

# WASTES IN LEAN

"Mura," "Muri," and "Muda" are three key concepts in Lean manufacturing philosophy, aimed at reducing waste and improving efficiency.

## 1. Muda (Waste):

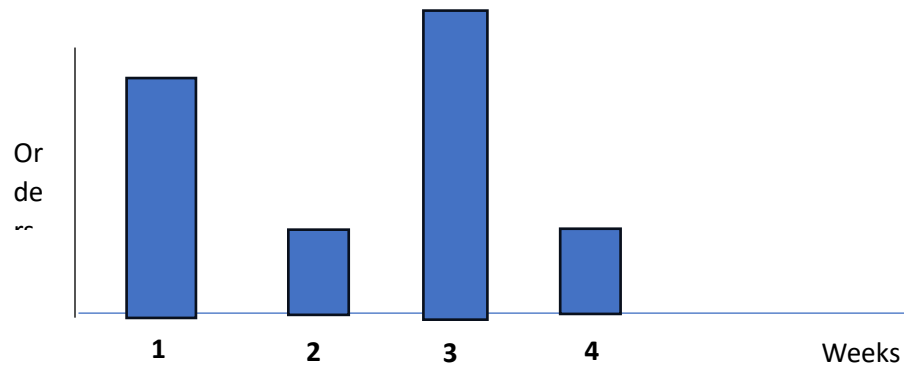
- **Definition:** Muda refers to any activity that consumes resources without creating value for the customer.
- **Examples in Manufacturing:**
  - **Defects:** Rework operations after a paint booth to achieve an acceptable finish.
  - **Overproduction:** Producing more goods than needed, leading to excess inventory.
  - **Not Utilizing People's Talents** – Wasted talent or skills.
  - **Waiting:** Idle time due to delays between process steps.
  - **Transportation:** Excessive movement of products or materials.
  - **Inventory:** Stockpiling excess raw materials or finished goods.
  - **Motion:** Unnecessary movement of workers or equipment.
  - **Excess Processing:** Overcomplicating tasks beyond what's necessary.
- **Examples in Office Environments:**
  - **Defects:** Errors in reports or documents that require rework.
  - **Overproduction:** Printing excessive copies of documents.
  - **Not Utilizing People's Talents** – Unutilized talent or human capital.
  - **Waiting:** Waiting for approvals, responses, or meetings.
  - **Transportation:** Excessive movement of files or paperwork.
  - **Inventory:** Accumulating unnecessary office supplies.
  - **Motion:** Inefficient office layouts causing unnecessary walking.
  - **Excess Processing:** Overcomplicating workflows or unnecessary bureaucracy.

## 2. Mura (Unevenness):

- **Definition:** Mura refers to irregularities or unevenness in a process.
- **Examples in Manufacturing:**
  - **Uneven production schedules:** Causing bottlenecks or idle time.
  - **Fluctuating demand:** Resulting in uneven workloads.
- **Examples in Office Environments:**
  - **Uneven workloads:** Rush periods followed by lulls.
  - **Inconsistent task assignments:** Leading to stress and inefficiency.

Inconsistent (Mura) orders pose scheduling challenges

# WASTES IN LEAN



### 3. Muri (Overburden):

- **Definition:** Muri refers to overburden or strain. Muri occurs when equipment, processes, or people are pushed beyond their capacity.
- **Examples in Manufacturing:**
  - **Overworking machines:** Running them at higher speeds than designed.
  - **Excessive manual labor:** Straining workers physically.
- **Examples in Office Environments:**
  - **Overloading employees:** Assigning too many tasks or tight deadlines causing them to work long hours and neglecting other tasks. This leads to stress, decreased productivity, and possibly errors in their work.



These three concepts are interconnected. Eliminating one often leads to the reduction of the others.