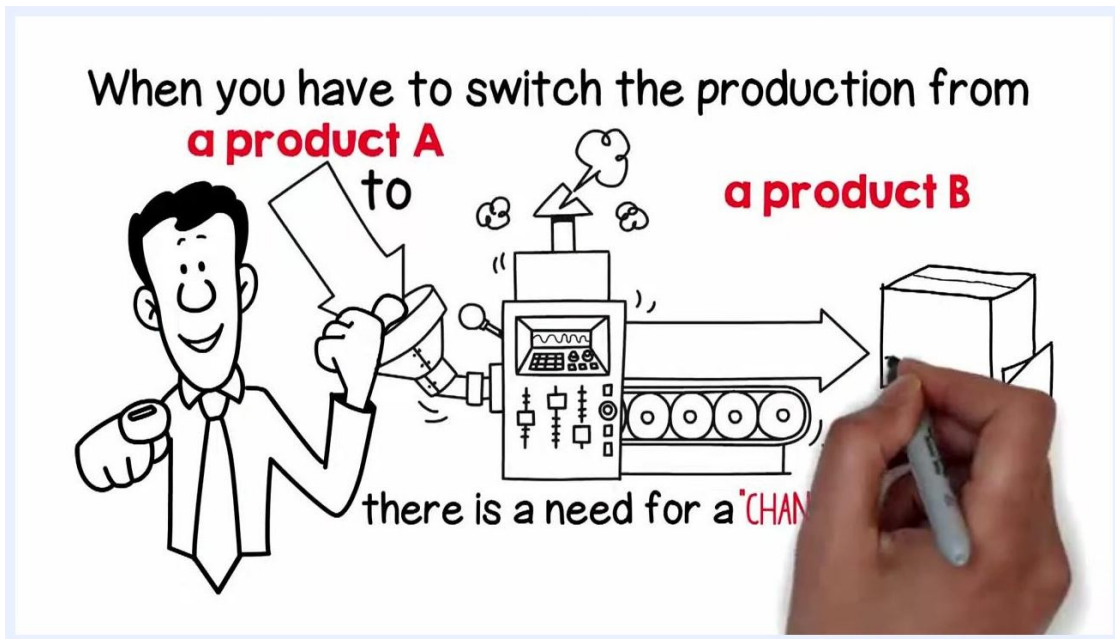


How to Do a SMED Quick Changeover: A Step-by-Step SOP

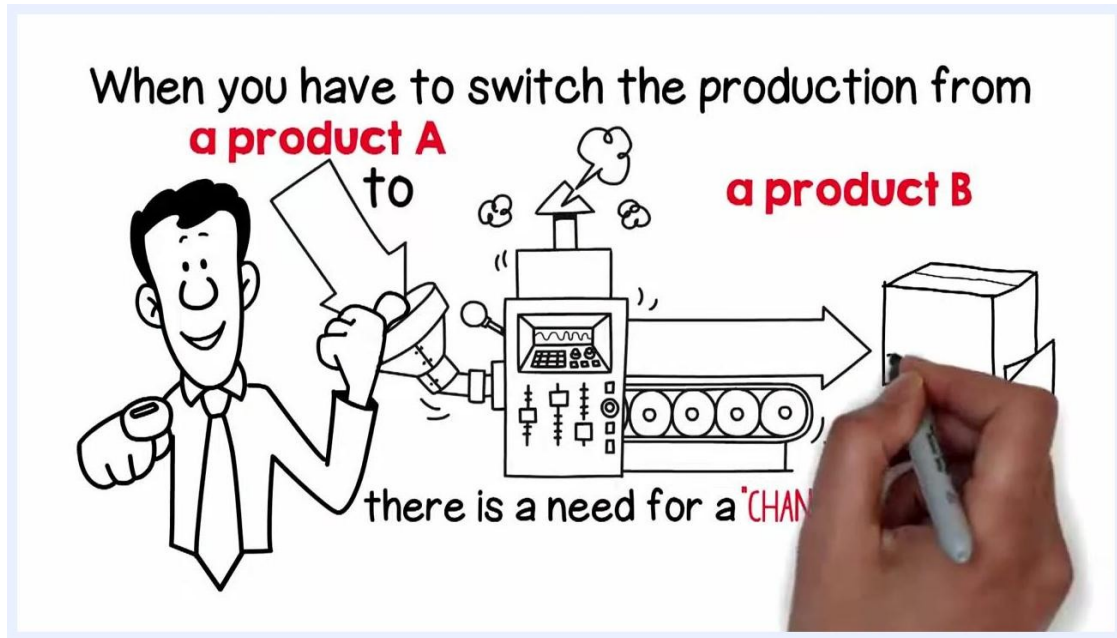
This SOP explains how to do a SMED quick changeover using the Single-Minute Exchange of Die (SMED) methodology. SMED is a lean manufacturing approach used by a team to reduce the time needed to switch production from one product to another. Follow the steps below to move your team toward the target of completing a changeover in under 10 minutes.



