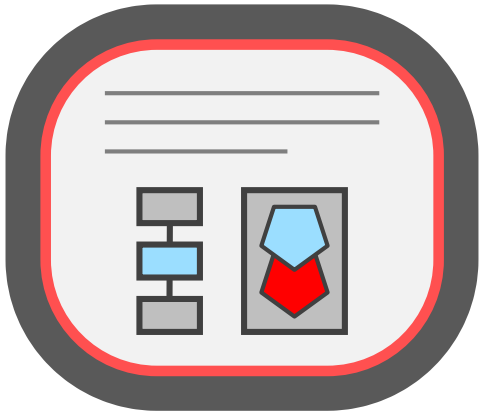
Continuous Improvement Toolkit

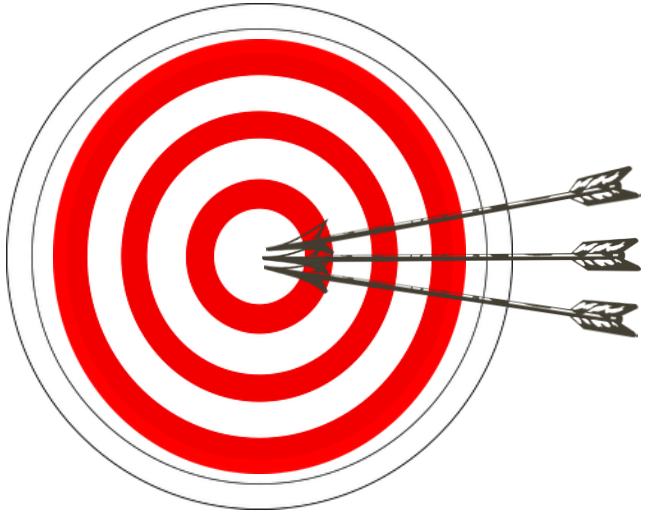
Standard Work



The Continuous Improvement Map

- Standard Work

- Working on standards to produce correct and consistent results.
- Represents the best sequence and the most efficient methods to perform a process.
- A way to achieve the highest possible degree of **consistency** in any process.



- Standard Work

- **The purpose is:**
  - To ensure that everything is done by everyone in a similar manner, and carry out the work that achieves:
    - The highest quality.
    - The best service.
    - The lowest cost possible.

- Standard Work

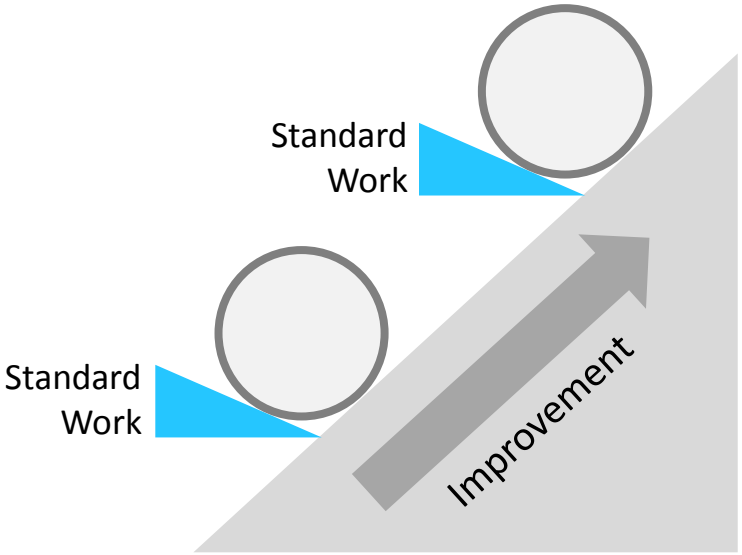
- It is one of the important elements of **lean thinking**.
- It is essential for lean to succeed.
- It is however one of the least used lean techniques.
- It is often neglected by many lean practitioners.
- Lean organizations rely on standard work in order to:
  - Allow just-in-time production and delivery.
  - Create a baseline for improvement.

- Standard Work

- Where there are no standards…

  … there can be no improvement.

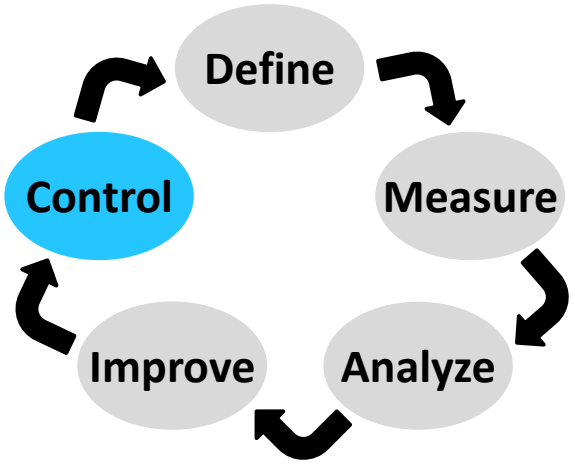
- Each time a standard is improved, it becomes the basis for future improvements.



