

Continuous Improvement Toolkit

Standard Work and SOPs



The Continuous Improvement Map



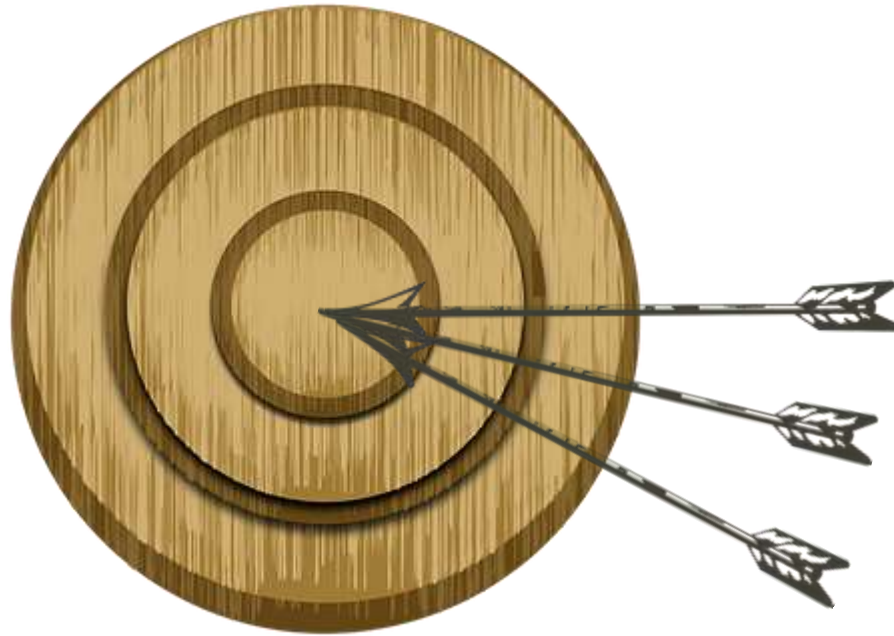
Standard Work and SOPs

Standard work means **working on standards** to produce correct and consistent results



Standard Work and SOPs

It is considered a way to achieve the highest possible degree of **consistency and reliability** in any process



Standard Work and SOPs

It aims to ensure that everything is done by everyone in the **same way** and in the **best possible way**



Standard Work and SOPs

Standard work is one of the important elements of **Lean thinking** and is essential for Lean to be successful

LEAN



It is however one of the least used lean techniques and is often **neglected** by many lean practitioners

Standard Work and SOPs

Lean organizations rely on standard work in order to promote **just-in-time** production and delivery



And to create a **baseline** from which they can improve

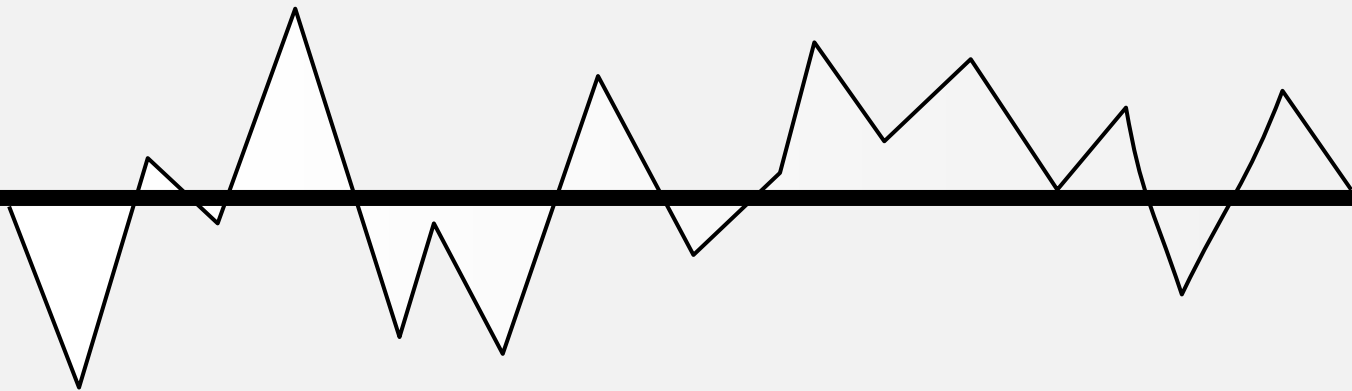
Standard Work and SOPs

Standard work is key to continually improving business processes and an important part of any **sustainable** change effort



Standard Work and SOPs

Standardized processes provide more consistent results as the chances for **variation** will be reduced since the activities are always done in the same way



Lack of standard work will increase the variability of any process

Standard Work and SOPs

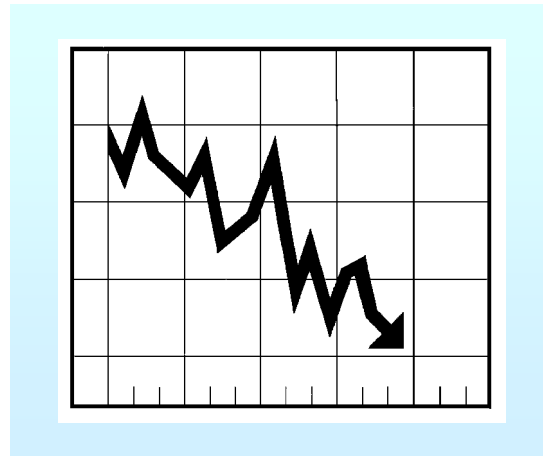


**25% of all
errors made
are caused by
poor standards**

Source: Gemba Kaizen by Masaaki Imai

Standard Work and SOPs

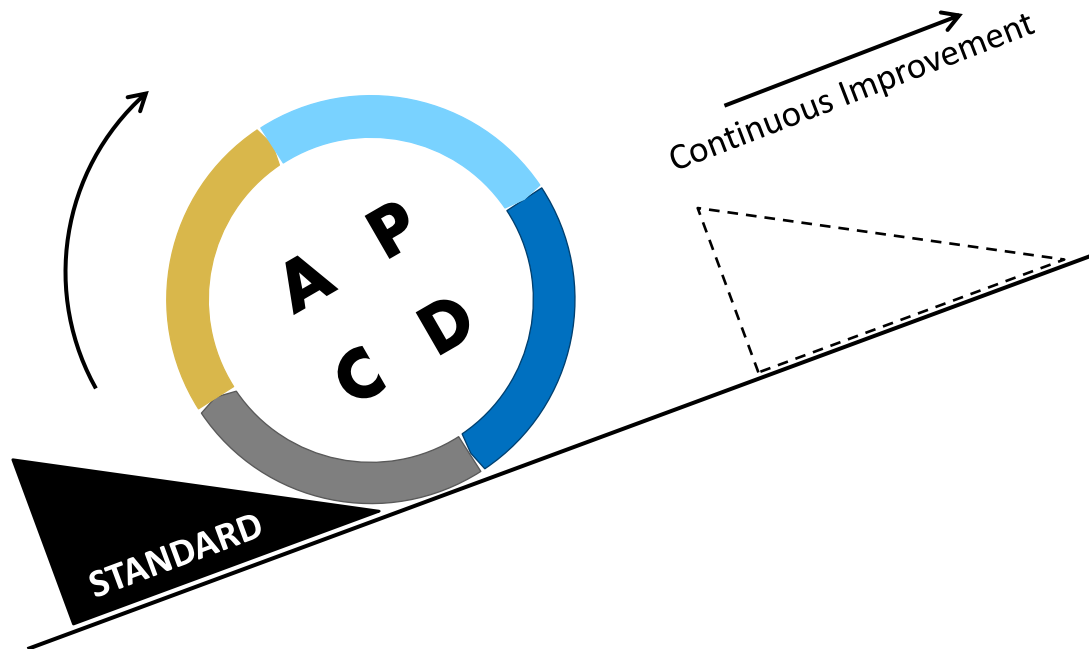
Remember that a problem is a **deviation** from a standard or expectation