Cartoon of a woman at a desk, a man approaching, and hands reaching out, with the text "SMED is a methodology to reduce the changeover time in a team"

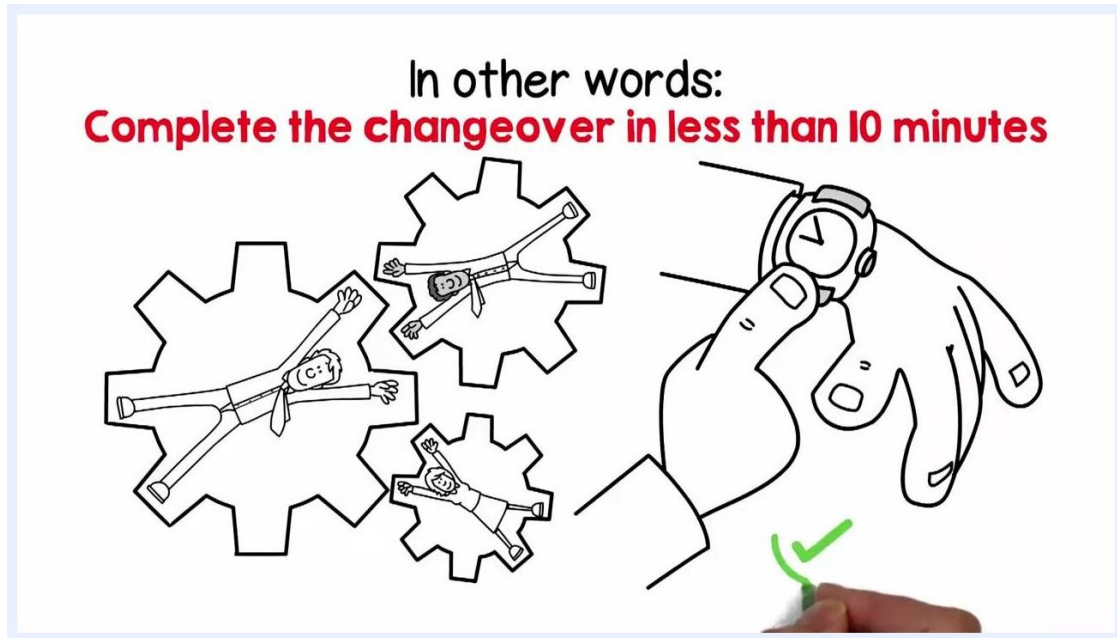
Purpose

SMED reduces the changeover time required when a team must switch production from one product to another. The methodology sets a clear target: complete the changeover in less than 10 minutes.



Cartoon of a person operating a machine, with an arrow from product A to product B, and the text "When you have to switch the production from a product A to a product B there is a need for a CHANGEOVER"

The source material does not specify a particular production line, station layout, or model variants – this section should be completed with your facility's specific line name, stations involved, and the product variants being changed over when adapting this SOP for local use.

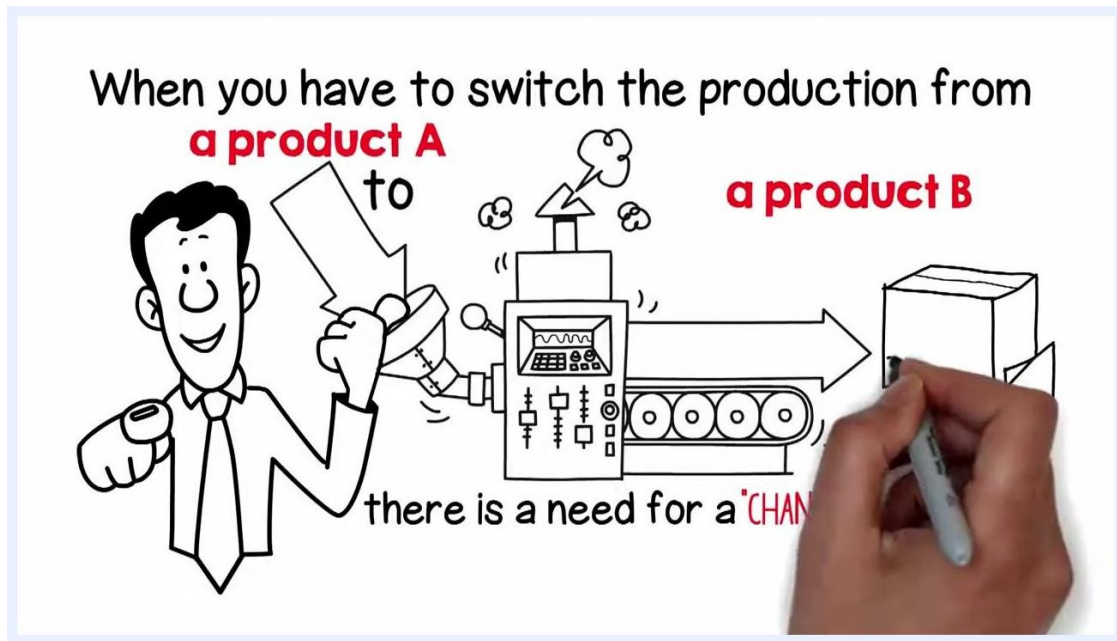


Cartoon of people inside gears and a hand pointing to a watch, with the text "Complete the changeover in less than 10 minutes"

Changeover trigger

A changeover is needed whenever production must switch from producing product A to producing product B.