- Standard Work

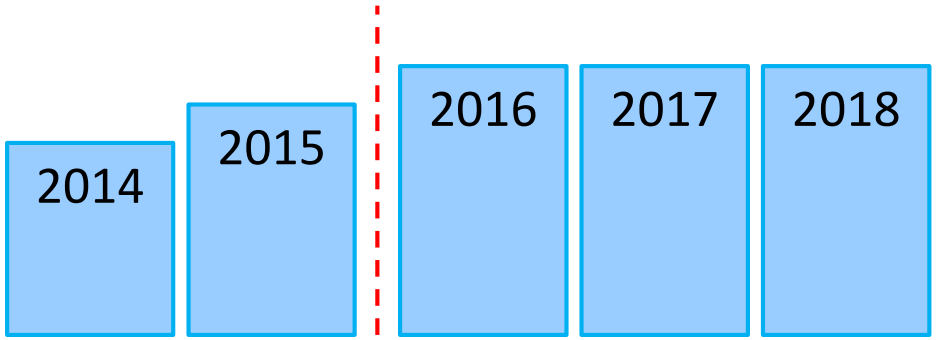
- Many times we come to a situation where a closed project is reopened.
- **This maybe because:**
  - The problem was not effectively dealt with.
  - **There were no actions taken to sustain the gains.**

Standard work Is key to management of sustainable change.

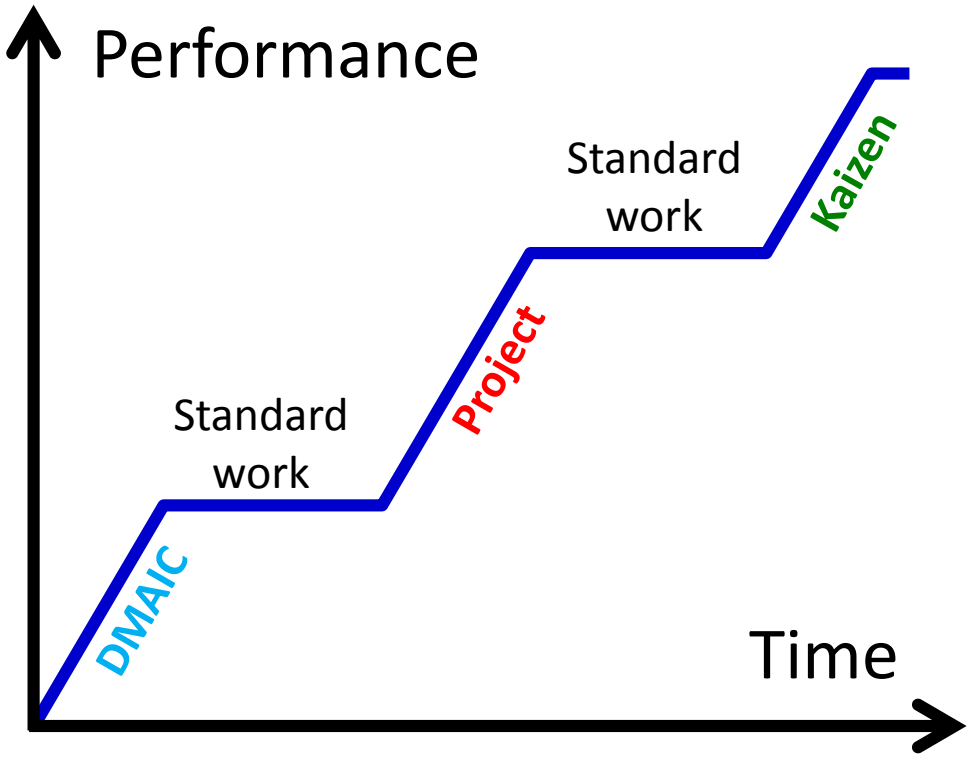


- Standard Work

- Standard work is an important part of any sustainable improvement effort.
- Standardization is a way of maintaining improvements achieved during improvement activities.
- Successful solutions must be standardized in order to remain effective over the long term.

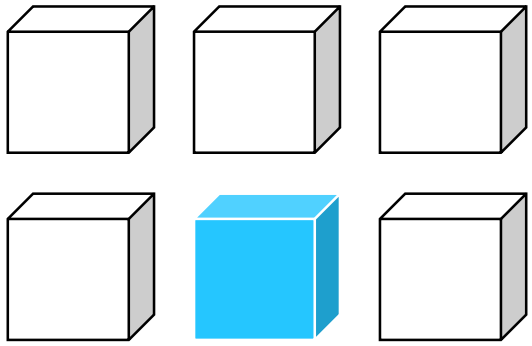


- Standard Work



- Standard Work

- Lack of standard work is a **source of variation**.
- Processes should be repeatable and predictable so that variability is kept to the minimum.
- With increased repetition and consistent steps, quality will occur on a reliable and predictable manner.