Therefore, standard work is about seeing problems and making waste visible to drive continuous improvement

Standard Work and SOPs

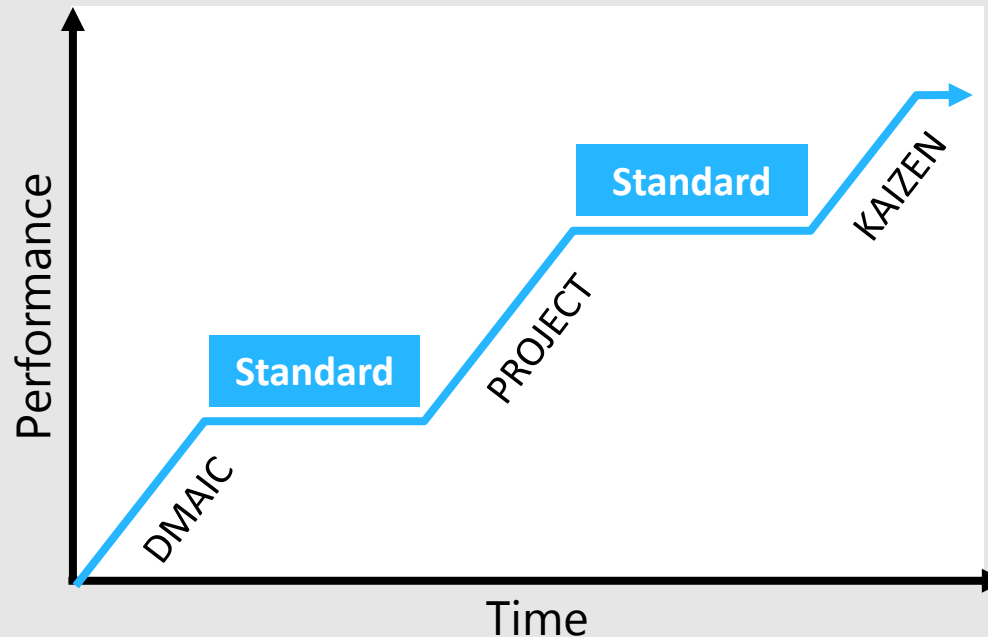
Where there are no standards, there can be **no improvement**



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

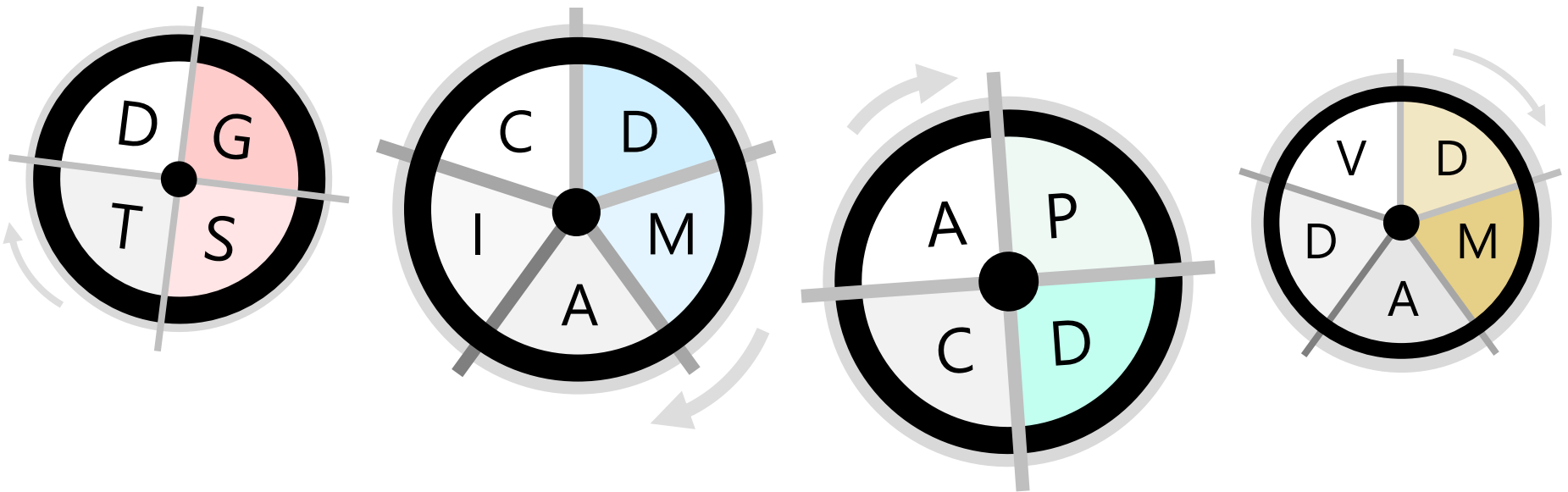
Standard Work and SOPs

Standard work provides a way of **maintaining** improvements achieved during improvement activities



Standard Work and SOPs

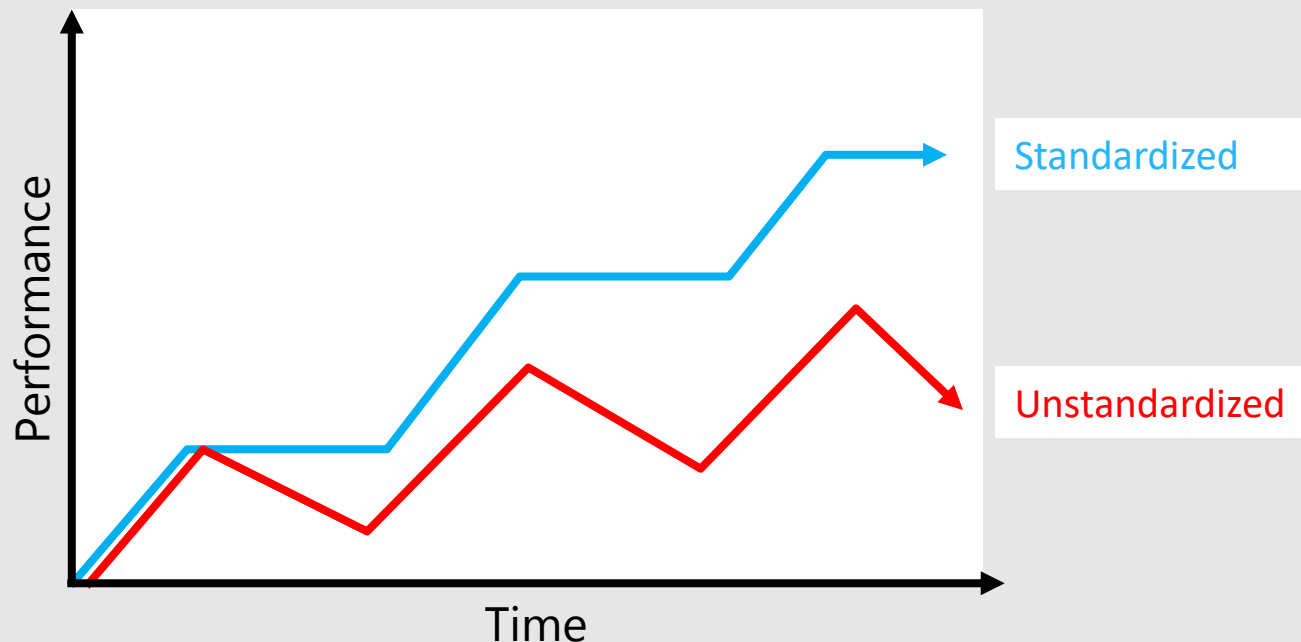
Many times, we face a situation where a **closed project** needs to be opened again