As customer requests become more varied, more frequent changeovers are required to satisfy demand. This growing need for frequent changeovers is the reason SMED is applied.



LeanVlog logo with the tagline 'Learn Faster by Lean Video'



Cartoon of a team at a table and a person presenting boxes, with the text "So, more and more CHANGEOVER are required to satisfy the customer request"

Safety

The source material does not describe specific lockout, guarding, ergonomic, or vehicle movement precautions. This section should be completed with your facility's safety requirements, including machine lockout/tagout steps, guarding checks, ergonomic considerations for manual tasks, and any vehicle or material movement precautions relevant to the changeover.

Pre-change checklist

Before starting the changeover steps, prepare your team and gather the information needed to analyze the process.

- Gather your team and start with 5S (Sort, Set in order, Shine, Standardize, Sustain) – it is always a good idea to begin here.



Cartoon of a machine with labeled arrows and activity types, with the text describing external and internal activities

- Record a video of the entire changeover process.
- Play the recorded video on a large screen or individual monitors so all team members can observe it.

- Analyze the video together as a team, discussing each step and identifying improvement opportunities. The best approach is to make a video and analyze it with the team.



Team members at computers analyzing a recorded changeover together

Changeover steps

Follow these steps in order to carry out the SMED quick changeover.

1. Observe and classify each activity. Watch the full changeover process and classify every step as either:
 - External activity — created while the machine is operating.

- Internal activity — made with a stopped engine.



Cartoon of a team meeting and a person giving a thumbs up, with the text "#1 Start with 5S ... it's always a good idea."

2. Move internal activities to external activities. Review your classified list and convert as many internal activities as possible into external activities that can be performed while the machine keeps running. At the same time, cut and remove waste such as unnecessary movements and overprocessing.



Person lifting a box into a machine near a conveyor belt and control panel, illustrating activity conversion

3. Reduce the time of internal activities. For activities that must remain internal, look for ways to speed them up, such as using quick release nuts and multiple-hole connections combined into one.
4. Reduce the time of external activities. Examine all external activities and streamline them to reduce the overall time spent on tasks performed while the machine is running.

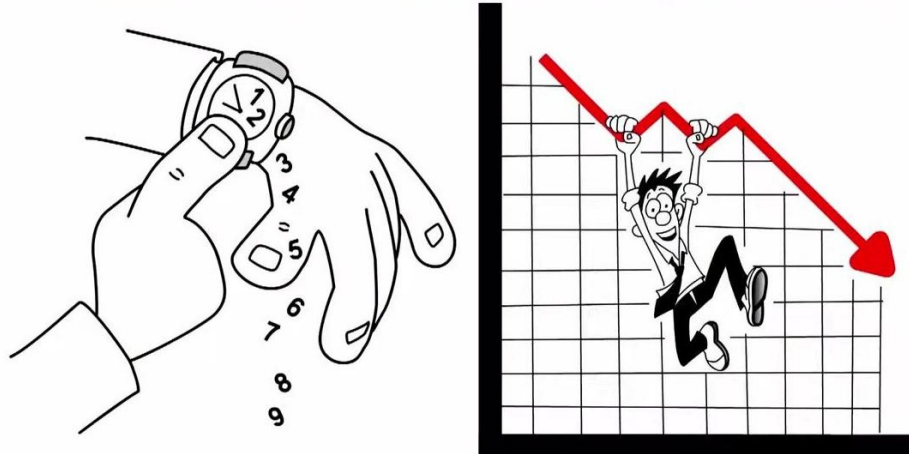
The source material does not specify station-by-station responsible roles, verification methods, or exact expected durations for each numbered step beyond the overall target of under 10 minutes. These details should be added based on your team's roles and process timing when implementing this SOP.

The best is to
MAKE A VIDEO AND ANALYZE IT WITH THE TEAM



Worker with a clipboard thinking about a fastener, representing ideas to speed up internal activities

5 Reduce the time of external activities



Hand adjusting a watch with numbers falling off, and a person hanging from a downward-trending graph arrow, representing time reduction

First-off approval

The source material does not describe a sample quantity, inspection criteria, signoff roles, or record retention process for first-off approval. This section should be completed with your quality team's requirements for verifying the first units produced after a changeover before full production resumes.



List of producers and contributors with the heading 'Produced by:'

Restart criteria

Production can continue improving after each changeover: the more changes your team makes, the more new ideas it will generate and the better it will learn to perform the changeover.



Cartoon of a person entering a room with a document, greeted by a cheering team, with the text 'This is where SMED comes in!'



Person riding a cart with a computer, another waving, and a third with light bulbs above their head, representing innovation and learning

The source material does not specify formal monitoring criteria for the first production lot after restart. This section should be completed with your team's criteria for confirming stable output before returning to normal production rates.



Text 'Do you want to start producing videos with us? Click the link below.' with a large downward arrow



Text 'Do you want to start producing videos with us? Click the link below.' with a large downward arrow