- Standard Work

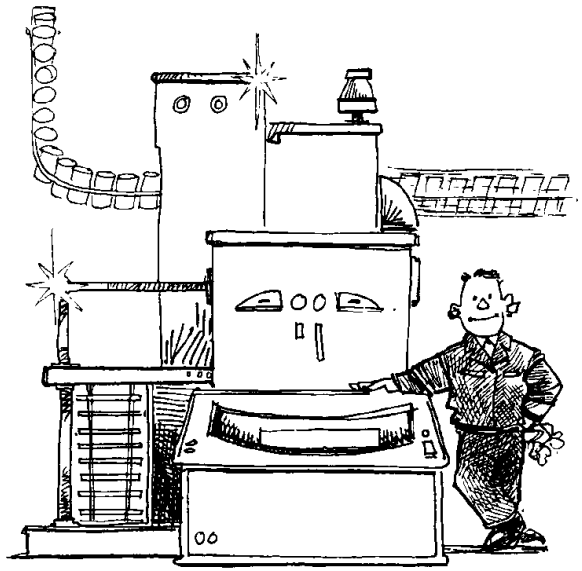
- Individuality maybe a good thing, but not when is comes to managing processes.
- This will cause inconsistent results and will lead to customer dissatisfaction.

- Standard Work

- Provides a method to document the process information.
- Considered a very useful **learning tool**.
  - New comers and workers on the job can use them to do their work more efficiently.
- An approach to document and share best practices at both local and global levels.

- Standard Work

- **Sharing Standard Work:**
  - Creates a safer working environment.
  - Clarifies roles and responsibilities.
  - Provides a basis for training new people.
  - Reduces task ambiguity.
  - Promotes problem solving and teamwork.
  - Creates baseline for continuous improvement.



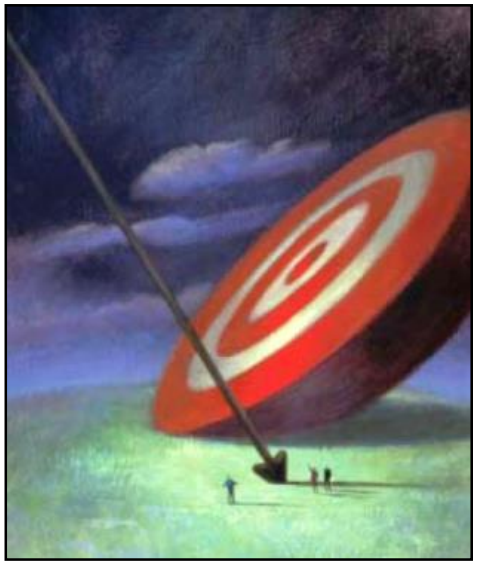
- Standard Work

- **By ensuring work is always done the same way:**
  - Operation will be smooth and repeatable.
  - Quality and productivity will be improved.
  - Safety will be ensured through repetitive and consistent steps.
  - Lead time will decrease.
  - Errors, rework and waste will be reduced.

All these will contributes in many ways to cost reduction

- Standard Work

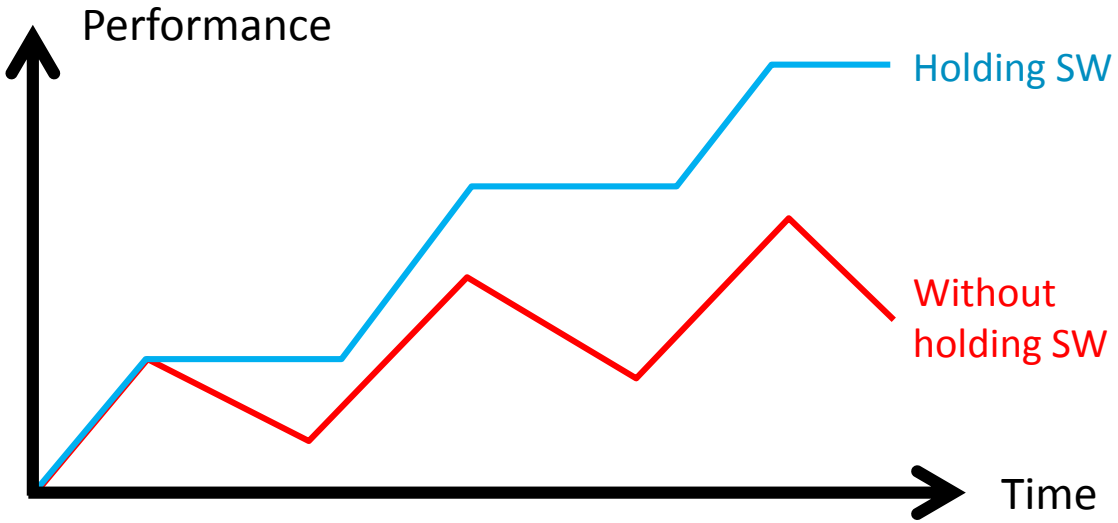
- **Without Standardization:**
  - Processes tend to degrade over time.
  - They will become more complex.
  - Tasks become less coordinated.
  - Performance will decrease.
  - Errors and wastes will increase.



