



EPICENTRAL

A Newsletter from Epicenter Development Group
highlighting ideas that improve organizations

Welcome to Epicenter Development Group's newsletter, EPICentral. The purpose of this newsletter is to highlight fundamental ideas that have helped organizations develop and maintain great manufacturing and service operations. We hope that you find our EPICentral newsletter helpful, and we would welcome your comments on its content.

The "Pit Crew" Approach to Changeovers - SMED

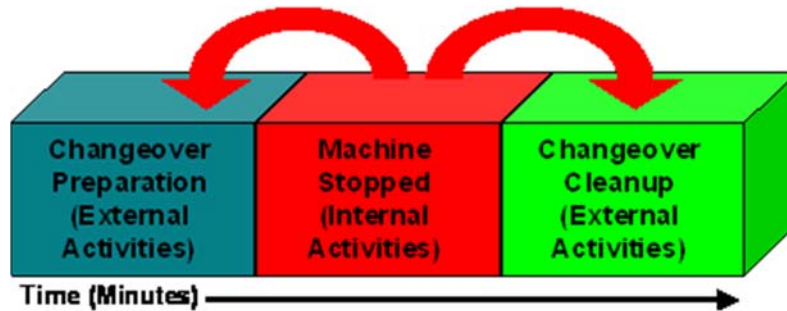
In today's world of increasing product customization and tighter delivery schedules, there has been an increased focus on process flexibility and organizational agility. For many of our clients this has led to a desire to develop LEAN processes in order to curtail stockpiles of finished goods inventory, reduce service or production lead-times, and improve the overall system capacity. This month's article is about the SMED process - a seven-step method for reducing the time it takes to "changeover" from producing one "product" type to another.

SMED stands for Single Minute Exchange of Dies and is a general philosophy of rigorously working towards the elimination of downtime associated with production changeovers. The approach can be used in a variety of industries and settings; and, if used properly, it can often result in a dramatic reduction in changeover times. A high-level outline of the process is as follows:

The Seven-Step Process

- 1. Study the Existing Process:**
 - Videotape or directly observe a typical changeover.
 - Document the tasks completed by each person involved (and sequence).
 - Document the time currently required to complete each task (and delays).
- 2. Classify Activities into One of Three Categories:**
 - **Waste** - any activity that does not add value to the changeover.
 - **Internal elements** - tasks that must be performed during the changeover (when the process has stopped or equipment is idle).
 - **External elements** - tasks that can be performed before the changeover starts or after the changeover is complete.
- 3. Eliminate Waste:**
 - Identify non-value added activities that can be eliminated through a redesign of the workplace or a change in procedures.
 - This can include activities such as excessive walking to get parts and tools, time spent looking for misplaced tools, and paperwork that is not required by the customer.
- 4. Convert Internal Elements to External Elements:**

- Identify tasks that are currently completed during the changeover (while the process or equipment is stopped) but that could be finished before or after the changeover while the equipment is running.
- This often includes tasks such as staging and preparation of materials for the next order, paperwork, and clean-up.



- 5. Improve Internal Setup:**

 - Create a standard plan for what each person will do during the changeover and practice using the plan. This is often compared to a "pit crew" where each person can quickly and consistently complete their tasks without saying a word.
 - Consider the redesign of equipment or use of special tools to expedite equipment setups. This could include the use of jigs and fixtures to set the equipment settings.
 - Consider specific, set locations for all materials and tools so that they can be quickly located and used.
- 6. Improve External Setup:**

 - Create a standard plan for what each person will do before and after the changeover and practice using the plan.
 - Consider the use of checklists to avoid omitting steps of the process.
- 7. Standardize:**

 - Once the "best-practice" changeover plan has been identified then document the plan, train all people and practice, practice, practice.
 - Consider the use of visual work instruction sheets and other visual aids to help people understand their roles during the changeover.
 - Monitor changeover times on a regular basis and continue to look for ways to improve the process.

Next Steps

If you would like more information on this topic or other similar types of tools, please contact Bill Proctor with your request at wproctor@epicentergroup.com or 216-702-0952. You can also find previous issues of EPICentral at [Newsletters](#).

Mr. Proctor also speaks on a variety of problem-solving and system design topics that can help companies significantly increase the success and profitability of their businesses. If you are interested in having Bill speak at one of your upcoming meetings/events or would like more information on any of the speaking topics, please visit [Speaker Services](#) or you can email sales@epicentergroup.com.

Organizational Analysis & Development to create practical design solutions to your toughest challenges. It is on the cutting edge of problem-solving solutions and the creator of a unique process called GreenRoom Engineering. This process adds greater value and cost savings for clients as compared to traditional engineering methods.

William Proctor, Epicenter's founder and president, has provided services around the country to more than 100 companies consisting of a variety of organizations; and Epicenter continues to grow as a resource for firms of all sizes.

To learn more about Epicenter Development Group, visit our website:

www.epicentergroup.com

Epicenter News

We are happy to announce that we now using the WorkStudy+ software to streamline our development of labor standards in the field.



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