THE ADVANTAGES OF IMPLEMENTING A 5S SYSTEM

In order to participate in the global economy and compete against companies that are advantaged by overseas production, businesses are looking to find ways to reduce cost, improve quality and increase productivity. For this reason, businesses are implementing lean manufacturing, which allows for improvements in productivity while increasing the quality of the output. Lean manufacturing systems use minimal amounts of resources to produce high volume of high-quality goods with some variety, allowing companies to make better use of available resources.

The 5S process is one of the most fundamental and widely applied components of lean manufacturing. Its application is simple, involving basic common sense; however, the advantages cannot be underestimated due to its simplicity. Once implemented a 5s system can be the stabilizing force underlying a lean manufacturing strategy.

The 5s system derives its name from the five Japanese words which define the process, they are: seiri, seiton, seiso, seiketsu and shitsuke. Translated into English they are: sort, set in order, shine, standardize and sustain. The guiding principles underlying the 5S system involve organization, cleanliness and standardization. Overall workplace cleanliness, created by removing waste from the work area, promotes internal organization and enhances visual communication. By reducing wasted time and materials, productivity is increased along with safety and costs are reduced. The following is a list of the most obvious benefits which can be derived from implementation of the 5s system.

The Benefits of the 5s System

Increases in productivity:

Reduces lead times thereby improving product delivery times

Reduces equipment downtime, maintenance and cycle time

Improves daily and shift startup times and reduces changeover time

Reduces the amount of time wasted searching for tools and equipment

Increases in quality:

Improves quality by reducing the amount of errors/defects

Implements standardization thereby achieving output consistency

The pleasantries of the simplified work environment increases employee moral

Reduction in cost:

Provides cost-savings by reducing inventory, storage fees and space requirements

Improves safety thereby reducing the cost of worker injuries

Reduces the amount of scrap thereby reducing production cost

The system as a whole minimizes waste and improves efficiency by ensuring that workers are spending time doing productive task rather than looking for misplaced tools, sorting unnecessary through stacks of waste material or rearranging the work environment at the change of shifts.

One of the great aspects of implementing a 5s system is that it can be done today and everyone can participate. Furthermore, all businesses and all departments can benefit from the 5s system. Manufacturing and industrial plants have the greatest applications; however, its use is not limited to production areas. Office and administration areas, information or data flow hubs, retail space and service delivery systems can also achieve productivity gains from its implementation. The bottom line advantage to any company is an increase in profits and a maximization of shareholder wealth.

Implementing The System Into Your Workplace.

The following is an overview of the components and philosophy behind each of the five steps. Although application is specific to each company's processes, the steps are broad based and uniform in nature and the end result is the same.

Sorting (Seiri).

The first step in the process is known as red tagging. This step involves sorting through the items in the workplace and placing a red tag on those that are not required to complete a work task. The tagged equipment, tools, supplies and materials are moved to a central holding area for future evaluation. Items that are used infrequently may be stored directly outside the immediate work area; obsolete jigs, molds, fixtures, scrap material, waste and other unused materials are discarded. Consideration is not given to whether you may use the item someday, if it is not needed it is thrown away.

This step results in a better allocation of valuable resources, as additional floor space becomes available once the unnecessary items are removed from the area. Furthermore, the process forces inspection of the items thereby recognizing the need to repair or elimination broken or obsolete equipment and tools.

Set in order, (seiton).

This vital step promotes efficiency by creating work areas that are neat, uncluttered and organized. It involves the organizing, arranging and effectively storing items. The questions indicative of this step are: 1.) What are the items needed to perform the task? 2.) Where should the items be located to facilitate retrieval and usage? 3.) What is the quantity of items which need to be readily accessible?

The founding principles are based on methodical storage of items. Each article has a predetermined location of which it remains there until use and is immediately returned to after use. Labeling and other identifying methods are part of this systemic organization process. Work areas, storage and finished goods areas, tools, equipment and files are all clearly labeled. Manuals and books are placed on bookcases for quick identification and access. Floors are painted so waste materials and dirt can be easily spotted. The goal is to reduce the amount of time searching for items as well as the amount of physical effort in retrieving items, especially those which are used frequently.

The resulting reduction in lost time spent on non-productive task, leads to an overall reduction in cost and greater output capacity.

Shine (seiso)

The first two steps have resulted in an uncluttered and organized work area. It is now time to thoroughly clean the entire area. This includes all work surfaces, storage areas, machines, tools and equipment. A clean, spot free environment aids in a visual awareness of equipment failures. Regular cleaning and inspection should be upheld on a daily basis to maintain results.

Both qualitative and quantitative results are experienced by this important step. Employee pride and moral are improved when they work in a clutter-free pleasant environment. The workers will be more apt to notice faulty equipment, oil and coolant leaks, contamination, changes in equipment vibration, breakage or misalignment, once debris and other unused materials have been removed and the surfaces have been cleaned.

When recognized at it beginning stages, machine failure can be immediately fixed preventing greater cost from occurring. Malfunctioning equipment causes work stoppages and adds to production cost, which affects bottom line profitability.

Standardize (Seiketsu)

Best practices developed are recognized and standardized. This is best-achieved buy including employees in the process. Standards are key to low cost production which is made evident by the success of companies like McDonald's, Southwest Airlines and UPS.

Proper implementation means old habits must be eliminated and replaced with new behavior patterns. This often requires some form of enforcement until they become habitual. Visual reminders ands other forms of communicating can be effective tools for enforcing new procedures. Posters, posted procedures and other daily reminders can be utilized to help employees adapt.

Sustain (shitsuke)

Maintaining the new system is vital; otherwise the cost and effort to develop the system will have been wasted. A formal system should be pout in place to consistently monitor the results to make sure the system is intact. Employee training and communicating the new standards should be done on a regular basis. A special program should be created for new hires to ensure they maintain the existing system.

Once implemented the 5s system should raise the bar to a new standard. However, it should not be expected that once implemented it would be maintained without continuous effort. A follow-up procedure is a key component to maintaining this level of excellence.

The Cost Of Implementing A 5s System

The complete system can be implementing without adding any on-going production cost. The amount required depends heavily on the current status of the facility. An initial investment in man-hours, training, storage units, labeling systems and cleaning products can be quickly recouped by increases in productivity, as wasted time looking for supplies, materials and tools is eliminated. The effect of a clean and organized work environment can provide companies with a competitive advantage and communicate a positive message to both employees and customers.

The 5s system is simple and obvious; however, many businesses have overlooked the benefits which can be gained through its implementation. As American companies are forced to compete on a global basis, embracing the 5 s system provides companies with an effective tool that cost very little to implement but has the power to reap large financial rewards.