

6S

“A **Systematic Method** of organizing your workplace to **enhance the Productivity**”

Objectives (What Can 6S Do?)

Improve Employee morale and safety

- Reduce Work Stress, Worry & Work Related Accidents

Improve Targets and Deliveries

- Reduce & Organize Inventory, Improve Productivity & Internal Conflicts

Opportunity to produce a Quality Product/Service

- Improve the Quality of Work and Delight Customers

Reduce Working Capital

- Reduce and Organize Inventory & Hidden Costs

Common Mind Sets

- It's an additional burden.
- Too busy to do 5S (Now 6S) activities
- Why clean it? It will get dirty again
- We cannot change the existing setup
- More work pressure - No time for these things
- Expensive - Why waste money
- We are comfortable - why to change
- It will take time

So what's good in it?

Before we answer....

The winning companies says....

- Work efficiency enhanced due to organized work place achieve remarkable cost reduction in constructively by 20%.
- Waste elimination, Cycle time reduction, Space Generation, Inventory reduction and space improved work ethics.

An easily identified place for everything, and everything in its place, clean, safe, and ready for use.

6S is a part of Lean Manufacturing which is a practice developed by the Japanese for waste reduction.

Many corporations worldwide use this practice today.

Why 6S ?

- Creates a more comfortable and safer work environment
- Change the mindset of employees and facilitate continuous improvement
- An organized workplace reduces wastes and lowers costs
- Promotes a higher quality of work and products
- Identifies problems more quickly
- Promotes stronger communication among staff
- Empowers employees to sustain their work area

What is 5S ?

5S is the name of a workplace organization method that uses a list of five Japanese words:

seiri, seiton, seiso, seiketsu, and shitsuke

The Five Primary Phrases translated into English all start with the letter “S”:

1. **Sort** (seiri)
2. **Straighten** (seiton)
3. **Shine** (seiso)
4. **Standardize** (seiketsu)
5. **Sustain** (shitsuke)

The additional “S”

1. **Safety** is added to give us our **6S**

SORT

When in doubt, move it out

STRAIGHTEN

A place for everything and everything in its place

SHINE

To clean and inspect

STANDARDIZE

Make up the rules and follow them (consistency)

SUSTAIN

Make it part of everyday life

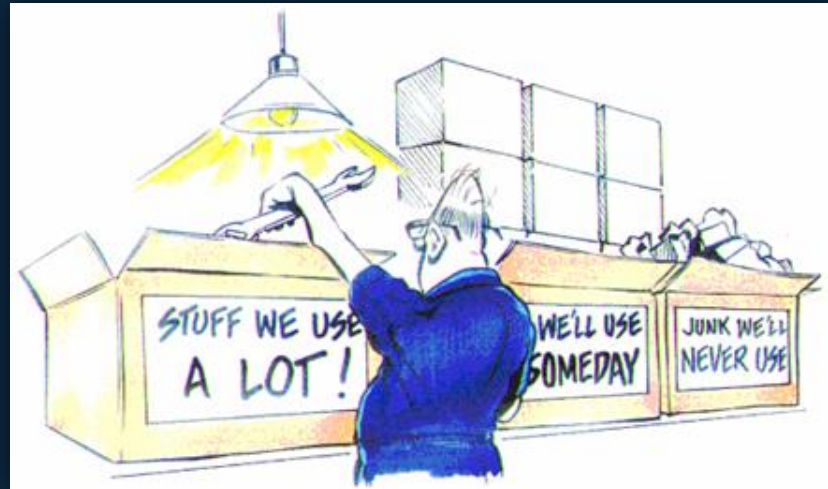
SAFETY

No job is so important that we cannot stop to do it safely

Sort (Seri)

- ❖ **Eliminates all unnecessary tools and parts**
- ❖ Keep only essential items
- ❖ Ensure that everything in workplace is related to work
- ❖ Keeping necessary things in easily and accessible places

(Example of Seiri or Sort out)



Explaining **SORT**

- The first thing to do is clear the clutter.
- Remove all items from the workplace that are not needed for current production (or clerical) operations.
- Leave only the essentials. “When in doubt, move it out.”
- Break the “just in case” mentality.

Ask 3 questions from your self

- *Is the item needed?*
- *Is the item needed in this quantity?*
- *Is the item needed at this location?*

Determine usefulness of location based on frequency of use.

