Automotive Chassis Design for 5 Day Car (AC_DC)

The aim of AC_DC is to shorten the production time of a car by standardization and late customization of components, optimization of production processes, significant reduction in stocks to increase flexibility and realize savings in the supply chain till Tier 3

1 Targets / Benefits

- Avoidance of overproduction
- Optimized inventory buffers with decreased lead time
- Cost reduction due to reduced lead time and inventories
- Transparency within entire Supply Chain up to tier 3
- Shorter reaction times
- Simplified and fast processes
- Minimized planning and scheduling efforts
- Increase of production flexibility
- Controlled inventories
- Implementation with low invest
- Harmonization of the material flow
- Production time in the order of forecast time

2 Implementation Approach

Pre-condition

- Detailed knowledge about customer processes and requirements e.g. takt time, shift model, delivery terms
- Reduced set up times for increased flexibility
- Reliable and stable processes along the supply chain

Implementation steps

- Involve and train workers and process owner
- Analyze customer demands and fluctuation of products (ABC/XYZ etc.)
- Analyze current processes (VSM/VSD)
- Optimization of lead time of determinative process
- Development of process technology according zero defect
- Self directed production planning by KANBAN
- Reduce stock volumes
- Simulation of production processes

Stabilization / Control Process

- Start pilot implementation
- Control effectiveness
- Take corrective actions
- Roll-out concept plant-wide
- Implement suppliers

KPIs

- Lead time/ Through put time
- Turn rate
- Logistic and quality costs
- Costs of economic value add
- Customer takt time
- Flow factor
- Flexibility

3 Areas of Application

Internal and external supply chain processes

4 Related Topics

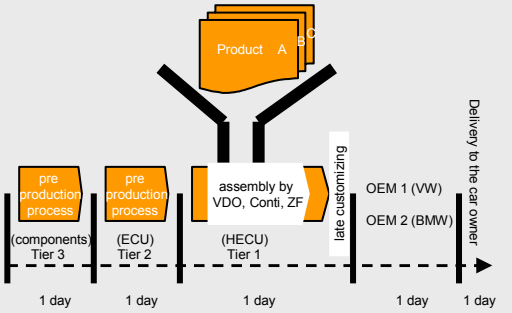
Methods

- Design for manufacturing
- Standardization of manuf. techn.
- Supplier Management
- Production acc. customer tact
- Pull principle
- Continuous flow
- Collaborative design of SC
- LCA

Tools

- Plan for every part (ABC/XYZ)
- Single minute exchange of die (SMED)
- KANBAN / FIFO
- Leveling (Heijunka)
- Value Stream Mapping / Value Stream Design (VSM / VSD)
- Just-in-time / Just-in-sequence

5 Example



Possible modular production of products

Pull orientation

6 Sources and additional Training Material

CA.PS link for documentation and training

7 Contact

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