LOGISTIK HEUTE – Forum auf der CeMAT 2008 | Hannover, 28. Mai 2008

Technik vs. Lean: Widerspruch oder Ergänzung

Vortrag im Rahmen des Forums:
„Warehousing – Prozesse und Technologien
mit Lean Production-Konzepten neu gestalten“

METROPLAN® ENGINEERING
MATERIALFLUSS- UND LAGER-SYSTEME LOGISTIKCENTER-GENERALPLANUNG OUTSOURCING PROJEKTMANAGEMENT

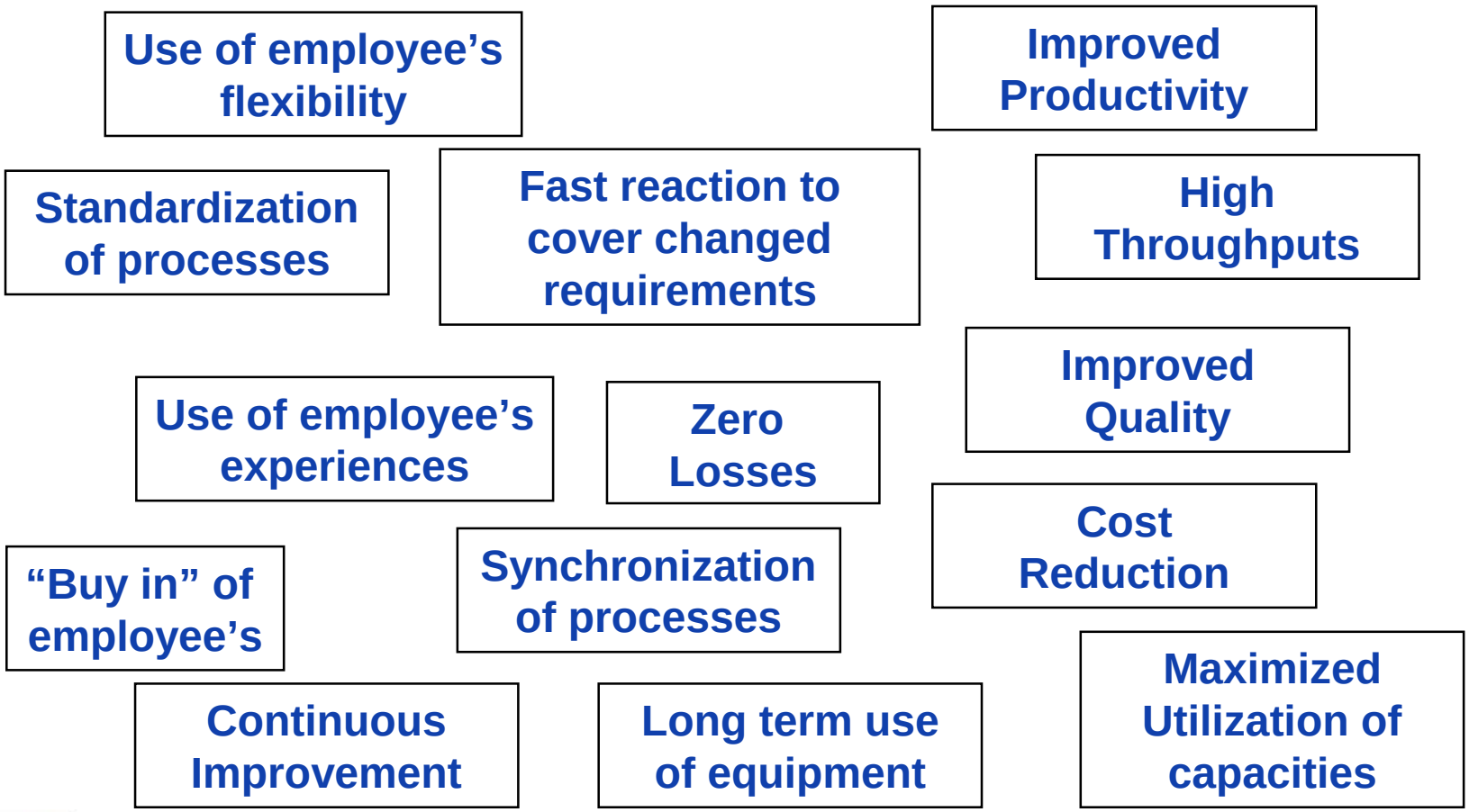
Techniques vs. Lean: Contradiction or complement
Content