This indicates that the problem was not effectively dealt with or there were no actions taken to sustain the gains

Standard Work and SOPs

Successful solutions must be **standardized** in order to remain effective over the long term



Standard Work and SOPs

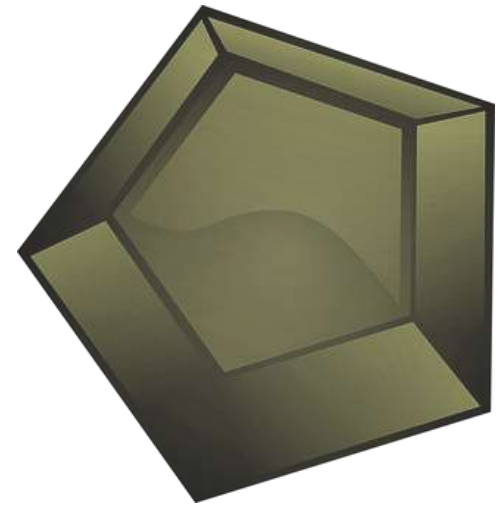
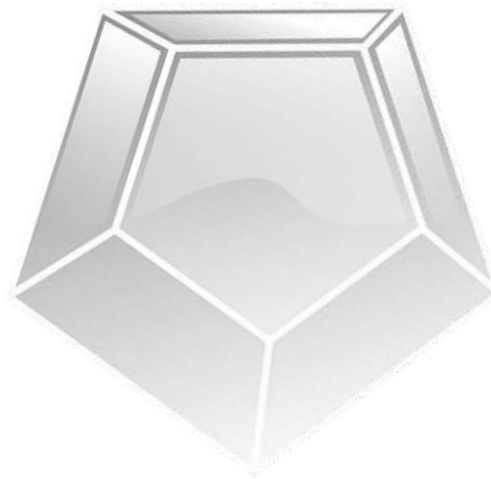
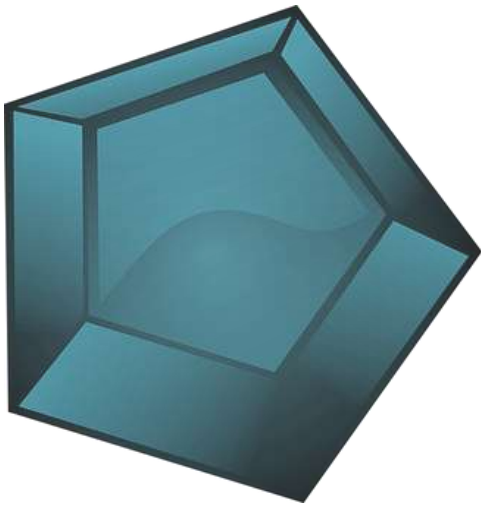
When different people are doing the same work, they usually create their own ways of getting the work done



This usually ends up with inconsistent and variable results

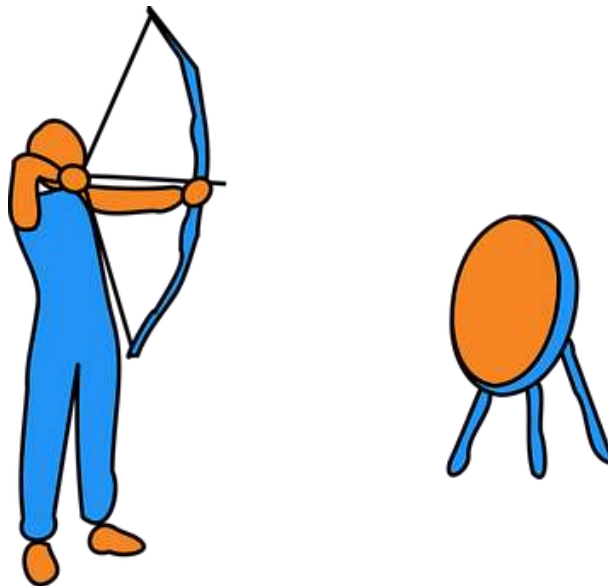
Standard Work and SOPs

Individuality maybe a good thing, but not when it comes to **managing processes** as this will cause inconsistent results and will lead to customer dissatisfaction



Standard Work and SOPs

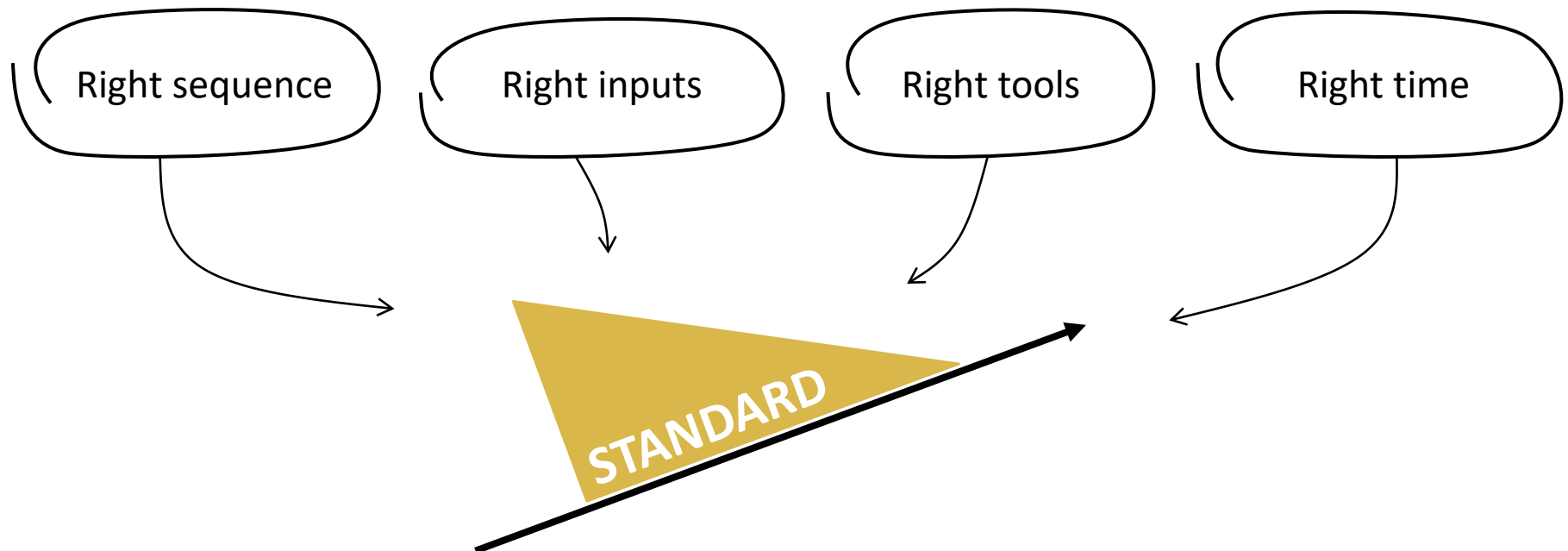
Standard work is an approach that is based around **human motion**



