



## Just-in-Time / Kanban

### Overview:

Just-in-Time, or JIT, is about getting the right amount of raw material delivered to your work station just when you want them. The benefit in JIT is that it allows a minimising of stock or inventory, and releases the money tied up in excess stock.

Kanban is a Japanese term for a “card”. This card has all the necessary information about the component required and is sent when you need more components or feedstock for your work. The Kanban is therefore a signal for more materials/production and therefore controls the JIT process. This approach is known as “pull” where ultimately the delivery to the customer sets the pace of the production where each stage of the process will only produce when there is a “Kanban” for that batch of products. The term “Kanban” is now used often as a materials and logistics management system comprising JIT deliveries and process pull.

### Origins:

Kanban was invented by Taiichi Ohno of the Toyota Motor Corporation. This led to the start of the lean manufacturing revolution which resulted in higher quality, lower costs and established the Japanese car industry as a major global player.

### Using JIT / Kanban:

Deploying JIT is not just about sending signals to both internal and external suppliers. It is about an entirely different way of working to the more traditional “push” system where buffer stocks of work are built up at each unit operation. JIT is about lean production where equipment availability, process effectiveness and quality all play critical roles to keep the process running.

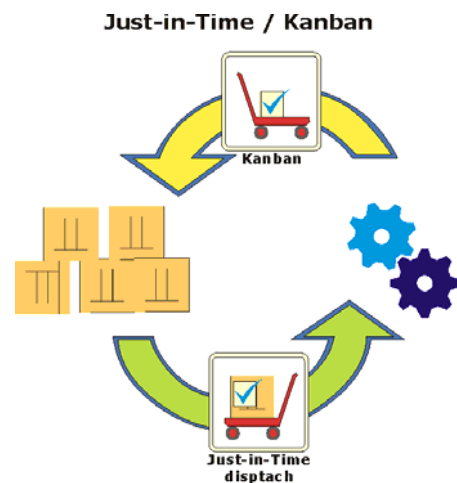
In service sectors, JIT can be deployed in areas where “stock” is built up. This can range from stationery cupboards to the batch processing of invoices.

In project management, the JIT approach is a bit more conceptual in that it focusses on issues such as customer satisfaction; the way the work moves through the process; how customer needs drive the company and overall continuous improvement.

### Problems with JIT / Kanban:

There are several problems that came out of JIT:

- A large number of small deliveries may be ideal for a customer, but it does create more traffic on the roads with subsequent environmental impacts.
- As stock levels drop along the supply chain, any disruption can have a severe effect - the global approach to raw materials sourcing means that an earthquake in one country can mean the shutting down of factories in another.
- Although the JIT / Kanban system reduces stock holding, some supplier upstream will always have to hold some stock. Whilst the level of stock can be managed to some extent, primary raw



materials (lumber, ore, grain, oil) will always need to be stored. Major problems with JIT systems can occur when there is a disruption to the primary supplier.

**Resources:**

The Lean Enterprise Institute: <http://www.lean.org>

The Lean Enterprise Academy: <http://www.leanuk.org>

Ohno, T., The Toyota Production System, Productivity Press 1988

Womack, J., Jones, D. & Roos, D., The Machine that Changed the World, Macmillan 1990