- Standard Work

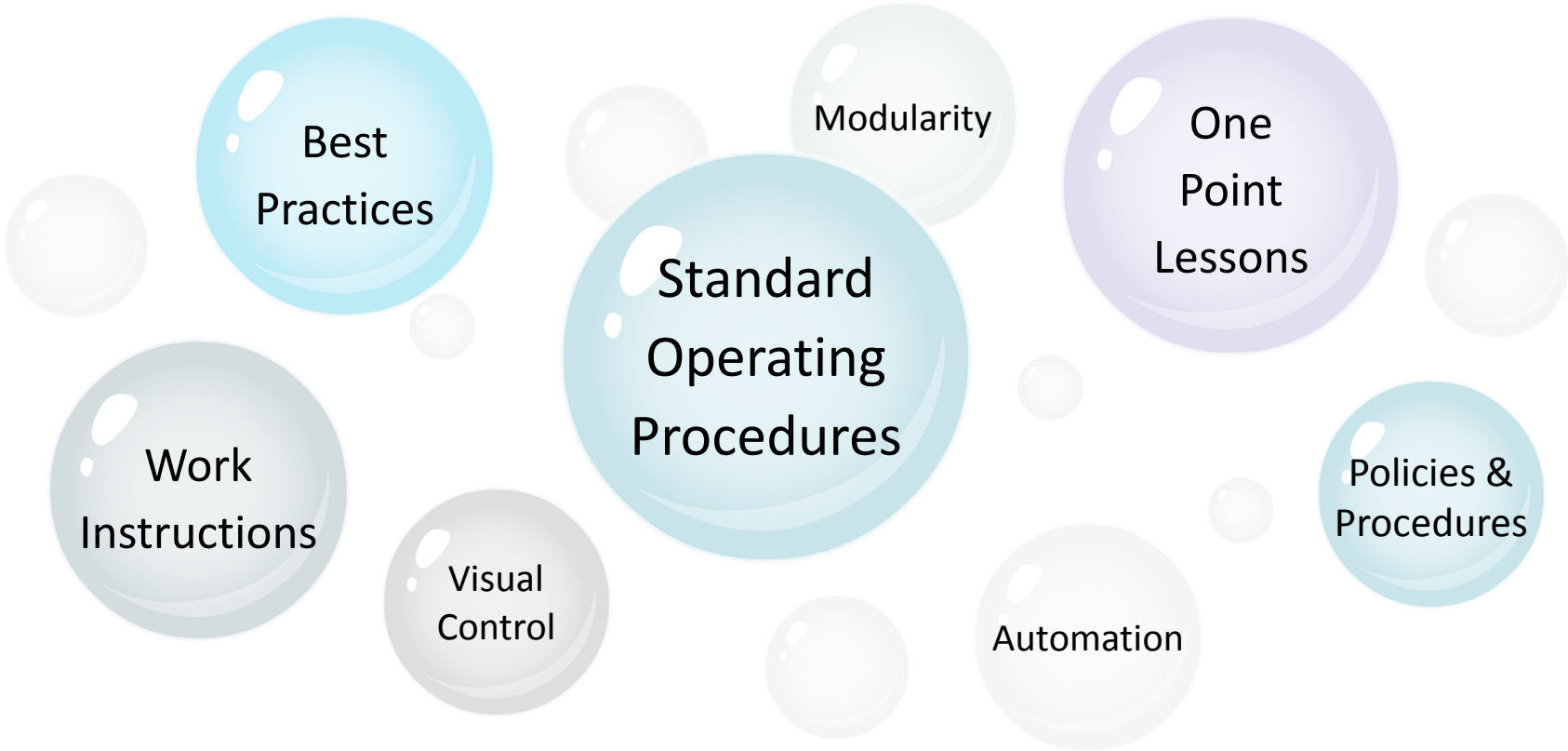
- **How will you know when standard work is present?**

- When things are clear, correct, concise, communicated, current, and complete.



- Standard Work

- Standard work is a combination of methods, tools and documents.



- Standard Work

Standard Operating Procedures:

- Standard work can be embedded in the company's operation through the use of **Standard Operating Procedures (SOPs)**.
- An SOP is a document that describes the best way to execute a process and its activities.
- Developing and implementing SOPs enable standard work to be effective.
- It helps communicate standard work to those working in the process.

- Standard Work

Standard Operating Procedures:

- **It represents the:**
  - **What** will be done.
  - **How** it will be done.
  - **Who** will be responsible for making sure it gets done.