It considers the actions performed by humans, systems or the combination of both to create **value-added work**

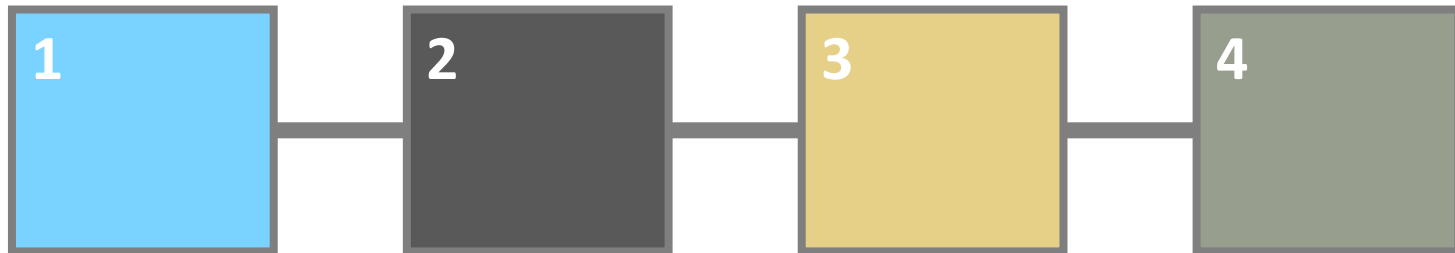
Standard Work and SOPs

The **aim** is to create the most effective sequence of activities and minimize delays and other forms of waste to increase efficiency and productivity



Standard Work and SOPs

It always tries to represent the **best sequence** and the most efficient way to perform a process or work



It is important to identify the right process steps and their right sequence and time frames before the implementation of standard work

Standard Work and SOPs

Standard work **documentation** may include . . .

Written
instructions

Drawings and
illustrations

Photos

Diagrams and
charts

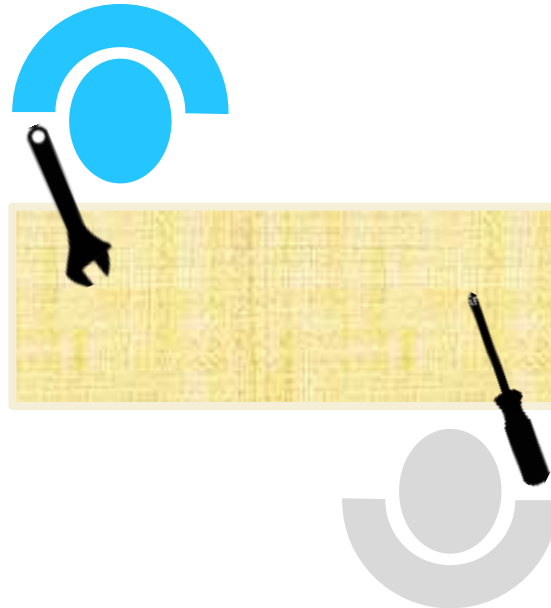
Videos

Check sheets
and schedules

Or any other suitable method needed to clearly communicate the standards

Standard Work and SOPs

Visual standard work promotes **visual management** and is considered a great way to clarify and communicate the standards to everyone



Standard Work and SOPs

It improves the **detection** of errors and abnormalities



Good Bottle



Body Dent



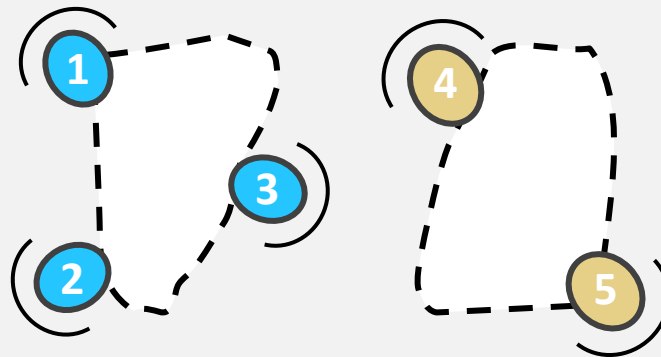
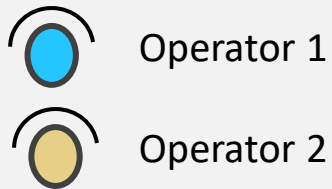
Neck Scratch

Good and defective visuals will enable more consistent inspection decisions

Standard Work and SOPs

It helps demonstrating **difficult concepts** and organizing information

STANDARD OPERATION SEQUENCE



DESCRIPTION OF OPERATION STEPS

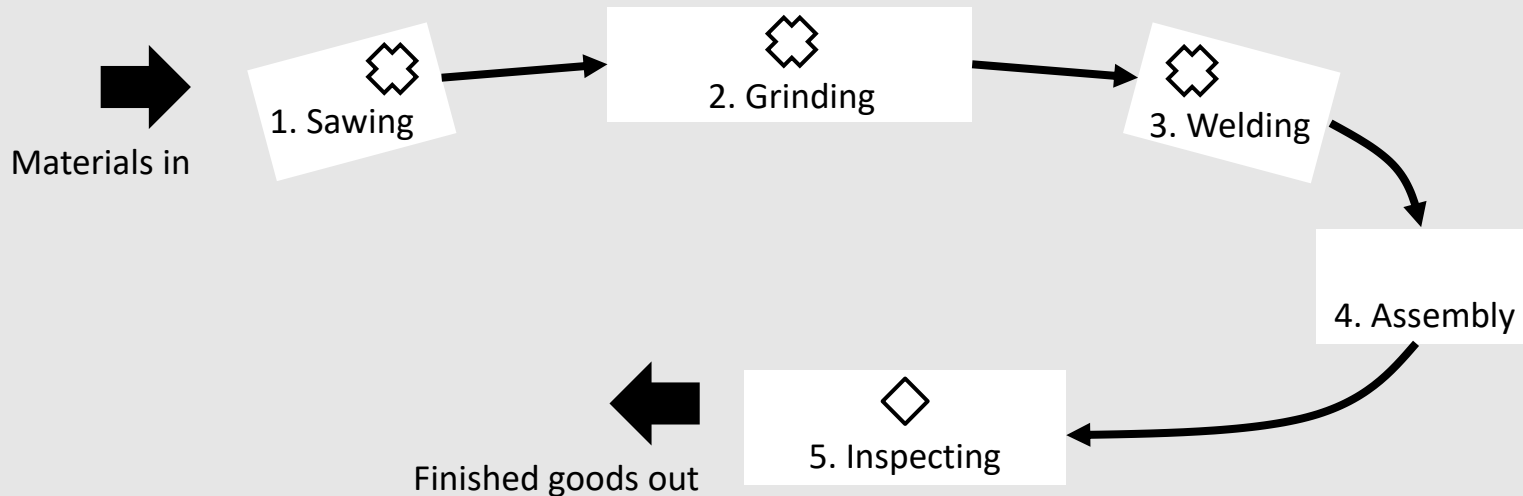
- 1.
- 2.
- 3.
- 4.
- 5.

