How to use the Lean Methods inside warehouses

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Agenda

- The origin of Lean
- Lean Warehousing: The Lean application in logistics warehouses
The origin of Lean

- Japan at the end of the second world war
  - Reconstruction of the industry without financial help
  - Japanese companies tried to access the global market without any financial help

- In the 80s the MIT evaluated Japanese production systems and compared them with other systems in Germany and the United States
  - Worldwide, these studies characterised the term „lean”
  - From these comparisons in the MIT studies, based on the Japanese production systems, the term “Lean” coined around the world
The Lean-meaning & -consequences

- What it is about
  - Unite know-how and responsibility
  - Work together in networks
  - Prevent waste and defects
  - Harmonise processes
  - Attempt continual improvement

- Observed consequences
  - flat hierarchy
  - More responsibility and know-how at the “base”
  - reduced waste
  - Improved internal communication and external communication with customers and suppliers as well
  - Orders will be started after the pull-principle
Types of waste

- The customer is unwilling to pay for waste
  - Transportation
  - Inventory
  - Motion
  - Waiting
  - Overproduction
  - Over Processing
  - Defects
  - Unused Potential
- Eliminate all types of waste and use the gained time and resources value added
Lean Warehousing

- Transfer the lean principles to logistics
  - Individual compilation of lean methods for a "logistic-production system"
  - Usage of lean methods and tools for CIP

- Reasons for Lean Warehousing
  - CIP
  - Standardisation
  - Prevention and Elimination of waste
  - Synchronised processes
  - Employee qualification
  - Preventive defects management
  - Visualisation
Lean warehousing potentials

- Process reliability
- Reduced process costs
- Low cost for capital employed
- Raising quality as well as improved of other service-aspects
- Exhaust the potential of employees
- Enhance the satisfaction of employees
Lean warehousing challenges

- Transfering of Japanese management-principles
- Management changes the roles: from chief to consultant
- Highly qualified employees
- Conflict between rationalisation and employee participation
- Long-term thinking towards short-term corporate objectives
- Professional change management is inevitable for change process
Selection of lean-tools and -methods

- POKA YOKE
- LEAN PROCESSES
- MUDA
- LEAN LOGISTICS
- 5S
- LEAN PRODUCTION
- TEAM BOARDS
- DMAIC
- VALUE STREAM MAPPING
- PROCESS MAPPING
- PULL PRINCIPLE
- STANDARD WORK
- KANBAN
- VISUALISATION
- ISHIKAWA DIAGRAMM
- CONTINUAL IMPROVEMENT
- STANDARD COMMUNICATION
- (TOYOTA-) PRODUCTION SYSTEM
- KAIZEN
- PDCA
- ONE PIECE FLOW
- LEAN WAREHOUSING
Lean Warehousing: PDCA-cycle

- **Plan**
  - means the cognition, the analysis of the current status as well as developing a new concept

- **Do**
  - contains the practical optimisation of the concept with realisable and simple instruments at the workplace

- **Check**
  - studies the results and in the case of success release it as standard

- **Act**
  - means the implementation across a broad front

PDCA-cycle supports the sustainability in projects
Lean Warehousing: team-boards

- Team-boards contain following elements
  - Overview about weekly or daily updated key figures
  - Weekly or daily
  - CIP activities
  - A3 Reports
  - Employee information
  - Work instruction
  - etc.

Total transparency of the whole system
- At any time
- For anybody
Lean Warehousing: Process-Mapping

- First record of actual processes with shop-floor involvement
- Joint discussion of the process
- Visualization of relationships and the time course
- Analysis of the process and a common identification of weaknesses
- Process transparency understanding

Involve your shop-floor workers because they know the process
Lean Warehousing: Visualisation

- Offline-visualisation
  - work instruction
  - signs
  - Etc.

- Andon-boards on the level of the control stand and the shopfloor
  - Visualisation of the workload
  - Visualisation of actual and the allocated time
  - Visualisation of process problems

Support by a variety of visualisations
“Perfection is not attainable. But if we chase perfection we can catch excellence.”

Vince Lombardi
(American Football Coach)
Thank you for your attention.
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