# 7 IE TOOLS

~To improve the production market~

Have Kaizen activities been carried out smoothly at your company's production site?

- → Your factory leaders and staff have basic understanding of Kaizen, but don't know where and how to start your Kaizen activities?
- ★ The result of waste elimination activities does not meet your company's expectation?
- You have little opportunities to take part in courses focusing on useful and effective tools for Kaizen?

## CONTENT

## Part 1: Basic principles of Kaizen (Improvement) and IE

- The definition of IE (Industrial Engineering)
- The 7 wastes in manufacturing activities
- ECRS Principle

### Part 2: Productivity improvement with 7 IE tools

- 1. Process analysis
  - ~ Analyze whole production process from raw materials to final product, in order to eliminate wastes and carry out Kaizen activities~
- 2. Motion analysis
  - ~ Analyze motions tao eliminate wasted movements and to rearrange the movements' order and co-ordination with less labor-consuming and higher economic effectiveness ~
- 3. Time Study
  - ~ Analyze movements from work time perspective to eliminate wastes and improve productivity ~
- 4. Operation analysis
  - ~ Analyze the movements of man and machines to calculate the time-consuming ratio of each activities to the entire process ~
- 5. Combination work analysis
  - ~ Analyze the time-consuming relationships between combined movements (between Man and Machines or among Men) to rearrange the process with higher productivity ~
- 6. Line balancing analysis
  - ~ Design a harmonious production flow which could remove the differences of necessary time-consuming between each stages ~
- 7. Material handling
  - $\sim$  Analyze the product transfer flow process to reduce time-consuming and wastes  $\sim$

#### Part 3: 7 IE tools applications and action plan for Kaizen activities

- ◆ IE tools applications to PDCA cycle (Plan Do Check Act)
- 7 steps to conduct improvement activitie

#### Part 4: Summary and Action Plan

XThe above content is subject to change without prior notices



# **OBJECTIVES**



- →Have a basic knowledge of 7 Industrial Engineering (IE) tools and their applications.
- ⇒Be able to apply 7 IE tools to production site.
- ⇒Be able to conduct Kaizen activities by using 7 IE tools.

## TARGET



Staff



Middle-Management

First-line Management



# **METHOD**



**30%** theory, **70%** practice through group discussions, presentations, case studies, role-playing, games, etc.





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