Process step can be illustrated with photos and graphs which will attract people to read and act on them easily

Standard Work and SOPs

Standard Work Chart

Area / Line:	Product / Part:	From:	To:
Prepared by:	Preparation date:	Page 1 / 1	



Quality check	Safety precaution	Standard WIP	Required output	Takt time	Cycle time	Available time
◇	✕	●				

Standard Work and SOPs

Standard work is also considered a very useful **training tool**



It provides a basis for training existing and new personnel on the job

Standard Work and SOPs

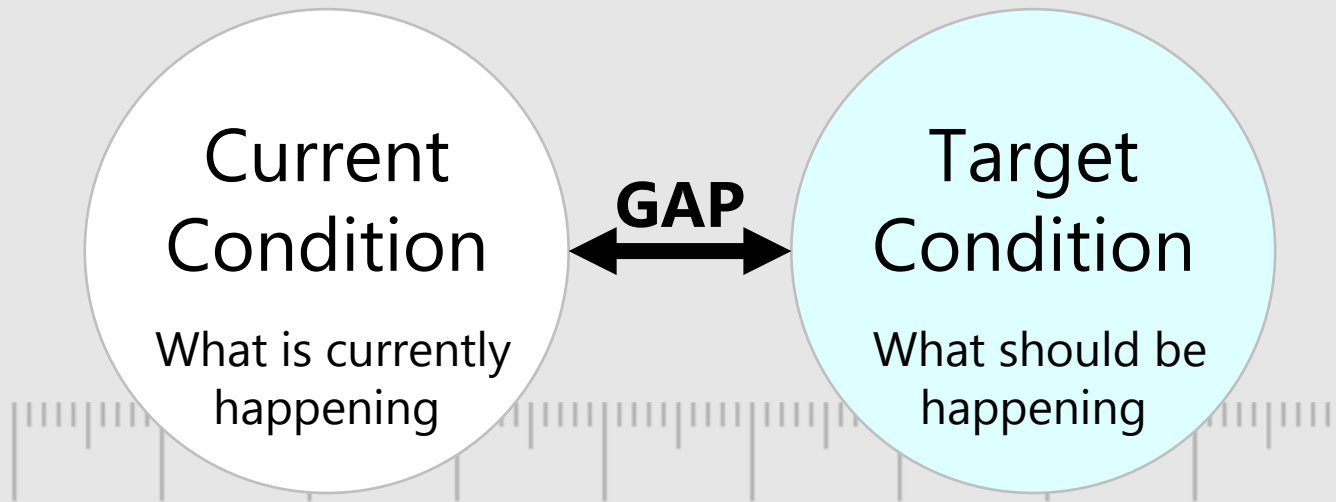
It should be documented at the lowest possible level



Ensure that training plans and records are linked to the standard work

Standard Work and SOPs

Standards give us some point of comparison



We can compare what is happening with what should be happening

Standard Work and SOPs

Standard work also considered an important **resource** for . .

Audit and
assessment



Preventive
actions



Preserving the
know-how and
expertise

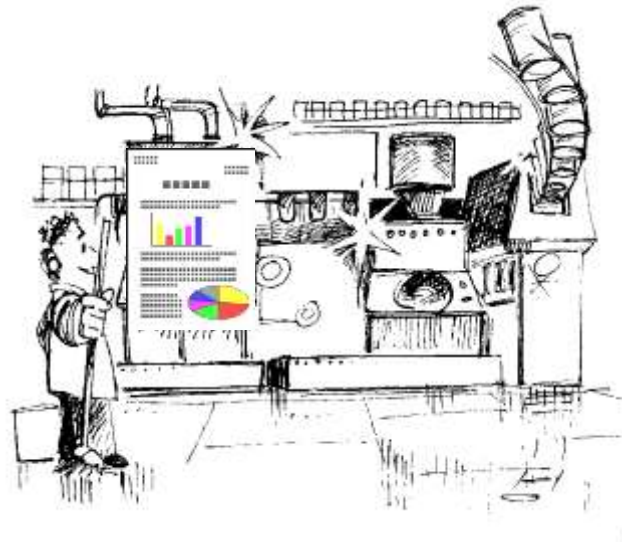


Measuring
performance



Standard Work and SOPs

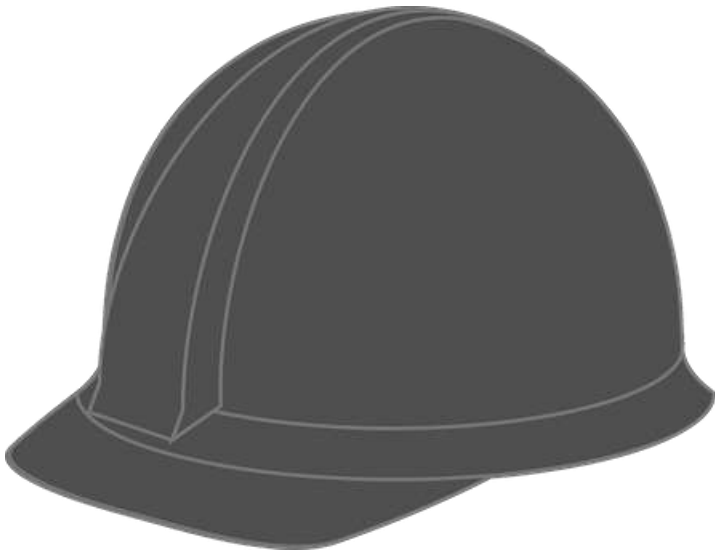
Ideally, standard work documentation should be created by those who **do that work**



People are much more likely to accept and use the standards if they help in creating it and if they feel a sense of ownership in it

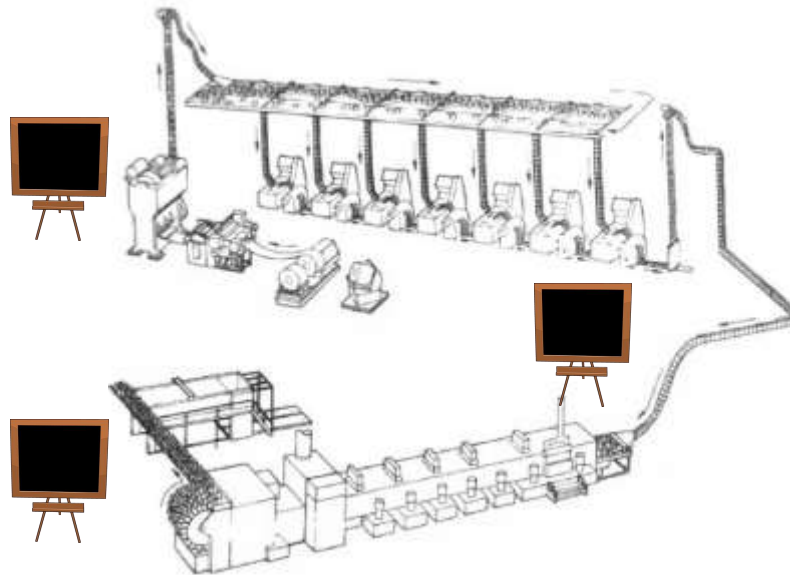
Standard Work and SOPs

Other stakeholders may be involved including subject matter experts and engineers