- Standard Work

Standard Operating Procedures:

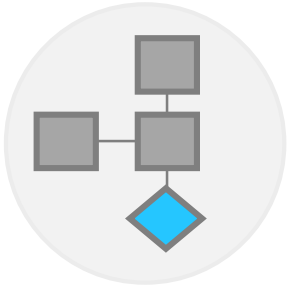
- SOPs are often used in improvement projects to document the project solution in order to sustain improvements made.

- Standard Work

Standard Operating Procedures:

- **May contain:**
  - Written instructions.
  - Drawings.
  - Flowcharts.
  - Photographs.
  - Checklists
  - Any other information needed to clearly communicate the standard.

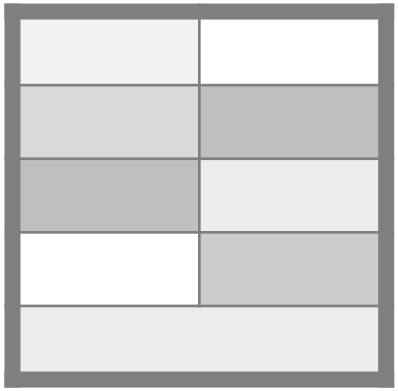


- Standard Work

Standard Operating Procedures:

- **May include:**
  - The description and scope of the work.
  - The work sequence involved in which activities are completed.
  - Why things are done in a certain way.
  - The optimal amount of time needed for each activity.
  - The rate at which products must be produced to meet demand.
  - Responsibilities and work distribution.
  - Key points related to safety and quality.
  - The materials, equipment and tools needed to complete the work.
  - A revision control system.



- Standard Work

Standard Operating Procedures:

Title:	Process:
Objective:	Scope:
Definitions:	Responsibilities:
Safety issues:	Related docs.:
Procedure:	

- Standard Work

Standard Operating Procedures - **Example:**

Label Changeover (Machine: 6 colors Decorator Rutherford)

Benchmarks (label changeover time): **Division**: 18.7 minutes **Plant**: 31.5 minutes

Pre-Checks:

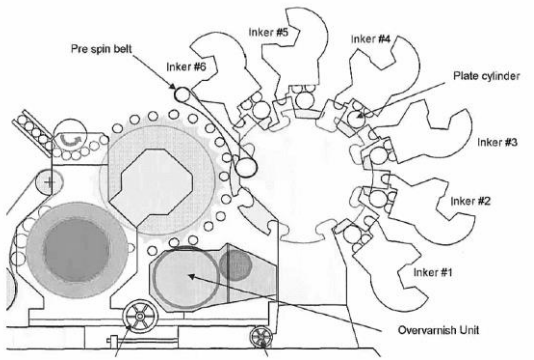
- Are magnetic cylinders prepared and in good condition?
- Are the blankets checked and prepared?
- Are the plates ready and checked?
- Are the solvent buckets in place?
- Are the inks buckets ready?
- Are the scrap bins empty and ready?
- Are team members ready and in proper position?

Team Roles:

- **Group leader:** review pre-checklist, coordinate, monitor and check samples.
- **2nd man:** clean fountains, remove the old cylinders, apply new inks and put the new cylinders.
- **3rd man:** clean inkers, stop and run the machine, change the plates and blankets, and apply solvent.

Procedure:

- Get design requirement.
- Stand-up meeting and review pre-checklist.
- Stop the line.
- Clear the line.
- Apply label changeover as per instructions.
- Registration and color adjustment.
- Run the line.
- Prepare the label changeover report.

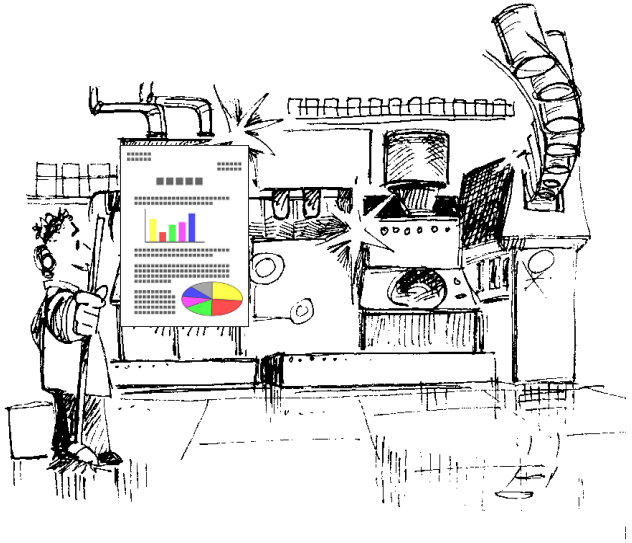


- Standard Work

- Standard work documents should be **created by consensus** of those who actually do that work.
- People support what they help to create.

- Standard Work

- SOPs are used as a reference to those working in the process.
- Should be posted in the **place where the work is being done**.
- Ensure they are clearly visible and easily accessible.
- This will promotes consistency and accuracy.