Techniques vs. Lean: Contradiction or complement

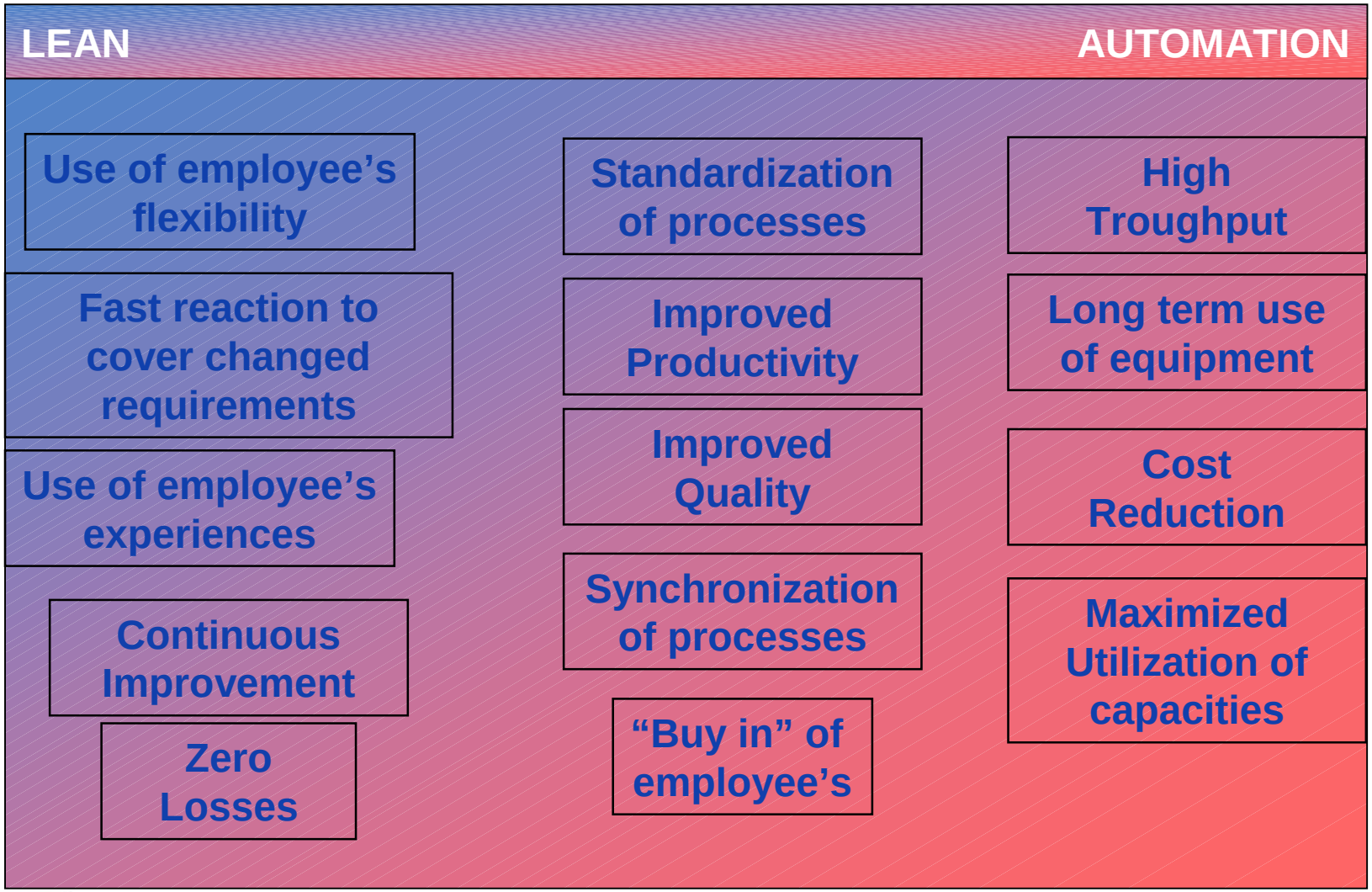
- **Objectives of automation vs. Objectives of lean – differences and similarities**
- **Warehousing Excellence – a challenge for designing distribution centres (DC)**
- **Integrated design in the sense of lean – harmonised processes, organization and technology**
- **Summary: The role of the staff and technology in Warehousing Excellence DC**
- **How to achieve Warehousing Excellence DC**

