



Eliminating waste and inefficiency to fulfil manufacturing potential.

The manufacturing industry has been the victim of tough economic conditions worldwide. Only now are governments recognising that economies built on service industries alone are unsustainable in the long term, and are focusing once again on manufacturing as a key driver of economic growth.

This is both an opportunity and a responsibility for manufacturers like you. With around \$900 billion* of waste in global supply chains today, the opportunity to do things differently and reap the benefits is clear.

According to lean manufacturing principles, the seven common wastes are as follows:

Over-production

The tendency to produce at capacity, not capability, could be based on existing preconceptions or an unwillingness to accommodate change. Making to stock can result in time spent producing parts and products that haven't been ordered. Worse, this stock has to be stored as excess inventory, taking up valuable space and resource to store, and running the risk of becoming obsolete in the process.

Waiting

Whether it's a problem with a machine or part, or hunting for a misplaced piece of equipment, any time loss adds an unnecessary cost to production.



Transportation

Moving parts and products before, during and beyond the manufacturing process, is where changes in process can make a massive difference. From inbound and yard management to shipping, every time a product is moved, there's the danger of loss, damage or delay.

* Source: IDC Manufacturing Insights, The Path to Peak Supply Chain Performance

Over-processing

Again, an area where, with an open mind and some lateral thinking, the benefits of change will far outweigh the investment in it. This is about knowing and meeting customer needs without spending unnecessary time or money producing the goods.

Movement

Poorly located tools, inventories and fixtures waste workforce time and effort. Seemingly minor modifications to processes or layout can eliminate the waste that reduces product value.

Excess inventory

The consequence of over-production in finished goods; this is product that has taken resource to produce but doesn't have an order to fulfil.

Defects

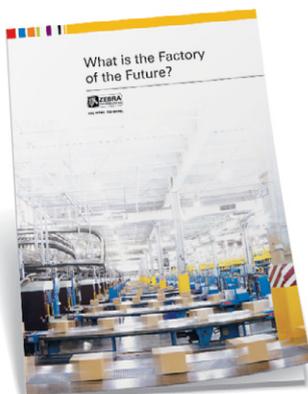
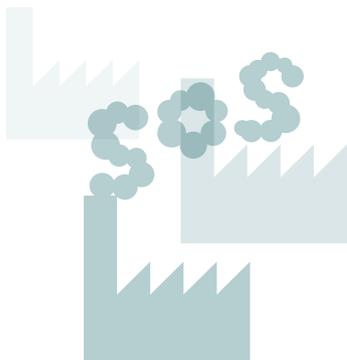
Having to rework or scrap parts or products reduces margins and involves multiplication of waste – the product itself is wasteful, but so is the time spent redoing the work and reprocessing or scrapping the item in question.



Applying the principles of lean manufacturing, then, helps to reduce inventories, but so does making the best use of available technologies to streamline processes and create new value.

Fundamental to change is the fact that 'if you don't measure it, you can't change it'. Today, you can follow assets through your facility by giving them a digital identity. Barcodes provide one way of labelling and tracing materials and products, RFID, GPS and sensing technologies are others.

When a physical product takes on a visible, digital presence, you can see exactly where it has been, where it is, and where it's going next. Giving it a virtual voice enables the object to communicate its status. This greater depth and reach of data gathering enables you to improve your decision making layer. By unlocking hidden events and inefficiencies, you're able to reduce or eliminate processes that create waste and optimise production in response to customer need and plant capability.



Find out more about the Factory of the Future. Download our guide at www.zebra.com/manufacturing-future



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