Workshop: Internal logistics of a plant according to Lean rules

Lowered logistics costs thanks to more frequent deliveries of smaller amounts

Target group
Employees responsible for internal logistics and inventory management of the company (raw materials, semi-finished products, end products), managers and engineers in charge of improving production systems.

Get the practical insight into solving problems and responding to challenges including:

- High inventory level of purchased materials and raw materials.
- Ineffective work of warehouse operators.
- Stoppages in production caused by lack of materials and components.
- Irregular deliveries of huge batches of materials to work stations.
- Waiting for materials resulting from poor organization and performance of internal logistics services.
- Lack of sufficient logistics resources.

Overview
Supplying parts and materials from the warehouse to work stations requires creating an effective internal logistics system in the plant. This system should include both a well-organized warehouse and optimum transportation paths around the production hall. Instead of releasing huge batches and supplying whole pallets of materials, it is more efficient to supply them to work stations frequently and in small quantities. They should also be distributed with the use of tractors and push carts that shuttle according to a special timetable and along set routes, instead of using fork-lift trucks. The system is often referred to as “the Milk Run”, “the train”, “the Water Spider” or “mizumashi”.

Benefits for the company

- **Increase** in the efficiency of production.
- **Reduced** level of inventory and increase in its rotation.
- **Reduced** amount of overtime in the plant.
- **Reduced** number of employees responsible for internal transport.
- **Standardized** activities connected with internal logistics of the plant.

Benefits for the participant

- **Understanding** of the operating rules of internal logistics of the plant based on a Lean system.
- **Ability** to build and read a Plan for Every Part.
- **Ability** to calculate and design a supermarket of the acquired parts.
- **Mastering** the rules of a proper selection of means of internal transport, and of designing and implementing “the Milk Run” in the plant.
- **Familiarity** with the methods of designing materials Kanbans.

AGENDA – DAY ONE

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Module 1	9:00 – 10:30 (10:30 – 10:45 coffee break)	▪ Lean internal logistics system at a plant – good and bad solutions presented on examples ▪ Benefits from Lean solutions of internal logistics, group activities ▪ 4 elements of the internal logistics system of a plant
Module 2	10:45 – 12:15	▪ Developing a Plan For Every Part as the basis for improving internal logistics of a plant – practical group exercises ▪ Reducing waste when materials are accepted in the warehouse, ways of organizing work of warehouse employees ▪ Designing a supermarket with parts and raw materials: supermarket visualization, ways of organizing the shelves in order to optimize the time needed for obtaining materials, rules of placing materials in rack systems and on the shelves, designing paths for replenishing and obtaining materials, etc.
12:15 – 13:00 Lunch		
Module 3	13:00 – 14:30 (14:30 – 14:45 coffee break)	▪ Minimum and maximum level of inventory in a supermarket – group exercises ▪ Ways of visualizing materials shortages in a supermarket, the escalation procedure, and the emergency procedure for inventory replenishing
Module 4	14:45 – 16:30	▪ Practical activities in a warehouse with materials and raw materials, and in a warehouse with finished products – following the route and the routine of warehouse operators with the focus on optimizing and standardizing their work, developing ideas to reduce waste in a warehouse
AGENDA – DAY TWO		
Module 1	9:00 – 10:30 (10:30 – 10:45 coffee break)	▪ Rules of designing delivery routes for materials inside a plant ▪ Rules of selecting transportation paths, one- and two-way paths ▪ How to determine and mark stops for the “Milk Run” on the delivery route of materials ▪ 4 methods of transporting materials, semi-finished products and finished products in the production hall, standardized work for the “Milk Run” ▪ How to determine a good interval for the delivery of materials in a loop
Module 2	10:45 – 12:15	▪ Rules of designing racks located near workstations and designed for storing and properly presenting parts and components for production employees ▪ Types of pull signals in internal logistics of a company – their characteristics, advantages and disadvantages ▪ Loops of a pull system and circulation of Kanban cards– a simulation game ▪ How to select a proper pull system – the differences between the “variable amount-permanent frequency of deliveries” system and regular deliveries at an andon signal
12:15 – 13:00 Lunch		
Module 3	13:00 – 14:30 (14:30 – 14:45 coffee break)	▪ Practical activities in the production hall and the warehouse – observing and analyzing actual solutions for a logistics system, following the internal logistics route with the „Milk Run”
Module 4	14:45 – 16:30	▪ Ways of preparing a good implementation plan for an internal logistics system in a plant, criteria for choosing between an associated and non-associated delivery route of internal deliveries ▪ Workshop summary – Q&A session