Standard Work and SOPs

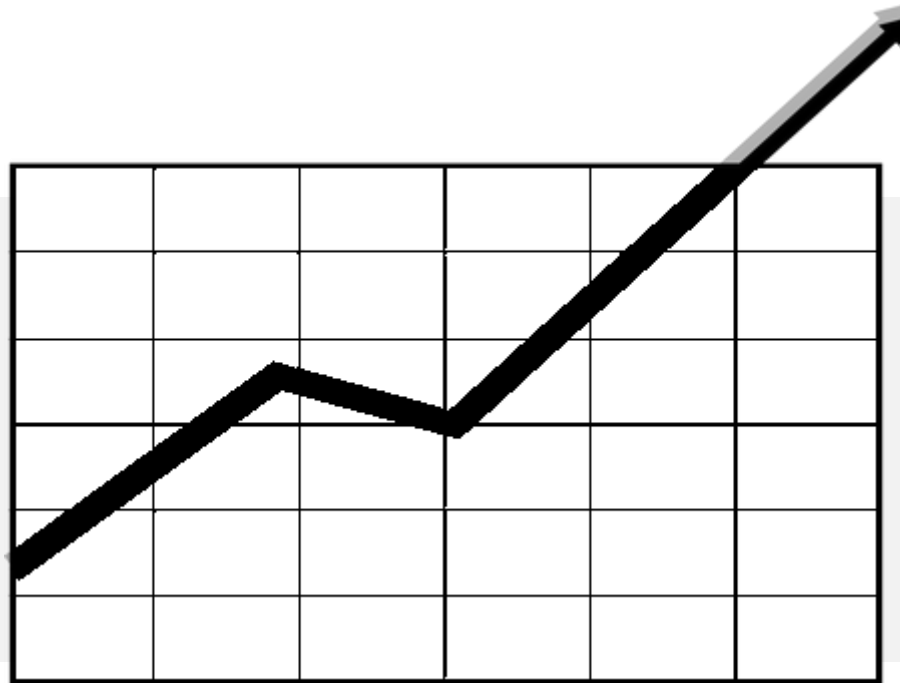
Standard work documentation should be **distributed** at the place where the work is being done



They should be **visible** and **easily accessible** to everyone involved in the process

Standard Work and SOPs

By ensuring work is always done the same way, quality will be achieved in a more reliable and **predictable manner**



Standard Work and SOPs

01

Creates a competitive advantage by ensuring quality of products and services, on time delivery and cost efficiency

02

Represents the best, easiest, and safest way to do a job

03

Clarifies roles and responsibilities

BENEFITS

04

Promotes problem solving by providing a mean for tracing problems

05

Provides an approach to document and share best practices at both local and global levels

06

Reduces errors and inconsistency and enhances process flow

07

Improves process uniformity to provide a more consistent product or services to customers

08

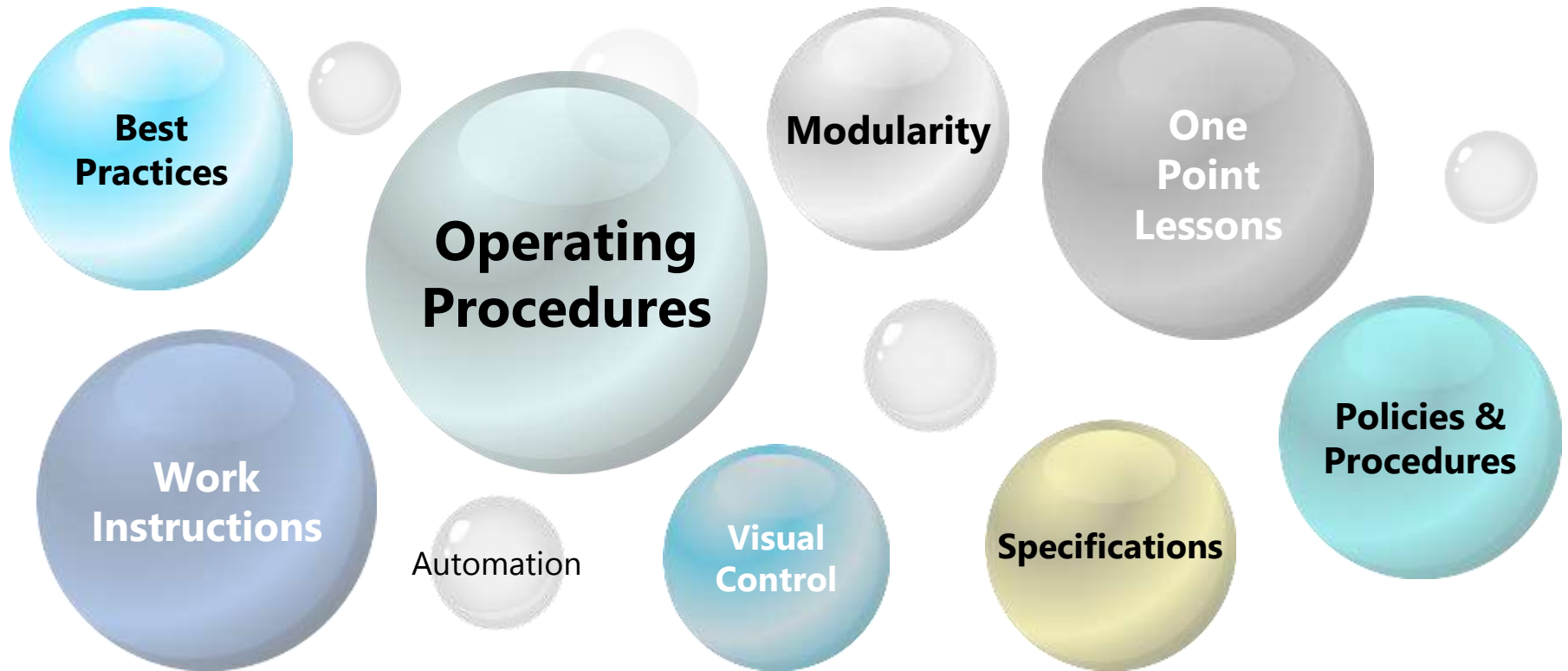
Provides a baseline for evaluating processes

09

Creates a safer working environment through repetitive and consistent steps

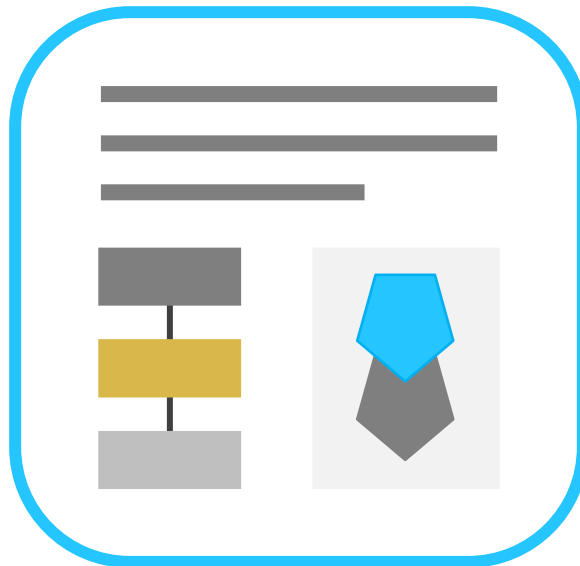
Standard Work and SOPs

Standard work is a **combination** of methods, systems and documents



Standard Work and SOPs

Standard work can be embedded in the company's operation using **Standard Operating Procedures (SOPs)**



