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Course ID: S16

QUICK CHANGE OVER (SINGLE MINUTE EXCHANGE OF DIES - SMED)

Onsite course: 2-day workshop with onsite project work

1. What is this course about?

Developed by Shigeo Shingo, consultant with the Toyota Motor Company, SMED is a method for reducing waste in a manufacturing process. SMED provides guidelines for reducing the time to tear down and set up a machine, necessary steps to convert from manufacturing the current product to running the next product. SMED is also used for shortening clean down and line clearance times. SMED or quick changeover is key to increasing available production time, reducing production lot sizes and thereby improving flow.

This course enables you to identify and implement improvements to the set-up/changeover process on a machine. Participants will learn how through run a full SMED exercise using appropriate lean tools such as video, process mapping, spaghetti mapping, error proofing and standard work. The course is facilitated over two full days onsite. Ideally, you will commence a SMED exercise on site at the start of the course, and report on SMED success as an assignment following course completion.

2. What will I achieve?

At the end of this workshop you will...

- understand the definition of changeover time and how it is measured;
- know how to use a range of lean tools to reduce changeover time;
- know how to establish a robust and standard set-up and changeover process on a specific machine, and
- have the ability and confidence to further improve and refine the machine changeover process on an ongoing basis.

3. Preparation

In advance of the workshop the client will:

- identify the machine or suite of machines on which the changeover exercise will take place;
- collect data changeovers in the recent past on the machine (by product type/tool type/shift etc.);
- make a video, if appropriate, of elements of the changeover, and
- select attendees for the workshop.

The Lean Ireland course tutor will be happy to help with SMED project selection and scope.

Following the course, Lean Ireland tutors will be available online, as required, to answer any follow up questions you may have.

4. Workshop Agenda

Time	Day 1	Day 2
08:30	<p>Lean principles & the 7 wastes</p> <p>Introduction to SMED: Toyota video review & discussion</p> <p>Practical demonstration of SMED on demonstration machine in classroom</p> <p>Gemba walk and review of potential SMED application at the machine</p> <p>Documenting the current state: Process/time chart</p>	<p>Improving the process</p> <p>Brainstorming of ideas: review of opportunity for</p> <ul style="list-style-type: none"> – error proofing – tool location – shadow boards – personnel readiness – standardisation <p>Implementing changes: Practical work in the area</p>
12.30	Lunch	
13:00	<p>Establishing current SMED performance:</p> <ul style="list-style-type: none"> - Review of video taken of SMED - Review of measurements & spaghetti map <p>Brainstorming of process problems</p> <p>Analysis potential external activities & internal activities:</p> <ul style="list-style-type: none"> - Identifying hazards - Identifying redundancy - Identifying complexity 	<p>Implementing changes: Practical work in the area</p> <p>Control: success measurement, SPC, visual management</p> <p>Introduction to OEE</p> <p>Closing review with team, action items & responsibilities</p> <p>Closing Review with managers</p>
16.30	Review & close	Review & close

5. Who is this course for?

This course is practical in nature and suitable for a cross functional team of operations managers, engineers, maintenance personnel, quality personnel, team leads, and general production operatives from the area. The participants should ideally be those who run the equipment on a daily basis, and the supporting engineering, maintenance and quality personnel. Minimum to maximum number of participants = 6 to 12

6. Certification standard and process

Each candidate who attends all 3 modules in full, and who completes a SMED team project, will receive a Lean practitioner Level 2 certificate. This certification is based on compliance with the following ISO standard: *ISO 14085 Quantitative methods in process improvement — Six Sigma — Competencies for key personnel and their organizations in relation to Six Sigma and Lean implementation.*

The certifying project is formally evaluated by a Lean Ireland certified lean six sigma black belt. The certificate is awarded by Lean Ireland.

7. Tailor your course

If you would like to customise a course e.g. use process data and a problem case study relevant to your organisation, this can be easily arranged. Also, the course can be hosted on any other suitable platform of your choice. Please contact us to discuss your needs.

8. Where can I find out more?

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