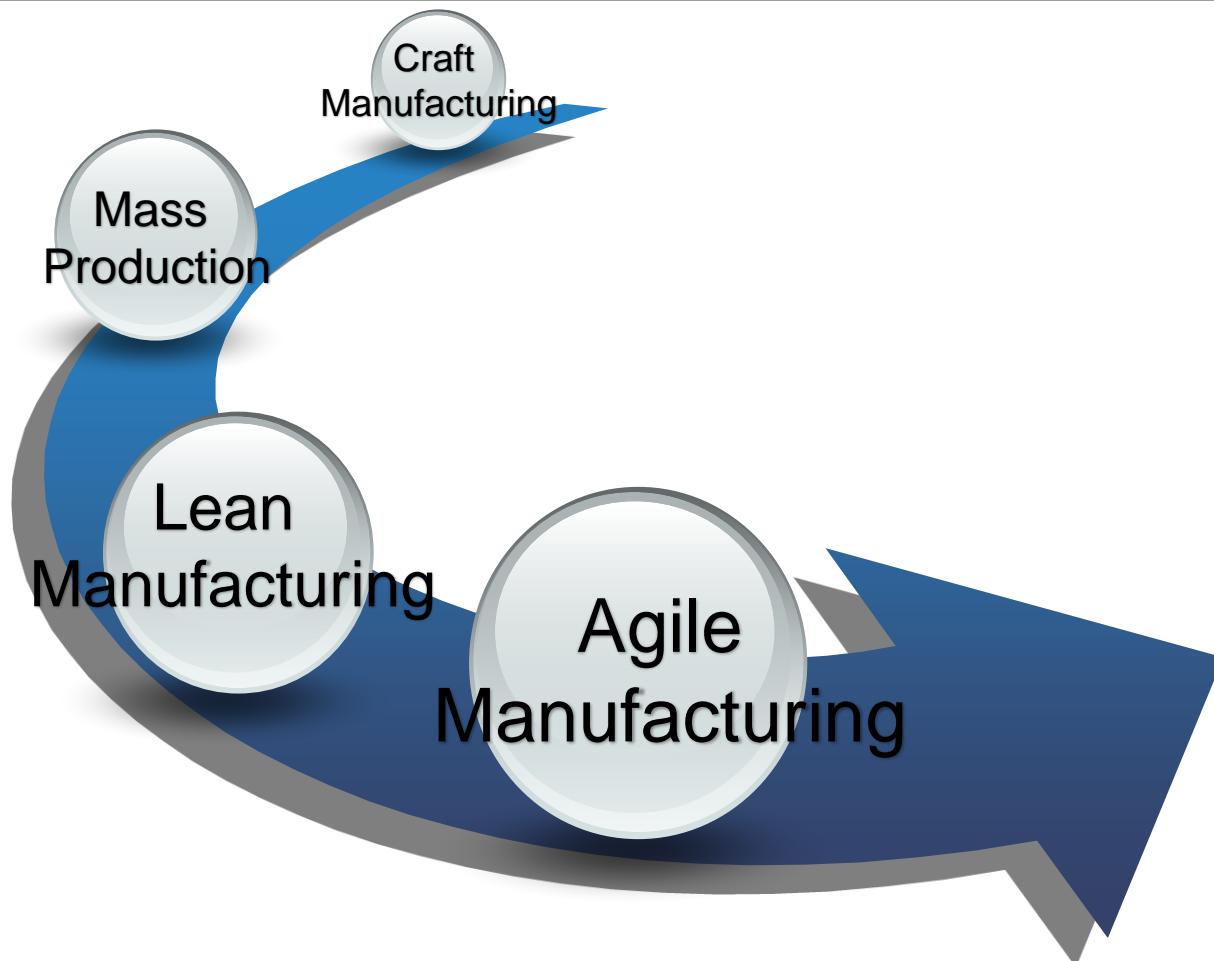


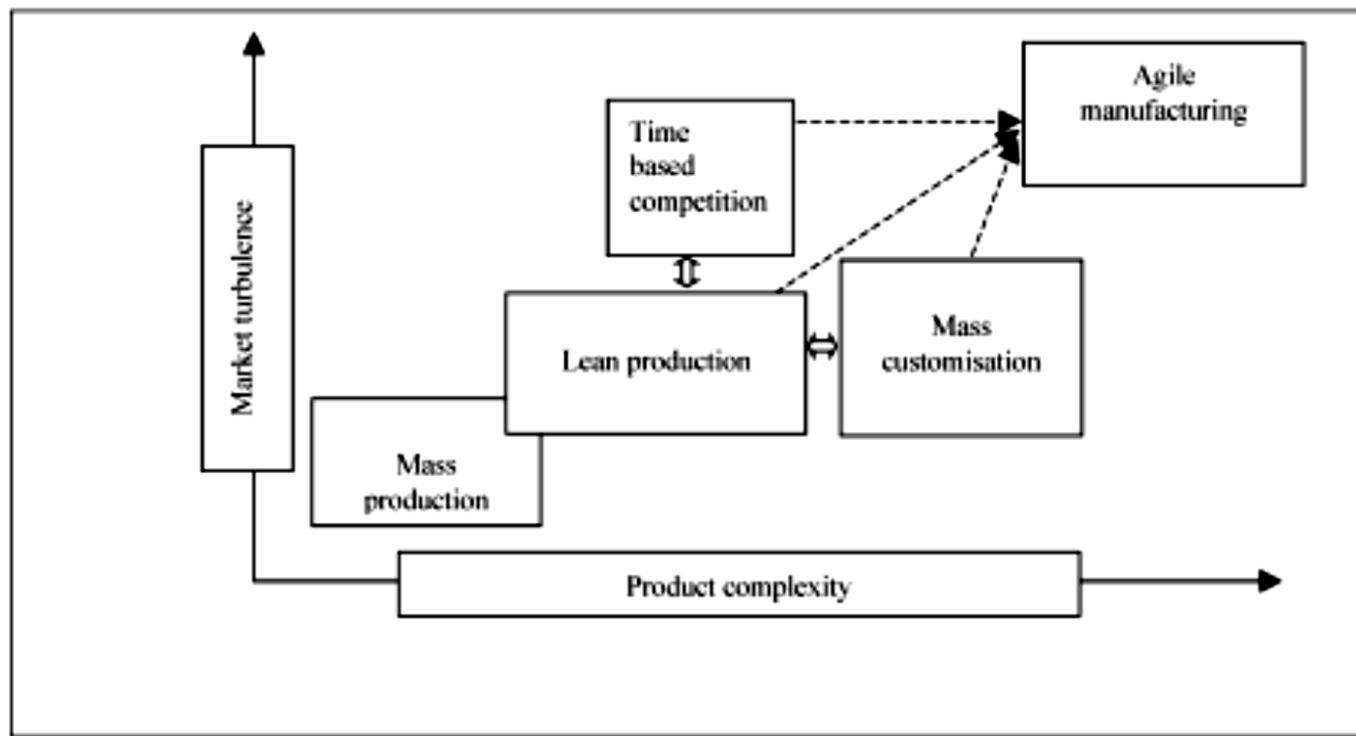
Lean Manufacturing

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Transition of Manufacturing paradigm



