Business Growth Hub

15 Factsheet

Optimizing Factory Layout

You would use this approach as part of the design of your manufacturing process and material replenishment systems.

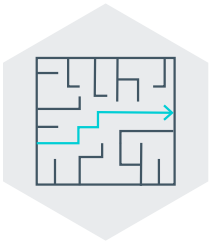
Projected performance gains

Improved

- Working environment
- Safety
- Efficiencies
- Product quality

Reduced

- Waste
- Lead times



Simplify

- The flow of production information

What investment is needed to understand the concept?

DIFFICULTY

Medium

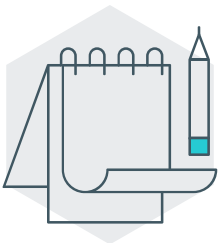
Requires some reading around the subject and a structured approach.

ACTIVITY

Team

Best results come from a team of Engineers, Assembly Operators and Material Handlers

EQUIPMENT



Some

Conveyors, Benches, Racking, Tote bins and more. This depends on the nature of the process, parts or products.

For more advice, case studies and additional factsheets visit: www.businessgrowthhub.com/manufacturing

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Explanation of the concept

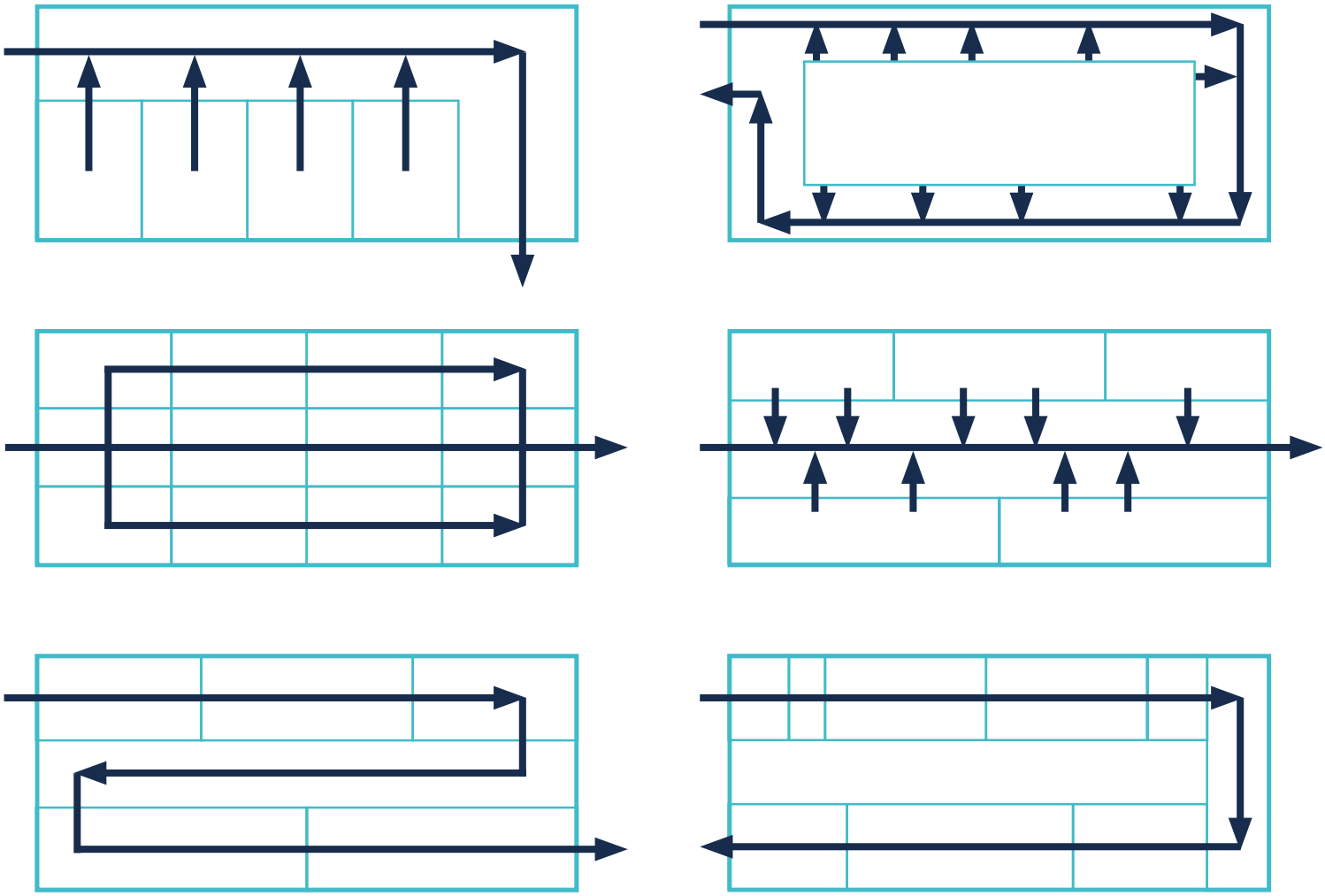
Factory layout has a significant effect on the performance of the whole manufacturing system and the day-to-day working experience of employees. The opportunities to influence and improve factory layout can come in a number of ways:

- Day-to-day Continuous Improvement activities or Kaizen events
- Introduction of a new product/process/machine
- New premises
- Expansion of existing premises.

Unfortunately, many companies do not take advantage of these opportunities and pay the price of having a poor layout every day. The best layouts are generated by teams of people who use the work areas. The roles in these teams can be:

- Engineers – bringing the understanding of the equipment set and technical aspects
- Assembly Operators – bringing their knowledge of the best ways to assemble the product
- Material Handlers – bringing their experience of feeding the production area with materials and taking away finished products

Example of a factory layout



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What action should I take?

1.

Gather together a group of Engineers, Operators and Material Handlers.

2.

Understand the likely sales demand or run rate for the production area.

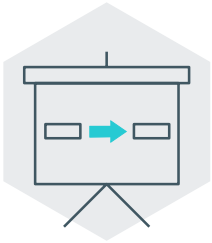
3.

Share the concepts of the 8 lean wastes and how the layout needs to reduce these.

4.

Make the inherent safety of the work area a key consideration of the layout design.

5.



Use a paper process with large A1 print-outs of the area – draw up scale machines and racking.

6.

Consider the existing or potential location of services – compressed air, power, water, drains, air/fume extraction.

7.

Put together at least two or three layout designs and then compare them to each other using the 8 lean wastes, safety considerations and investment costs as a guide.

8.

Make a collective decision on the best way forward.

Recommended resources

Suzaki, K. (1987). The New Manufacturing Challenge. The Free Press.
ISBN 0-02-932040-2

Rother, M. & Harris, R. (2001). Creating Continuous Flow. The Lean Enterprise Institute.
ISBN 0-9667843-3-2

GC Business Growth Hub Factsheet 14: Process Mapping

GC Business Growth Hub Factsheet 22: Material Requirements Planning

Glossary

Visual Management Boards: A small improvement for the better

Kaizen Event: A team based problem solving and continuous improvement activity focused on a specific product, process or issue

8 lean wastes: Wasteful activities that can be found in any production process and targeted for reduction

Run rate: Using current production performance to predict future performance over a period of time

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