Standard Work and SOPs

An SOP is a document that describes **the best way** to execute a process to maintain consistent work and achieve optimal output



Standard Work and SOPs

It aims to standardize the way work is performed and make it **easier** for everyone to do their work



Standard Work and SOPs

It describes the sequence to be followed and other **necessary information** to carry out a process

What will be
done

How it will be
done

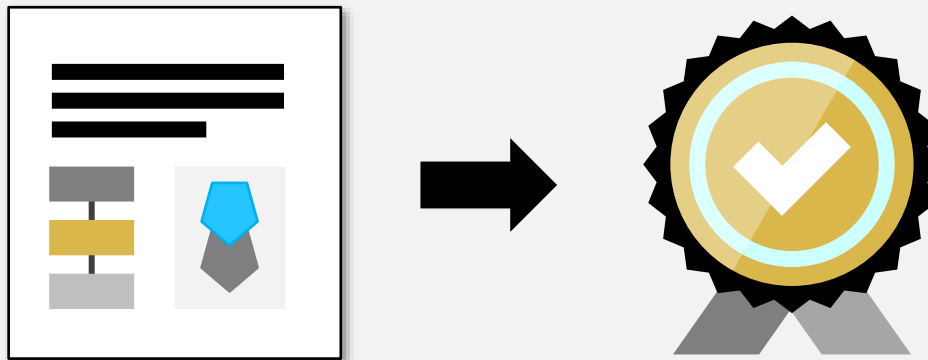
When it will
be done

Who will be
responsible for
making sure it
gets done



Standard Work and SOPs

Developing and implementing SOPs enable standard work to be **effective**



And help **communicate** standards to those working in the operation

Standard Work and SOPs

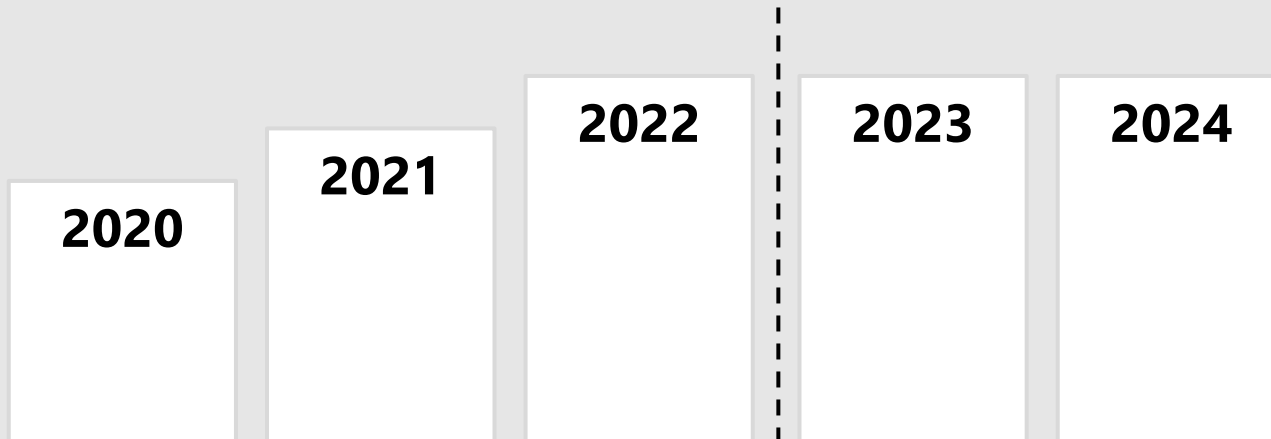
SOPs are often used in **improvement projects** to document the standardized improved processes



They provide a way to maintain the improved process and sustain the achieved improvement

Standard Work and SOPs

Very often we overlook the need to sustain the improvements



Successful solutions must be standardized in order to remain effective over the long term

Standard Work and SOPs

Consider creating SOPs for . . .

Key and critical
processes

Highly repetitive
processes

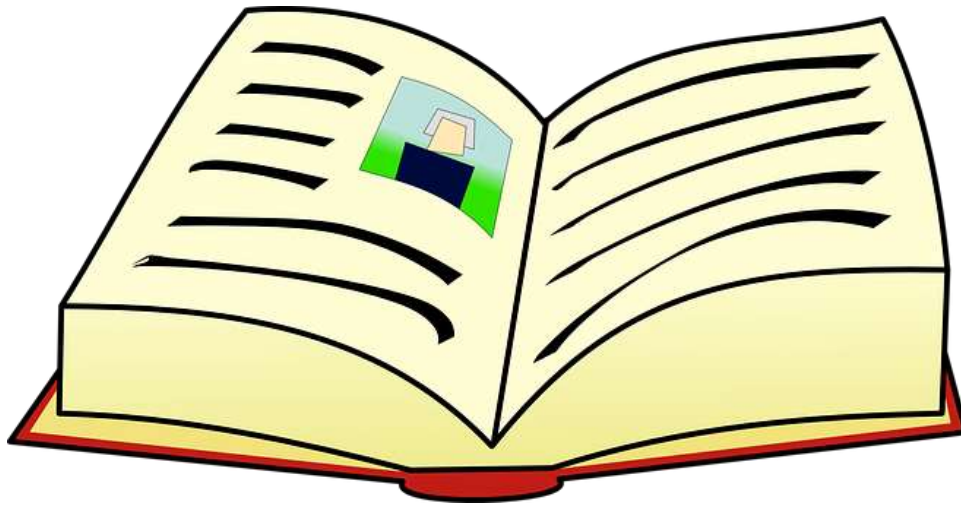
Complex
processes

Improved
processes



Standard Work and SOPs

A typical **challenge** when developing SOPs is to have a balance between too much and not enough details



Standard Work and SOPs

An SOP may include . . .