Frequency of Use	Action
Never	Place in holding area
Seldom (once/year)	Store in a Remote Location
Infrequently (less than once/month)	Store at Facility
Once/week	Store in work area
Once/day or more	Store directly in work place

Once items are identified they need to be evaluated and dealt with:

- Relocate it
- Store it
- Keep it exactly where it is

OR

Dispose of it:

- Throw it out
- Sell it
- Return it
- Distribute it

*Keep a log of disposed items and the results.



Here are some unneeded items that tend to accumulate:

- Defective or excess quantities of small parts and inventory
- Outdated or broken parts and dies
- Worn-out bits
- Outdated or broken tools
- Old rags and other cleaning supplies
- Electrical equipment with broken cords
- Outdated posters, signs, notices, and memos

Here are some locations where unneeded items tend to accumulate:

- In rooms or areas not designated for any particular purpose (rooms that are not used often)
- In corners next to entrances or exits
- Along interior and exterior walls, next to partitions, behind equipment
- Under the eaves of warehouse
- Under desks and shelves and in desk and cabinet drawers
- On unused management and production scheduling boards
- In tool boxes that are not clearly sorted

Benefits

Reduces:

- Crowding of factory or workspace
- Time wasted searching for parts and tools
- Costs to maintain unneeded inventory and machinery
- Hidden problems due to excess stock on hand
- Difficulty in improving the process flow

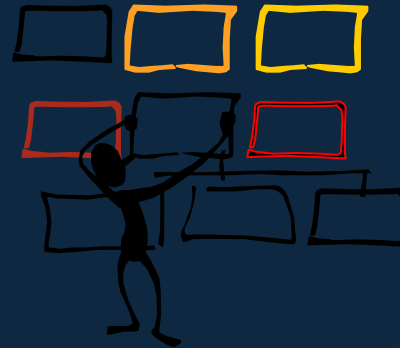
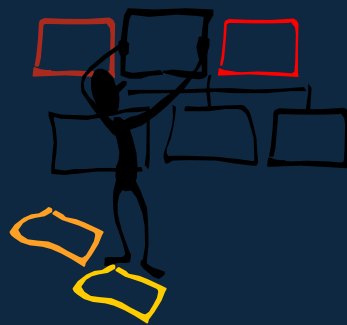
STRAIGHTEN (seiton)

Now that the area has been cleared of out of unnecessary items, it is time to find a “home” for the items that will remain.

STRAIGHTEN means to arrange needed items so that they are easy to use and label them so that anyone can find them and put them away.

“A place for everything and everything in its place!”

Note: Sort and Straighten work best if implemented together.



Straighten is the core of standardization.

Standardization means creating a consistent way that tasks and procedures are carried out.

- When we think standardization we should think “anyone”
- Applies to both machinery and operations

Principles of storage to eliminate waste:

- Locate items in the workplace according to their frequency of use
- Store items together if they are used together, and store them in sequence they are used
- Make storage places larger than the items stored there so that they are physically easy to remove and put back
- Get items off the floor and off the top shelves

Implementing Straighten

1. Decide on the best locations for supplies, parts, tools, dies, equipment, and machinery.
2. Identify the locations so that everyone will know what goes where, and how many of each item belong to each location.



“Make it Visual”

A Visual Workplace is an area where anyone can enter and in 5 minutes or less know who, what, when, where, how, and why of the work area without talking to anyone or opening a book or turning on a computer.

Use visual control to help Straighten

A visual control is any communication device used in the work environment that tells at a glance how work should be done

Example:

- where items belong & how many
- standard procedure's and WI's
- in process status

Key Point: Visual controls help to detect abnormalities immediately!

Some techniques for visual identification include:

- Floor markings
- Signs
- Color coding
- Outlining
- Shadow boards (tool cutouts)
- Limit lines (min/max height or width)
- Modular shelving
- Arrows

Floor Marking Suggestions:

Area	Color Std.	
General Safety, Traffic Aisles	Yellow	
Cleaning Supplies	Green	
Trash	Brown	
Raw Materials, WIP	Blue	
Rework & Suspect Material	Red	
Work Tables & Fixtures	White	
Moveable Equipment	White/Black Stripe	
Caution, Danger, Hazard, Fire Protection	Yellow/Black Stripe	

Eliminates waste in production and clerical activities such as:

- Excessive searching and returning
- Unnecessary motion
- Human Energy (frustration of not finding items)
- Defects (e.g. wrong part used)
- Excess inventory
- Unsafe conditions

Shine (seiso)

We can define shine as keeping everything swept, clean and wiped.

Clean also means inspection. Inspect your own work area.

You cannot produce quality product in an unclean environment

Shine is the removal of dirt, grime, & dust from the workplace.

This includes the simplest of cleaning.

