

Lean Poster Series #13

Kanban

What is Kanban?

Kanban, meaning 'signboard' in Japanese, is an inventory control system for Lean production. In its simplest form it is a visible sign to indicate to a supplier that the customer requires their stock to be replenished.

Kanban was developed by Taiichi Ohno at Toyota.

How Does a Kanban Look Like?

Whilst originally conceived of as cards, Kanbans can, in practice, be a number of different devices. Cards can be a signal, but so can a trolley which indicates that it needs to be filled and moved downstream with the required items. Or a bin, which when empty indicates that it needs to be filled. Or just a space, a fax or an email.

Six Rules for an Effective Kanban System (Toyota)

1. Customer (downstream) processes withdraw items in the precise amounts specified by the Kanban.
2. Supplier (upstream) produces items in the precise amounts and sequences specified by the Kanban.
3. No items are made or moved without a Kanban.
4. A Kanban should accompany each item, every time.
5. Defects and incorrect amounts are never sent to the next downstream process.
6. The number of Kanbans is reduced carefully to lower inventories and to reveal problems.

Benefits

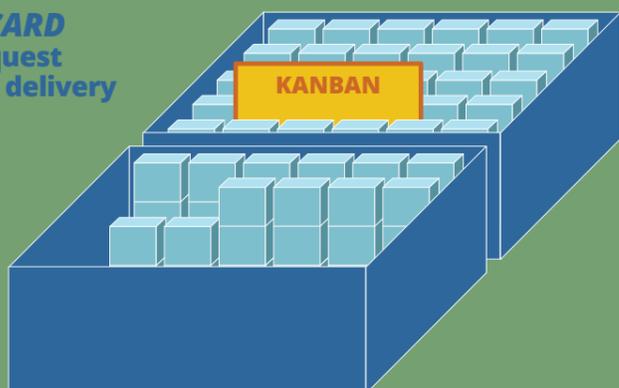
- Reduce costs by eliminating waste
- Create work sites that can respond to changes quickly
- Facilitate the methods of achieving and assuring quality control
- Design work sites according to mutual trust and support, and allow workers to reach their maximum potential

Types of Kanban

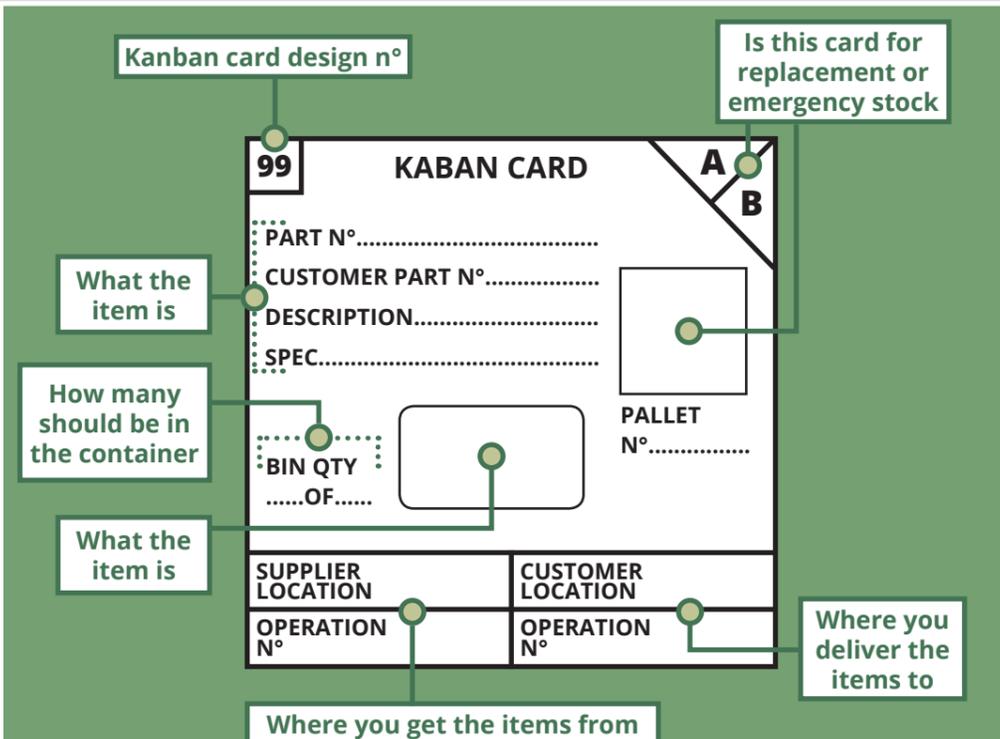
OTHER KANBAN EXAMPLES

- Single card for a given job between two workstations
- No card, no authorisation to proceed
- Mainly used in stable environments and repetitive processes
- May be more than one for multiple job types
- Simplest form of pull system based on replacement

THE CARD
To request a new delivery



In this simple example, a card is placed inside a box of parts, and is removed as the parts are assembled and taken from the box, and as they are used up and the card is reached it is passed down the line and the box is replaced.



Kanban cards are used in Lean manufacturing, passed down the line when replenishment is necessary. The card contains all the information that is necessary to ensure that the right parts are received at the right time in the right place.

OTHER KANBAN EXAMPLES

Light Signal

The Kanban card is replaced by a visual signal given by a light when the boxes is discovered to be empty



Container Exchange

The empty container represents a Kanban signal for replenishment



The Supermarket

Pulling items off the shelves in the supermarket essentially represents a Kanban signal; the empty self being a signal for the supplier to replace and restock the shelves.