The description and scope of the work

Why things are done in a certain way

The exact work sequence of the activities

The optimal amount of time needed for each activity

The rate at which products must be produced to meet customer demand

Responsibilities and work distribution

Key points related to safety, quality and performance

The materials, equipment and tools needed to complete the work

A revision control system

Standard Work and SOPs

SOP Template Example

SOP	
PROCESS: <input type="text"/>	
1. Objective	5. Safety issues
2. Scope	6. Procedure
3. Definitions	
4. Responsibilities	7. Related documents

Standard Work and SOPs

How to Develop an SOP

With your team, clearly describe the **purpose** for writing the SOP

For example, document the sequence of activities for a newly improved process



Standard Work and SOPs

How to Develop an SOP

Understand the existing system for standard work and the current SOP if exists

Identify the key process activities and collect any required information



Standard Work and SOPs

How to Develop an SOP

Prepare a **draft** of the SOP by describing the process activities, their sequence and time frames

Don't try to be perfect with this draft as you may need to make changes later



Standard Work and SOPs

How to Develop an SOP

Share the SOP draft with the concerned stakeholders including the employees working on the process

Ask them to review and suggest ideas that will further improve the SOP

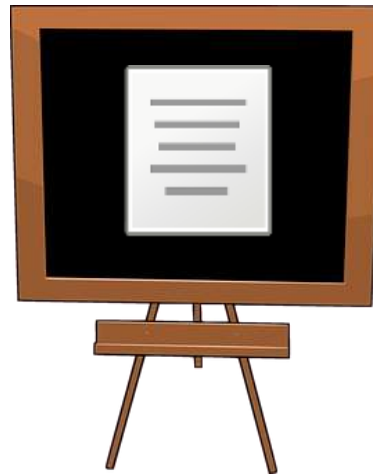


Standard Work and SOPs

How to Develop an SOP

Test the SOP by having someone performing each step exactly as it is described

Make the final draft of the SOP and distribute it to all relevant parties



Standard Work and SOPs

Once an improvement has been implemented . . .



Standard work
should be
updated to
reflect the
improvement



People
should be
trained
again

Standard Work and SOPs

What if you want to create a **system** of SOPs

Evaluate the
availability of SOPs
in every department

Prepare the missing
SOP's

Improve the current
SOPs

For each process, start
with process mapping

Build an easily
accessible SOP
database

Monitor for
effectiveness and
compliance

Standard Work and SOPs

SOP Example - Manufacturing

Process: LABEL CHANGEOVER

Machine: 6 colors Decorator Rutherford

Label changeover benchmark time: Division: 18.7 minutes Plant: 31.5 minutes

PRE-CHECKLIST:

1. Are magnetic cylinders prepared and in good condition?
2. Are the blankets checked and prepared?
3. Are the plates ready and checked?
4. Are solvent buckets in place?
5. Are ink buckets ready?
6. Are scrap bins empty and ready?
7. Are team members ready and in proper position?

TEAM ROLES:

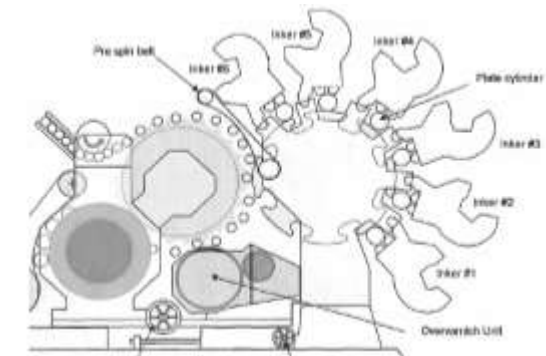
Group Leader – review pre-checklist, coordinate, monitor, and check samples.

2nd Man – clean fountains, remove 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:

1. Get design requirement.
2. Conduct stand-up meeting and review pre-checklist.
3. Stop the line.
4. Clear the line.
5. Apply label changeover as per instructions.
6. Apply registration and color adjustment.
7. Run the line.
8. Prepare the label changeover report.



Standard Work and SOPs

Applying standard work in office and **service environments** will maintain and even improve customer service



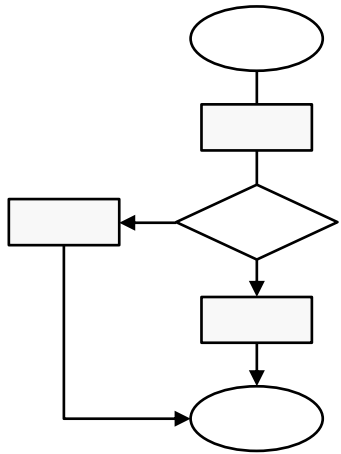
The output of the process becomes more consistent

Standard Work and SOPs

SOP Example – Service Sector

Process: ORDER PROCESSING

Total time: 4.5 – 10 minutes / 8.5 – 16.5 minutes for new customers

Activity	Time	Key points	
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		

Standard Work and SOPs

Further Information

Other documents that could be part of the standard work

Work Instruction

Provides specific details on how to do low-level activities

One Point Lesson

Used when an important message need to be communicated

Best Practice

The practice that has been proven to achieve the best results

Standard Work and SOPs

Further Information

An SOP can be represented in **paper** or **electronic format**

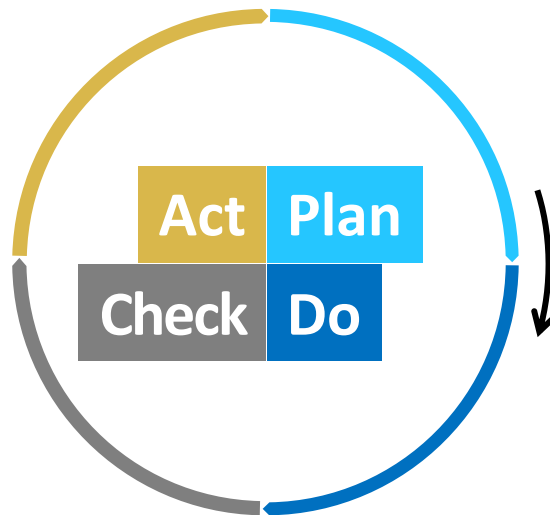


Standard Work and SOPs

Further Information

Standard work should never be considered **final work**

It should be regularly updated when a PDCA cycle reveals an opportunity for improvement



Standard Work and SOPs

Further Information

There is no point of standardizing a process into **systems** that do not currently work

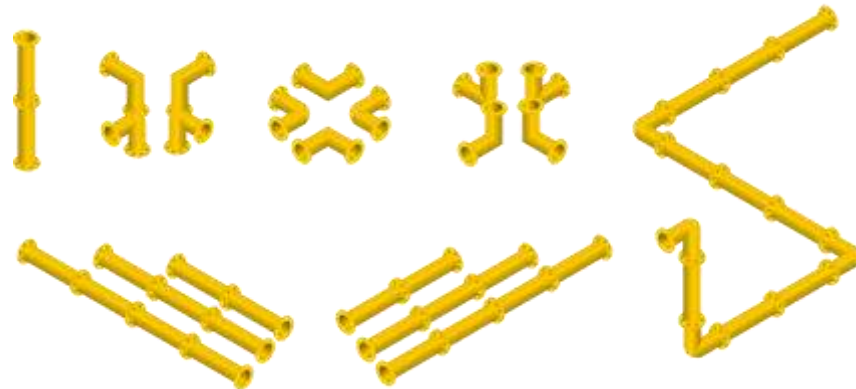


Standard Work and SOPs

Further Information

In manufacturing, standardizing of components is called **modularity**

It is the use of exchangeable parts or modules in the fabrication and assembly of an object



Standard Work and SOPs

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 step

Failure to follow the correct sequence

Consuming more resources than planned

Failure to obtain the proper authorization

Standard Work and SOPs



Do's & Don'ts



Make them simple and concise

Write at an appropriate level of detail

Make sure they are current and up to date

Ensure they are linked to training plans and records

Uses a language people can understand

Use visuals whenever possible

Print them in a professional way

Encourages to report deviations from standards

Make them well-designed and visually appealing

Place them at the point of need

Include key points related to quality and safety

Involve process performers in developing them