

**HEW Associates Ltd**  
Inspired Business Improvement

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**Continuous Improvement  
& The 8 Wastes**



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**Aim**

To provide knowledge and demonstrate the theory of Continuous Improvement

**Objectives**

By the end of the session you will be able to:

- Explain the benefits of Continuous Improvement
- Discuss Value Added
- Identify the 8 wastes
- Explain the **Plan, Do, Check, Action** cycle

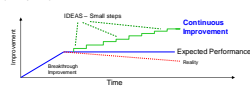
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**Continuous Improvement**

**Definition:**

- The ongoing implementation of improvement actions requiring the involvement of all employees.
- By identifying and eliminating waste from the business as quickly as possible and at the lowest cost.



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**Value Added Work**

- What are the three key issues that every customer demands?
  - Highest **Quality** always
  - At the lowest possible **Cost**
  - On time **Delivery**


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**The Divisions of Work**

**Waste:**

All unnecessary work.  
**Eliminate**



**Value Adding:**

Any work that changes the nature, shape or characteristics of the product, in line with customer requirements e.g. welding assembly (**Maximise**)

**Non Value Adding:**

Any work carried out, which is necessary under current conditions but does not increase product value e.g. inspection, part movement, tool changing, maintenance (**Minimise**)

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**What is Waste?**

Anything your customer would not pay you to do

or


Actions/Activities that do not add value from the customer's view.

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**The 8 Wastes**

**T**ransportation  
**I**nventory  
**M**otion – Operator  
**W**aiting – Idle time  
**O**ver Production  
**O**ver Processing  
**D**efects  
**S**kills that are not used



They are all a waste of Time, Money and Effort

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**Transportation:**

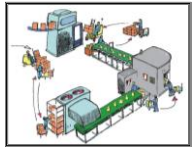
Unnecessary moving or handling of parts. Handling equipment moving empty or part loaded.

**Causes:**

- excessive inventory
- poor factory layout
- inappropriate locations for raw materials.

**Benefits of reducing transportation:**

- Reduced cost of handling equipment.
- Less traffic in gangways.
- Reduced risk of handling damage.




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**Transportation:**

Unnecessary moving or handling of materials  
 Moving material or information from place to place  
 E mail attachments : Server Storage  
 Temporary locations  
 Poor work place layout  
 Report Routing

Goal: Minimal movement(s)




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**Inventory:**

Excess raw material, work in progress and finished goods (more than is required to maintain the process flow)



**Characteristics:**

- Large stocks of work in progress and raw materials in work areas.
- Work areas cluttered with materials.

**Benefits of reducing Inventory:**

- Less money tied up.
- Less floor space used and storage equipment.
- Less material handling and transportation.
- Quicker discovery of quality problems and response to change in customer demand.

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**Inventory:**

Having more than is required to maintain the process flow

- Back log of work
- Work areas cluttered with materials, stock or equipment.
- Extra copies, extra supplies, extra files
- Jobs open and incomplete

Goal: Only keep what is required for the next process



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**Motion - Operator :**

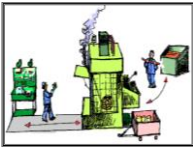
Any unnecessary or excessive walking, bending, turning and reaching. Difficult or awkward parts of the process.

**Characteristic**

- ❑ Excessive stretching or walking for tools, components or sub-assemblies.
- ❑ Often caused by a badly organised work environment.

**Benefits of eliminating operator motion waste:**

- ❑ Better operator environment.
- ❑ Less work related injuries and absence.
- ❑ More productive work environment.



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**Motion - Operator :**

Unnecessary work movements that are not required for successful completion of the activity

- Poor ergonomics
- Trips to remote locations
- Poor work place organisation

Goal: Minimal movement



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**Waiting - Idle Time:**

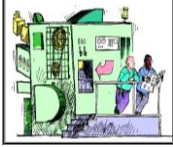
Operator or machine inactivity during process cycle

**Characteristics:**

- ❑ poor balance of work
- ❑ variation in cycle times
- ❑ machinery requires constant monitoring.

**Benefits of eliminating idle time:**

- ❑ Better utilisation of operator time.
- ❑ Better utilisation of equipment.
- ❑ Less operator boredom.




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**Waiting - Idle Time:**

Waiting for people, machines, information, responses, approvals, signatures or supplies, meetings to start, the previous step ....

Goal: Value added all of the time




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**Overprocessing:**

Unnecessary or complicated processes. Machine not cutting, just moving through air. Unplanned downtime.



**Characteristics:**

- ❑ Unnecessary processes.
- ❑ Overcomplicated processes.

**Benefits of eliminating process waste:**

- ❑ Eliminate cost of unnecessary processes.
- ❑ Improved flow through lines or cells.
- ❑ Increased availability of machinery.

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**Overprocessing:**

Providing or creating more than the customer wants

- Entering the same data into more than one system
- More steps in the process than required
- Everyone doing it their own way
- cc'ing the world in an e mail 'just in case'
- replying 'to all'

Goal: Least number of steps



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**Overproduction:**  
Producing more than the customer requires at a point in time.

**Characteristics:**

- Making more than the customer needs.
- Producing ahead of schedule.

**Benefits of eliminating overproduction:**

- Prevents "manufacturing at risk" ahead of customer schedule.
- Saves money.
- Uncovers the real problems in manufacturing.



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**Overproduction:**  
Producing a product, service or information before a customer needs it

- Making unneeded reports
- Doing work not requested
- Doing work just in case



**Goal: Do what is needed when it is needed (Single Piece Flow)**

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**Defects - Bad Quality:**  
Scrap or rework product.

**Characteristics:**

- ❑ Large containers for collecting reject or defect parts.
- ❑ High levels of overtime to meet customer demand.
- ❑ Low confidence in production schedules.

**Benefits of eliminating bad quality:**

- ❑ Improved customer satisfaction.
- ❑ Lower costs of rework and waste disposal.
- ❑ Improved capacity and ability to meet production schedules.
- ❑ Less un-productive time.




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**Defects - Bad Quality:**

Complaints  
Defect or rework product or process  
Poor service  
Service glitches  
Work that contains errors or is lacking in information and results in rework or delay



**Goal: Zero defects**

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**Skills – Underutilisation of people skills**



.....Under utilisation of our people, their skills and knowledge


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**Skills – Underutilisation of people's skills**

Under utilisation of our people, their skills, knowledge and creativity

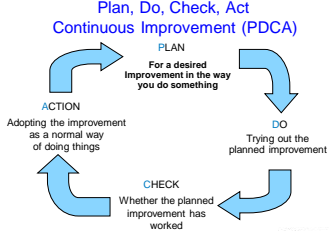
**Goal: Realise the potential**



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**Plan, Do, Check, Act  
Continuous Improvement (PDCA)**



**PLAN**  
For a desired improvement in the way you do something

**DO**  
Trying out the planned improvement

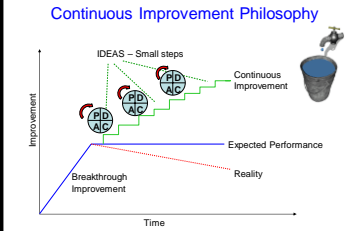
**CHECK**  
Whether the planned improvement has worked

**ACTION**  
Adopting the improvement as a normal way of doing things

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**Continuous Improvement Philosophy**



IDEAS – Small steps

Continuous Improvement

Expected Performance

Reality

Breakthrough Improvement

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