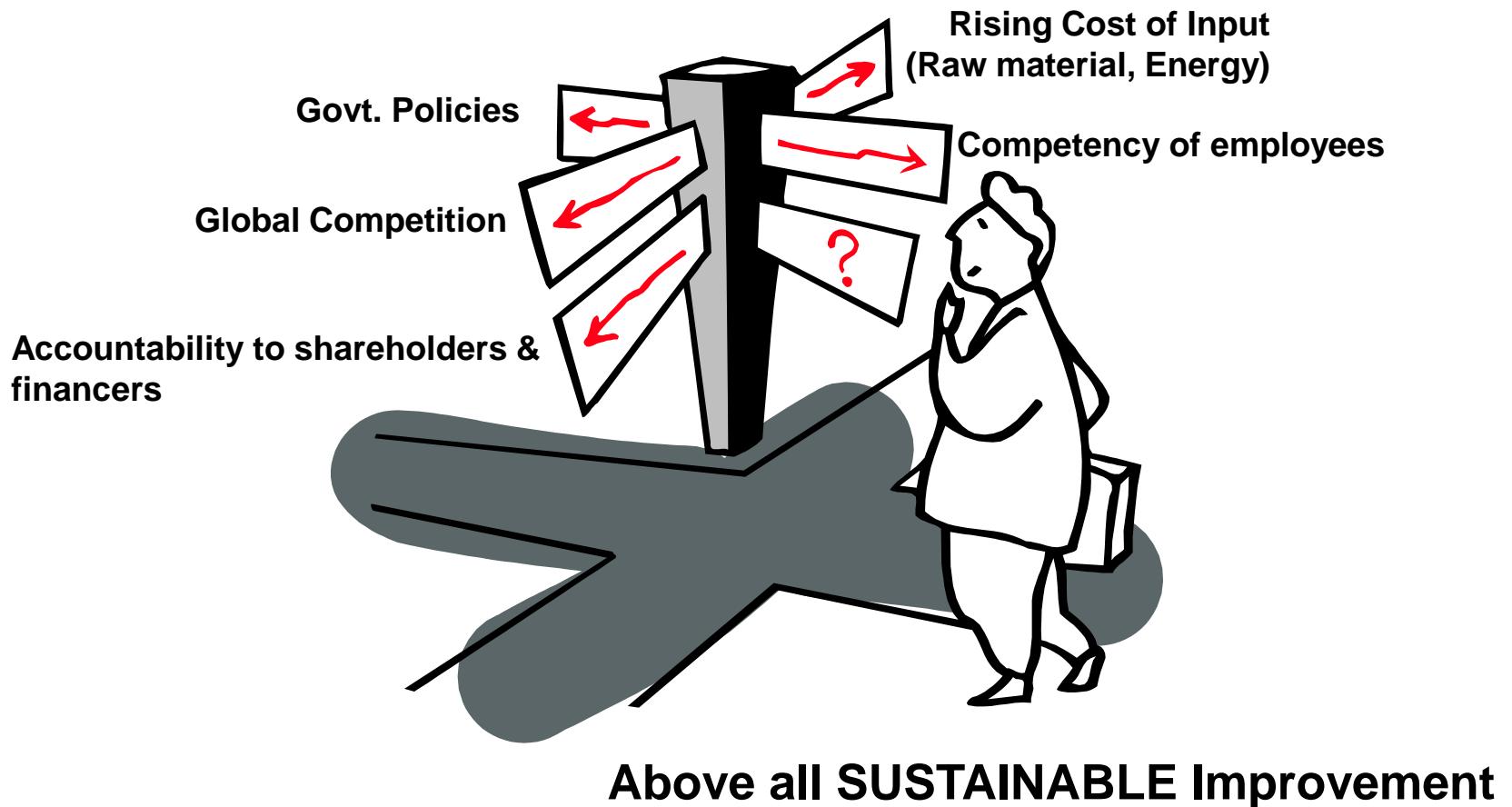
Types of manufacturing systems



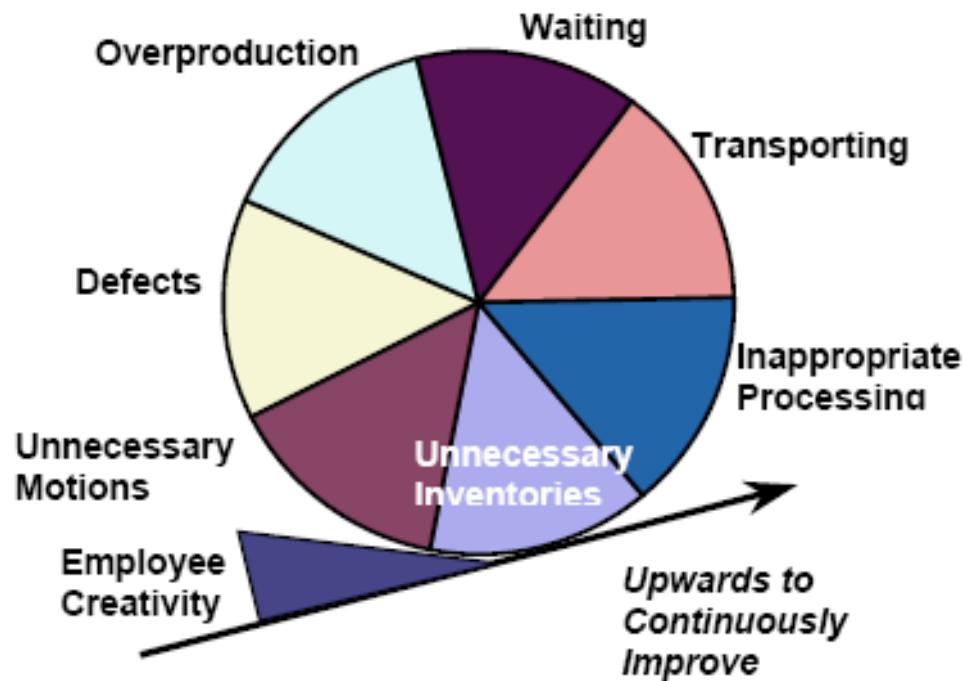
Lean Thinking

	<i>Craft</i>	<i>Mass Production</i>	<i>Lean Thinking</i>
Focus	Task	Product	Customer
Operation	Single items	Batch and queue	Synchronized flow and pull
Overall Aim	Mastery of craft	Reduce cost and increase efficiency	Eliminate waste and add value
Quality	Integration (part of the craft)	Inspection (a second stage after production)	Inclusion (built in by design and methods)
Business Strategy	Customization	Economies of scale and automation	Flexibility and adaptability
Improvement	Master-driven continuous improvement	Expert-driven periodic improvement	Worker-driven continuous improvement

Industry's concerns



Wastes in manufacturing processes



What is Lean?

- Lean is eliminating wasteful process steps and increasing the speed with minimum capital.
- If we can reduce the process time, we will be able to bring out the product as and when the customer needs it.

What is Lean and Lean manufacturing?

- The term lean in the manufacturing context implies identification of waste in all the processes involved.
- Lean manufacture is a business philosophy that continuously improves all the processes involved in a manufacturing environment, irrespective of what types of products are being manufactured.
- Lean manufacturing means increasing speed by reducing the process time.
- It results in reduction of cost and faster action.

What is Lean and Lean manufacturing?

- It can be related to automobile, aerospace, chemical engineering, or any other type of manufacturing.
- Lean manufacture has a comprehensive set of elements, rules and tools that focus on the elimination of waste and the creation of value.
- Lean manufacture also means speedy smooth and economical manufacture.

Global Competition

- Become more demanding
- Best quality products
- Immediate supply
- Continuous reduction in price

What does the customer want?

- On time delivery
- Good quality
- Low price

What is Change?

- Sales forecast
- Product design/development
- Procurement of materials
- Inventory management
- Production
- Quality management