Purposes of Shine:

- Keep critical items in top condition, ready to be used at all times
- Keep the workplace clean, bright and safe so everyone will work happier and more efficiently

Shine also helps...

- Make defects more obvious
- Prevent injuries (slipping, unforeseen accidents etc.)
- Make machine maintenance easier (fewer breakdowns)
- Reduce contamination which can affect machines, parts, and people
- Keep things in top condition so they are ready to use when needed
- Increase morale by having a safe, bright, clean workplace

Steps to implement shine:

- 1) Determine cleaning tasks (what, where, when)
- 2) Determine who cleans
- 3) Determine when and how often to clean
- 4) Determine the method cleaning
- 5) Determine cleaning materials (can use Straighten)
- 6) Start cleaning

Standardize (seiketsu)

Create a consistent way that tasks and procedures are done - ***AND FOLLOW THEM!***

Set-up rules for the first 3 of the 6S's (SORT, STRAIGHTEN, SHINE) so they are properly maintained

Standards must be simple and easy to follow

People usually think 6S fails at Sustain, but it typically fails at enforcing the rules

The main purpose is to:

- Prevent setbacks or regressing in your efforts
 - Reduces 6S time by making it more effective and efficient
-
- Determine and continue best practices
 - Develop methods/procedures
-
- Make implementing the first 3S's a daily habit

Problems that arise when standardized cleanup is not well implemented:

- Conditions go back to their old undesirable levels even after a company wide 6S implementation campaign.
- At the end of the day, piles of unneeded items are left from the day's production and lie scattered around the production equipment.
- Tool storage sites become disorganized and must be put back in order at the end of the day.
- Debris constantly falls on the floor and must be swept up.
- Even after implementing Sort and Straighten, it does not take long to start accumulating more supplies than needed

Three steps for making the first 3S's a habit are:

Step 1) Decide who is responsible for which activities and assign them.

Step 2) Integrate the 3S activities into regular work duties.

Step 3) Perform periodic checks to see how well the 3S condition is being maintained.

- Develop written and visual standards for each of the 6S activities
- Develop standards for signs, signboards, and labels
- Use the standards to hi-light abnormalities
- Develop a checklist to ensure conformance
- Get everyone to think proactively

“How to keep it from getting dirty”

Production activities should automatically produce the 6S as part of their normal process

When a problem is re-occurring it is time to take the implementation of standardization to the next level:

PREVENTION

Preventive Orderliness:

- Make it difficult or impossible to put things in the wrong place
- Eliminate the need to return items
- Eliminate use of certain tools

Preventive Cleanliness:

- Prevent things from getting dirty in the first place
- Treat contamination problems at the source

Sustain (shitsuke)

Sustain means to make a habit of properly maintaining correct procedures (Discipline)

Discipline means to commit to maintaining a course of action even when outside forces will challenge the effort

Discipline is best taught by example

Here are some things that happen when sustain is

not well implemented:

- Unneeded items begin piling up as soon as implementation of Straighten is completed
- No matter how well planned Straighten implementation is, tools and fixtures, do not get returned to their designated places after use
- No matter how dirty equipment becomes, little or nothing is done to clean it
- Items are left protruding into the walkways, causing people to trip and get injured
- Dirty machines start to malfunction and produce defective parts
- Dark, dirty, disorganized workplaces lower workers' morale

Create conditions to promote discipline:

- AWARENESS and understanding of 6S
- You need to have or make enough TIME to perform 6S
- STRUCTURE to support how & when to 6S
- SUPPORT from management
- Rewards and Recognition
- Satisfaction, Fun, and Excitement

Management helps 6S become habit by:

- Educating employees about 6S concepts, tools, and techniques
- Creating teams for 6S implementation
- Allowing time for 6S implementation
- Providing resources for 6S, such as supplies
- Acknowledging and supporting 6S efforts
- Encouraging participation of all employees, listening to their ideas, and acting on them
- Promoting ongoing 6S efforts
- Tracking the progress of the improvements so that employees can see the fruits of their labor

Employees Sustain by:

- Continuing to learn about 6S implementation
- Helping to educate others about 6S
- Being enthusiastic and positive about 6S efforts
- Participating fully in 6S implementation efforts
- Developing the Teamwork attitude

