
  - Use see-through/transparent covers and doors for visibility.
  - Remove unnecessary doors, walls, and other barriers to visibility, movement, and travel.
  - Use carts to organize, move, and store tools, jigs, measuring devices.
- These guidelines were adapted from [net1.ist.psu.edu/chu/wcm/5s/guide.htm](http://net1.ist.psu.edu/chu/wcm/5s/guide.htm).  
The Japanese characters for 5S are:

整理・整頓・清掃・清潔・躰

The source for the Japanese characters is [net1.ist.psu.edu/chu/wcm/5s/5s.htm](http://net1.ist.psu.edu/chu/wcm/5s/5s.htm), November 7, 2004.

See *7 Wastes, facility layout, kaizen event, lean manufacturing, red tag, standardized work, Total Productive Maintenance (TPM)*.