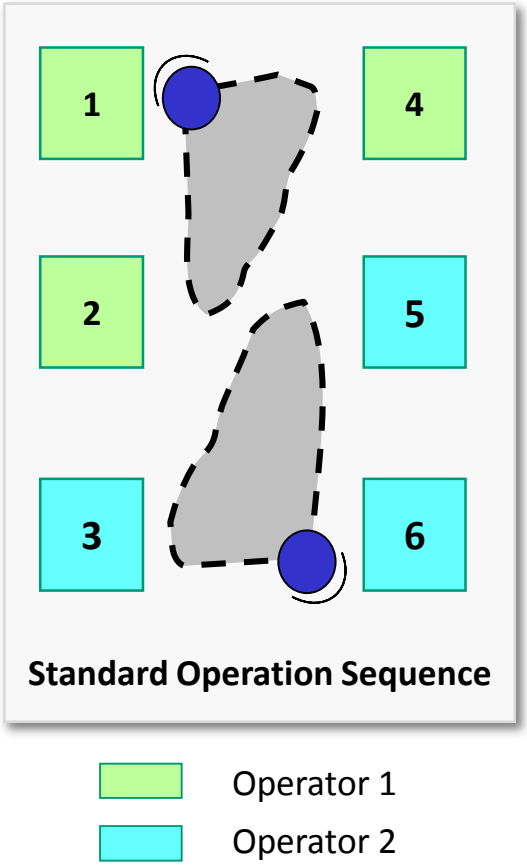


- Standard Work

- **Visuals are used to:**
  - Demonstrate difficult concepts.
  - Reinforce standard work.

- You should ensure that visual design and color standards are being applied consistently throughout the workplace.

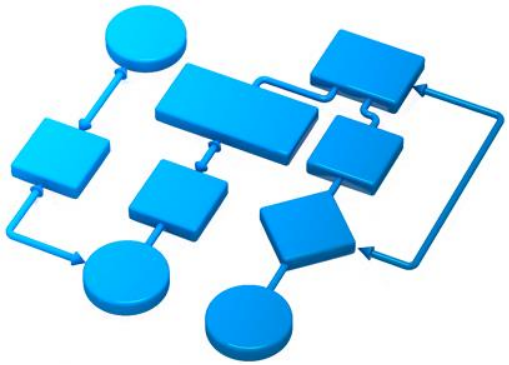
Use visuals wherever possible



- Standard Work

Developing and Implementing SOPs:

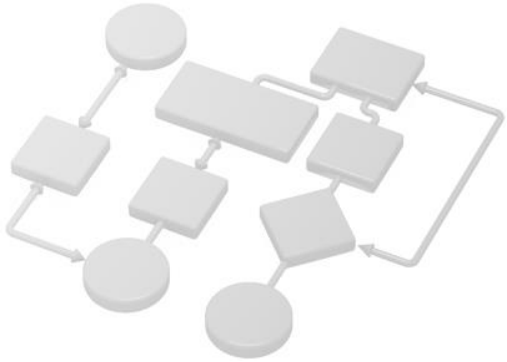
- With your team, clearly describe the purpose for writing the SOP:
  - Lean deployment, training, document project solution, etc.
- Understand the existing system for standard work.
- Get permission to conduct Gemba walks and talk to the people there.
- Prepare the documents to collect the desired information.
  - E.g. checklists, flowcharts, etc.
- Collect data, observe actual practices, interview and ask questions.
- Analyze the current process and identify opportunities for improvement.



- Standard Work

Developing and Implementing SOPs:

- Write the SOP in a simple and visual way.
- Test and review the draft SOP with the process performers.
- Approve the SOP.
- Post it in the workplace.
- Train or re-train everyone as necessary to follow it exactly.
- Monitor for effectiveness and compliance.



- Standard Work

What If You Want To Create a System of SOPs:

- Evaluate the availability of SOP's in every functions.
- For each process, start with SIPOC and process maps.
- Update current SOP's to single-page documents when possible.
- Create the missing SOP's.
- Build an easy accessible SOP database.

- Standard Work

A Good Standard Work:

- Is simple and concise.
- Is clear and contains minimal distractions.
- Uses a **language** people can understand.
- Conveys important information at a glance.
- Includes **pictures** and visually appealing.
- Displays **real-time** information.
- Should be displayed at the **place** where the work is done.
- Explains **why** rules must be followed and the consequences of not following them.

