Operational excellence

Pull Flow, Kanban and Work in Progress

One day to move from production pushed by the schedule to a flow pulled by actual consumption. Participants calculate a kanban loop, size a supermarket and set work-in-progress limits on a flow in your plant, using your consumption, cycle times and batch sizes. They leave with a loop ready to test on the shop floor and its operating rules.

Duration : 1 day

Objectives

1. Explain the difference between push and pull flow, and the effect of work in progress on lead time
2. Identify on a real flow the intermediate stocks, where they come from and what they hide in lead time and quality
3. Calculate the number of cards in a kanban loop from consumption, replenishment lead time and safety stock
4. Choose the right control mechanism: supermarket, capped FIFO lane, CONWIP, supplier kanban
5. Build the operating rules of a loop and its monitoring indicators

Programme

Day 1 — morning

• Push flow, pull flow: what changes when actual consumption is the launch signal

• Work in progress, lead time and Little's law: why stock lengthens lead times

• Reading a flow at your site: intermediate stocks, bottlenecks, batch sizes

• Supermarket, capped FIFO lane, CONWIP: which mechanism for which flow

Day 1 — afternoon (workshop)

• Calculating a kanban loop: consumption, replenishment lead time, container size, safety

• Cards, dispatch board, priority rules: day-to-day operation

• Workshop: sizing a loop and work-in-progress limits on a flow in your plant

• Monitoring indicators (stock-outs, work in progress, lead time) and periodic review of the number of cards

• Knowledge test and presentation of the sized loops

Teaching methods

• In-class simulation: the same workshop run first as push flow, then as pull flow

• Calculations on your own consumption, cycle time and batch size data

• Walk through a flow at your site to spot stocks and decoupling points

• Examples of internal and supplier kanban loops in agri-food, packaging and industry

• Programme of the domain led by a Lean Six Sigma Black Belt

Assessment and documents

Knowledge test at the end of the day and end-of-course evaluation at D+1. Each participant receives a numbered training certificate, verifiable online; the company receives the training report and the kanban loop sizing produced in the workshop.

Bilingual materials for every participant; each classroom course comes with its digital twin on OmniLearn.

Good to know

Value stream mapping helps decide where to place the loops: see the course « Value Stream Mapping (VSM) ». Shorter changeovers allow smaller batches, and therefore less work in progress: that is the subject of « SMED: Changeover Time Reduction ».

Practical information

Duration	1 day
Audience	Production and logistics managers, planning and scheduling, methods, team leaders
Prerequisites	Lean basics recommended
Group size	Groups of 6 to 12 participants, in-company
Format	In-company, face to face on your site
Language	French, Darija or English; bilingual materials
Funding	OFPPT special training contracts (TFP), GIAC, Maroc PME: we prepare the applications with you, at no extra cost.
Programme customisation	Programme adapted to your procedures, your equipment and your audience

Frequently asked questions

Is kanban suitable for high-variety production?
It suits items consumed regularly. For low-volume or made-to-order items, a common approach is a kanban on the usual components and launch on order for the rest, or an overall work-in-progress cap of the CONWIP type. The course helps you classify your items.

Do we need software to run a pull flow?
No. A kanban loop works with cards and a board. Electronic kanban in the ERP is justified later, when the rules are stable and distances or volumes require it.

What data should we prepare before the session?
Consumption per item over a few months, cycle and changeover times, batch sizes and replenishment lead times for a chosen flow. Without this data, the workshop uses a typical case, but the result is less directly applicable.

How does this relate to the Lean fundamentals?
Work in progress is one of the wastes presented in « Lean Manufacturing: Fundamentals and the 7 Wastes ». This day goes further on a single subject: how to reduce it lastingly by changing how production is launched.