



CQE Training & Consultancy Plt (Reg No. : LLP 0003668 LGN)

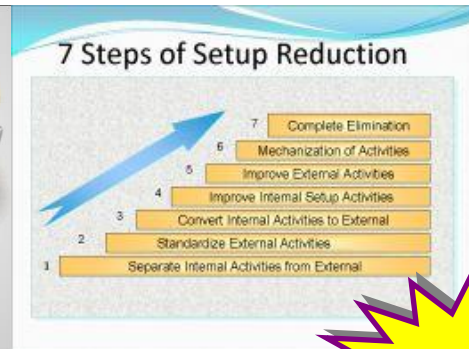
Registered Office : No. 46, Lorong Bintang, Taman Tasik Permai, 34000 Taiping, Perak. Malaysia.

Operating Office : No. 85A (1st. Floor), Jalan Barrack, 34000 Taiping, Perak. Malaysia.

T : +605-805 2722 F : +605-805 2721 M : +6012-505 2720 / +6012-502 2720

E : cqetraining@gmail.com or kuangkh@cqetraining.com W : <http://www.cqetraining.com> B : <http://cqeblog.blogspot.com>

SINGLE MINUTE EXCHANGE OF DIE (SMED) (PUBLIC / IN-HOUSE TRAINING PROGRAMME)



Introduction

Shigeo Shingo's Single Minute Exchange of Die or **SMED** is the technique within lean manufacturing to reduce the setup or changeover times for your process, as the name suggests the aim is to literally reduce this time to single minutes. SMED is sometimes called as **Quick Changeover!**

This techniques has been developed within the Toyota Production System(TPS) by an engineer known as Shigeo Shingo, he started this process looking at changeovers of tools on 500Tonne Presses producing body panels. The tool changeover could take several hours or even days, now they take a few minutes.

SMED is one of the tools that will help you to implement **Just in Time production (JIT)**, without being able to reduce your set up times it will be impossible to run smaller batches to enable you to gain the many benefits of JIT.

Many published experiences of this SMED in actions having worked with manufacturing machinery such as presses, a company that had managed to get a production line of 4 500 tonne presses to change completely over from last part of one component to the first good part of the next in just ten minutes. If you have ever seen these machines and the tools that weigh several tones in their own right you would wonder how this could be achieved.

SMED real life example I guess the most famous application of Shigeo Shingo's SMED or single minute exchange of die that most people have seen is that of **changing a tire, how long does it take you to change your tires and how long does it take the Formula One team in the pit lane to change all four of theirs?**

SMED is all about removing those wasteful steps in the changeover process that will enable you to turn your production process set ups from being the road side tire change to the formula one race (business) winning change overs.

Learning Outcomes/Objectives

**Also available as
in-house programme**

This course is specifically developed to provide participants in the manufacturing and servicing industry the uses a blend of theory and practical exercises. At the end of the training course, delegates will be able to:-

- Understand the importance of SMED



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- Recognize different elements of waste (type I & type II)
- Develop a set-up reduction program based on their environment
- Understand the definition of set-up time
- Develop a sustainable SMED program
- Show how SMED can positively affect business response times
- Examine the distribution of time taken for set-up's
- Demonstrate the elements of set-up
- Teach how to identify current set-up data
- Identify ways to develop new set-up procedures
- Connect the concept of Five S to set-up reduction
- Show how to use Kaizen's to achieve SMED



Program Contents

- ✚ Introduction to SMED
- ✚ Steps in Changeover Improvements
- ✚ Steps Towards Zero Changeover
- ✚ A Formula for Achieving Zero Changeover
- ✚ How to gather data
- ✚ Separating waste
- ✚ Using set-up analysis charts
- ✚ Developing standard set-ups
- ✚ Implementation of Parallel Operations
- ✚ The Use of Elimination of Adjustments Functional Clamps
- ✚ Ten rules of set-up reduction
- ✚ Improvement Case Studies
 - Press Line Processing, Steel Forging Industry, Transfer Machines, Process Industry, PCB Auto Inserters, Sheet Metal Production and Plastic Moulding Machines

Who should attend

Managers, Engineers, Executives, Supervisors, Quality Practitioners and any member of an organisation who is from Process, Research and Development, Quality and Production will find this course relevant and



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beneficial to their job function related to Lean Manufacturing, Operation, Administration and Servicing.

Methodology

The program would be conducted by using the following materials / aids :-

- Course Notes
- OHP / LCD
- Video Showing
- Lecturettes

Duration

2 days

Participants

Max ~20 pax