Objectives of automation vs. Objectives of lean differences and similarities

> **Objectives to be achieved by a re-engineering or a new design of a Warehousing Excellence DC**



Objectives of automation vs. Objectives of lean differences and similarities



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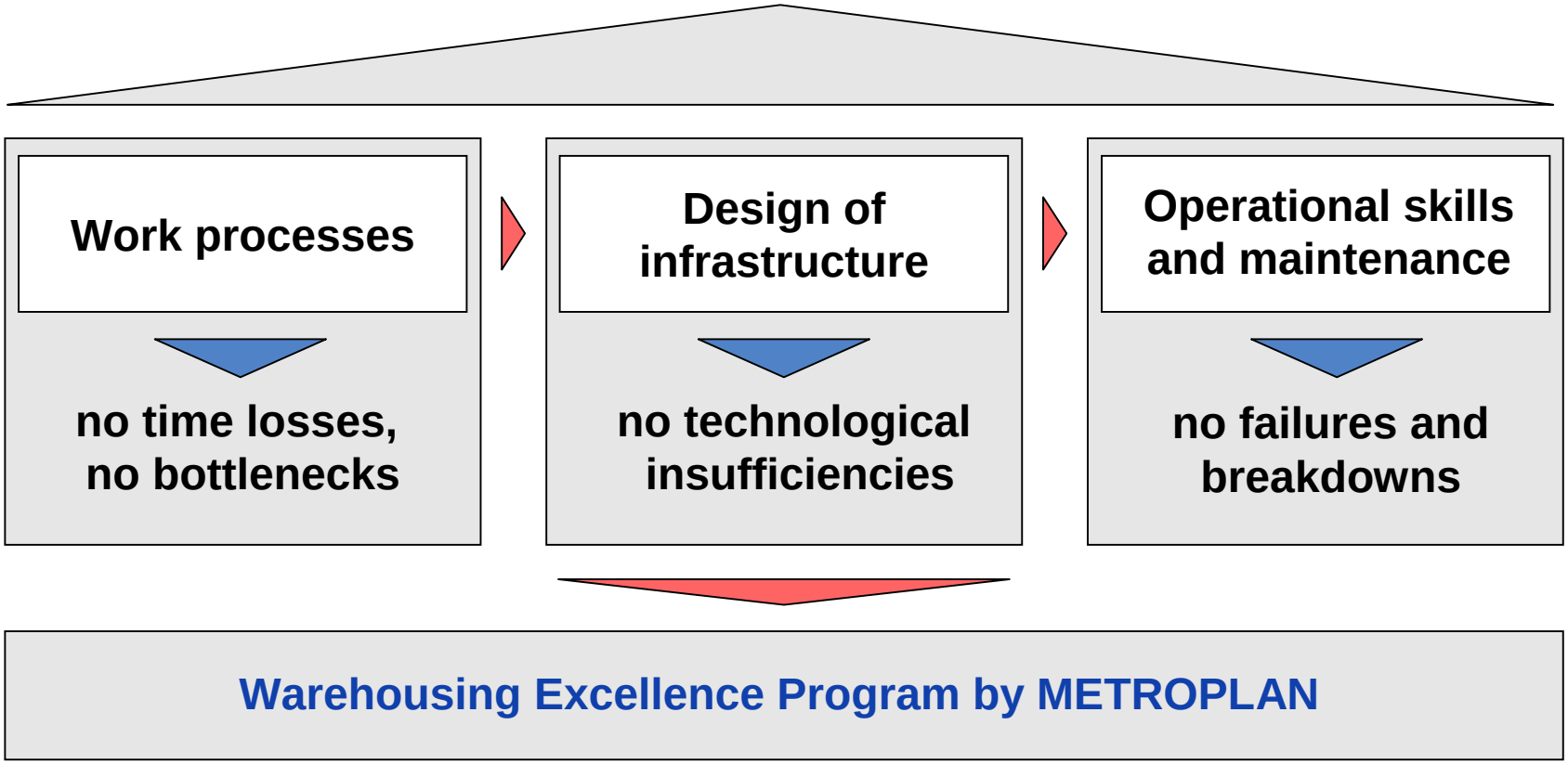
Warehousing Excellence Distribution Center Objectives