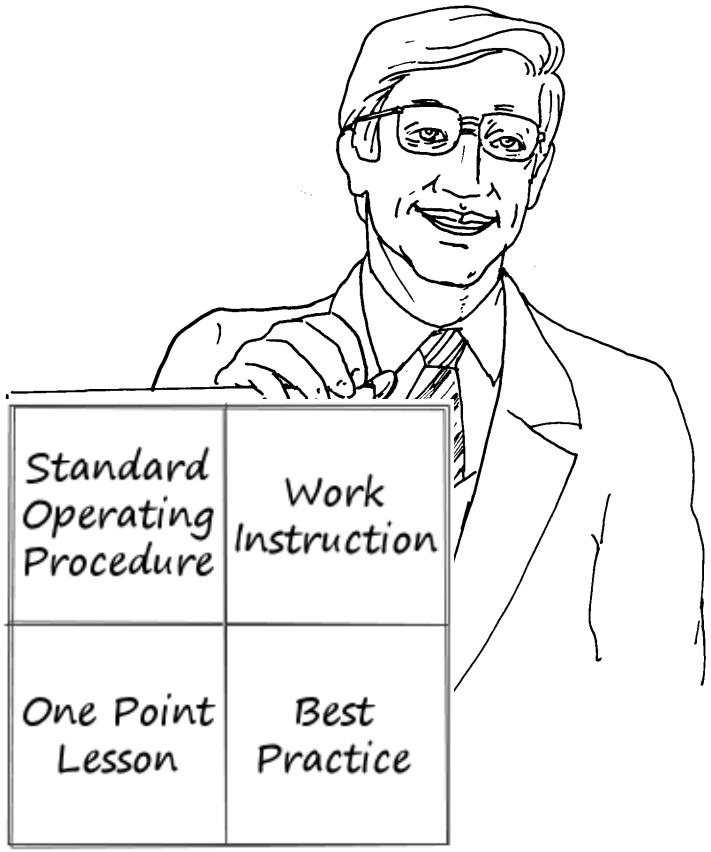
- Standard Work

A Good Standard Work:

- **Involves** process performers when developed.
- Is **owned** by process performers.
- Indicates **responsibilities** and authorities.
- Indicates legal and **auditing** obligations.
- Indicates key points related to **quality** and **safety**.
- Is **linked** to other relevant standard work documents as necessary.
- Describes how to prevent process **variation**.
- Encourages to **report** deviations from standards.
- Is **monitored** to check if they are followed.

- Standard Work

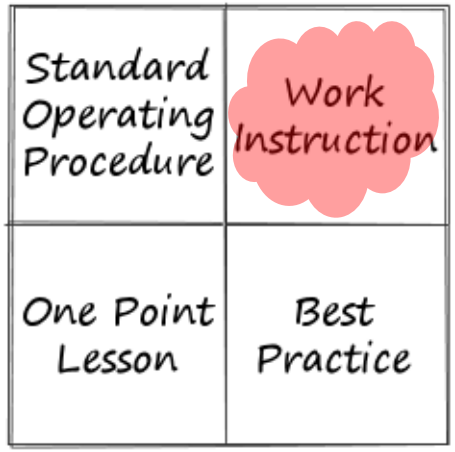
Other Documents Related to Standard Work:



- Standard Work

Work Instruction:

- Provides specific details on how to do a **low-level activity**.
- A step-by-step instructions for the accomplishment of an activity by one person.
- Job activities are best performed by creating some form of procedure or work instruction.



- Standard Work

One Point Lesson:

- Focuses only on **ONE point**.
- Used when an important message need to be communicated and understood, such as:
  - A new standard or work method.
  - A revised standard or work method.
  - An important instruction in a work instruction.
  - A quality guideline or safety warning.

- Standard Work

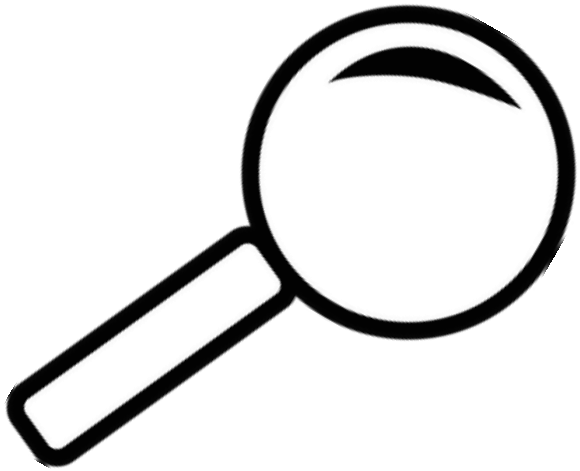
Best Practice:

- That practice that has been proven to achieve the best results.
- It represents creative solutions to common problems.
- It has the potential to be replicated internally and externally.

- Standard Work

Auditing:

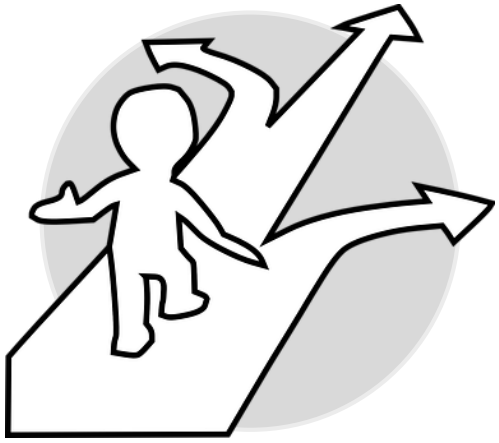
- Audit to check understanding, training and conformance.
- Should be a part of Gemba walks.
- Ensure old versions are withdrawn and new versions are embedded.