SAFETY

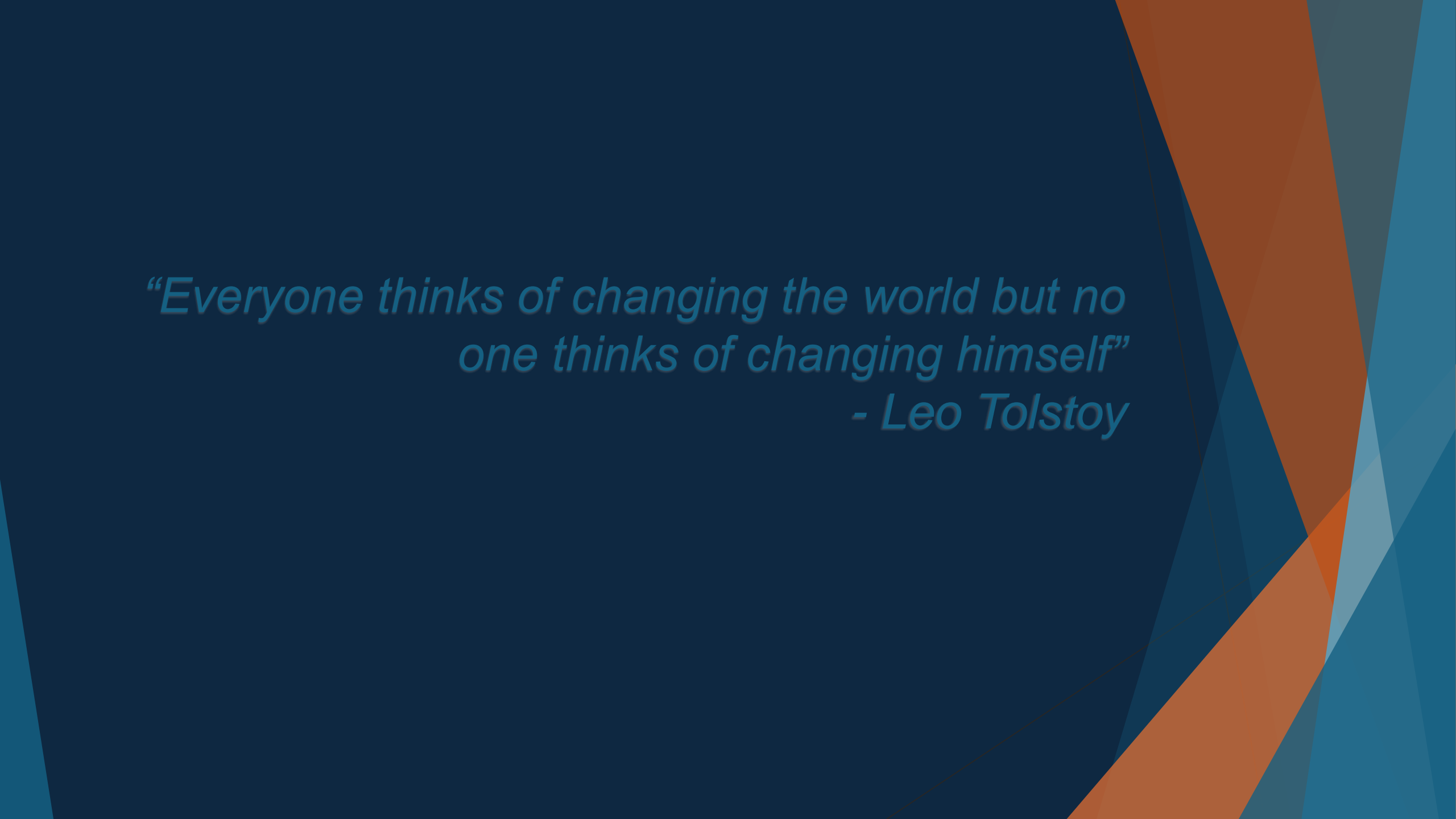
- Create a safe place to work
- Safety is priority #1
- Prevent accidents and injuries while enhancing safety consciousness
- Safety and quality go hand-in-hand
- Safety improves as the other S's are established

Tools and techniques to increase safety consciousness:

- Basic safety awareness training
- Hazard identification
- Understanding of policies and procedures
- Incident tracking, investigation and **elimination of root causes**
- Visual aides for safety equipment and protocols
- Machine guarding
- Conduct safety audits/evaluations

Typical safety concerns to consider:

- Lift & Carry weight - *what are the limits*
- Push/Pull weight - *what are the limits*
- Pinch points
- Trip & Stumble opportunities
- Competition for space
- Improper use of equipment, tools & fixtures
- Repetitive Motions
- Access and availability of safety / emergency equipment



*“Everyone thinks of changing the world but no
one thinks of changing himself”
- Leo Tolstoy*