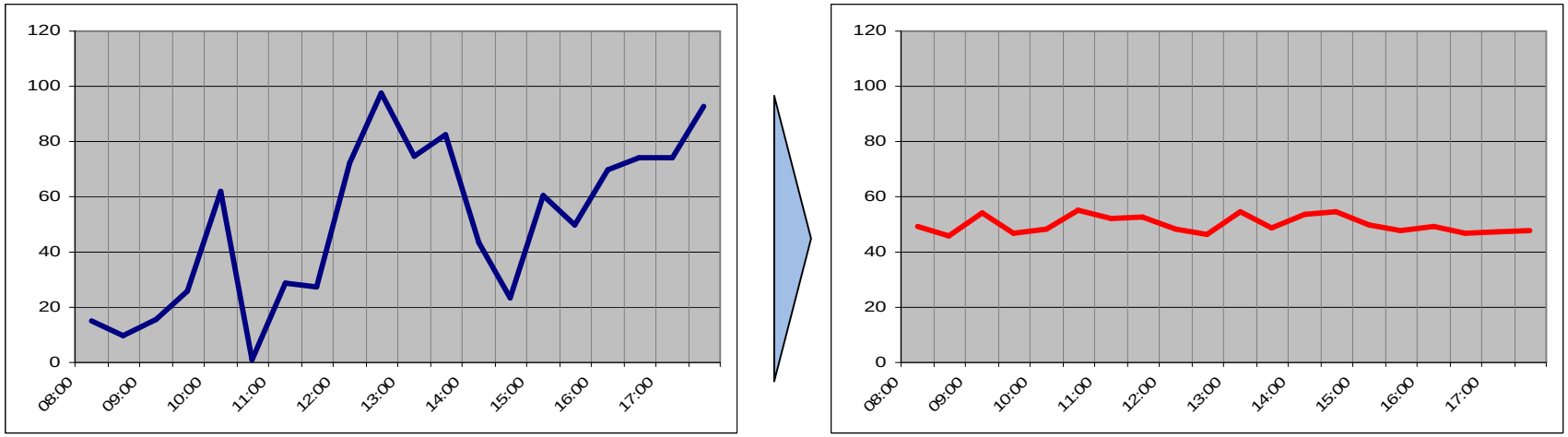
Logistics operation is performed on high standards by the use of industrial work systems. The goal is the ZERO DEFECT operation !