- Standard Work

Further Information:

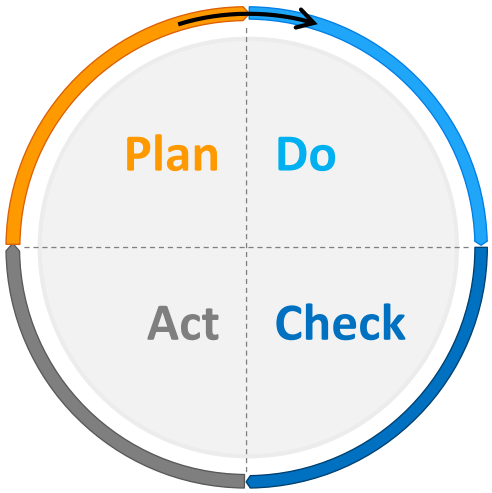
- There is no point standardizing a process into systems and procedures that do not currently work.
- **Standard work should not be everywhere, key areas to have them are:**
  - Critical processes.
  - High frequency processes.
  - Complex processes.
  - Improved processes.
  - Rare processes where there is a risk to loss experience.



- Standard Work

Further Information:

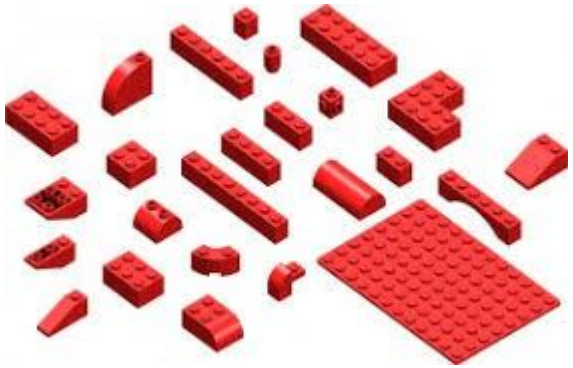
- Standard work should never be considered final work.
- It should be changed when a **PDCA cycle** reveals an opportunity for improvement.
- Once a proposed change has been tested and proven to result in a better outcome than the current standard…
  - The standard work documentation should be updated to include the improvement.
  - People should be retrained.



- Standard Work

Further Information:

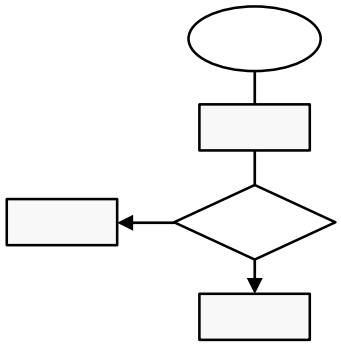
- In manufacturing, standardizing of components is called **modularity**.
- It is the use of exchangeable parts or options in the fabrication and assembly of an object.
- For example, a factory producing **10** different products from **1000** different components may redesign the production lines so they use only **100** components.



- Standard Work

Further Information:

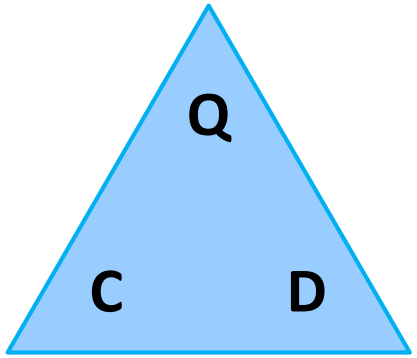
- Applying standard work to **office and service processes** will maintain and even improve customer service and satisfaction.
- The output of the process becomes more consistent (e.g. order processing and delivery).

Process: Order processing			
Activity	**Time**	**Key points**	**Flowchart**
Enter the customer information	1-1.5 minutes	Create a new customer if not exist (5-8 minutes)	
Enter order information	1-2 minutes	All starred field must be filled	
Retrieve items from stock	2-5 minutes	Load the heavy items into the customer's car	
Print out the invoice and hand it to the customer	0.5-1.5 minutes		
Total time: 4.5 – 10 minutes (8.5 – 16.5 for new customers)			

- Standard Work

Further Information:

- **Common Non-Standard Conditions:**
  - Failure to perform the activity.
  - Failure to perform the activity as per standards and specifications.
  - Failure to perform an activity at a required point in time.
  - Taking longer to perform an activity than it should.
  - Performing the activity in a way that will have a negative impact on a downstream process.
  - Failure to follow the correct sequence.
  - Consuming more resources than planned.



- Standard Work

Further Information – Standardized Work:

- **Standardized work** is an approach that is based around human motion.
- It aims at creating the most effective sequence of job activities minimizing waste to achieve the most efficient level of production.
- It is not just about creating and adhering to a standard work instruction nor it is simply documenting change in the form of work instructions or other regulatory standards.
- It is about analyzing the work and making waste visible.
- It has a very specific set of criteria that should be met before it is applied.