

LEAN THINKING & LEAN Production

(c) Aurora Business Development Ltd. 2013



The 'Lean' Approach

- **Overproduction** – the making of too much, too early or just in case
- **Waiting** – where materials or information are waiting to proceed to the next process; they are not moving or having value-added
- **Transporting** – where materials or information, are being transported into, out of, or around the factory; transport cannot be full eliminated, but the aim is to minimise it.
- **Inappropriate Processing** – using machinery and equipment which is inappropriate in terms of 'capacity' or 'capability' to perform an operation
- **Unnecessary Inventory** – which ties up capital and space and prevents identification of problems
- **Defects** – defined in terms of product defects, rework defects, scrap defects or service defects
- **Unnecessary Motion** – the ergonomics of the work place



The Five Principles of 'Lean Thinking'

SPECIFY what does and does not create **VALUE** from the customer's perspective and not from the perspective of individual firms, functions and departments.

IDENTIFY all the steps necessary to design, order and produce the product across the whole **VALUE STREAM** to highlight non-value-adding waste

MAKE those actions that create **VALUE FLOW** without interruption, detours, back-flows, flows, waiting or scrap

Only **MAKE** what is **PULLED** by the customer just-in-time

STRIVE for **PERFECTION** by continually removing successive layers of waste as they are uncovered.



Evolution of manufacturing

- 1900 - 1970
 - mass manufacturing
 - focus on cost reduction, efficiency and scale
- 1970 - 1980
 - TQM
 - quality and continuous improvement through product design and process control
- 1980 -
 - streamlined production
 - focus on lean manufacturing



Goals of lean manufacturing

- **The basic goal is to get more done with less by:**
 - **minimizing inventory at all stages of production**
 - **shortening product cycle times from raw materials to finished goods**
 - **eliminating waste**



Lean Manufacturing Concepts

- Value
- Value stream
- Waste
- Equipment reliability
- Continuous flow
- Pull production
- Continuous improvement
- People involvement



Key Steps for Lean Thinking

- 1. Identify the Value Stream
- 2. Understand Value
- 3. Flow
- 4. Pull
- 5. Perfection



Contact details

Brian Matthews

Mobile 087 2836933

Email: brian@aurora.ie