Warehousing Excellence Distribution Center
Lean Design of Processes

> **Within one company processes are standardized, rolled out and well trained to achieve the ZERO DEFECT operation !**

> **Processes are designed in a way which supports the continuous flow of material, regardless if one piece flow or mass production !**



1. **Same process design for diffe-rent throughput**
2. **Similar design of IT-dialogues and logic behind**
3. **Visualization of performance and status**
4. **Material flow is continuous and smooth**

Warehousing Excellence Distribution Center
Lean Design of Infrastructure

> **Lean material flow systems provide a high process stability and tolerate against short term and long term change of requirements !**

> **A maximum of flexibility will be achieved by an intelligent combination of automation and manual operation according to lean principles !**

Design of Infrastructure:

> **Technology**
> **IT**
> **Building**

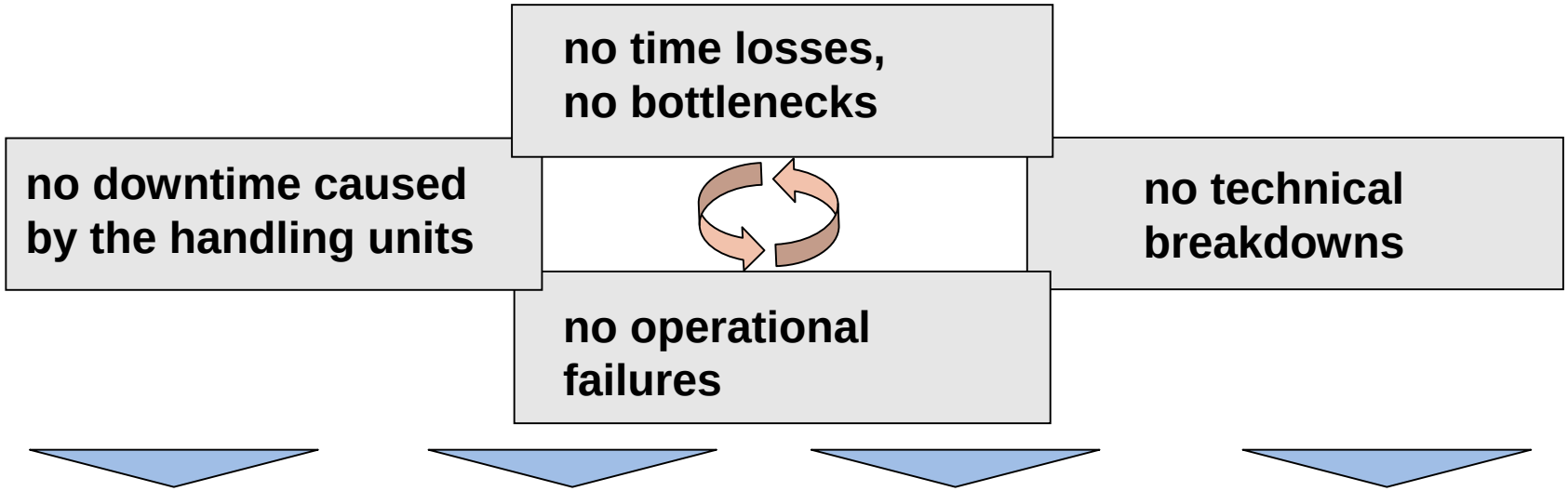
economical
–
adaptive
–
functional

1. **Automation to cover main capacities**
2. **Manual operation for peak situations**
3. **Adaptive control of resources**
4. **Long term in-/decrease of capacities**

Warehousing Excellence Distribution Center
Lean Design of Operation

> **Logistics is operated on an high performance level by the use of industrial work systems**

> **The goal is the ZERO DEFECT operation and the fulfillment of a maximum quality level !**



1. **Continuous improvement and adaptation**
2. **Autonomous and preventive maintenance**
3. **High personal skill level of operators**
4. **Organization of the daily business**

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Example of a Warehousing Excellence DC
Example production supply and spare part center

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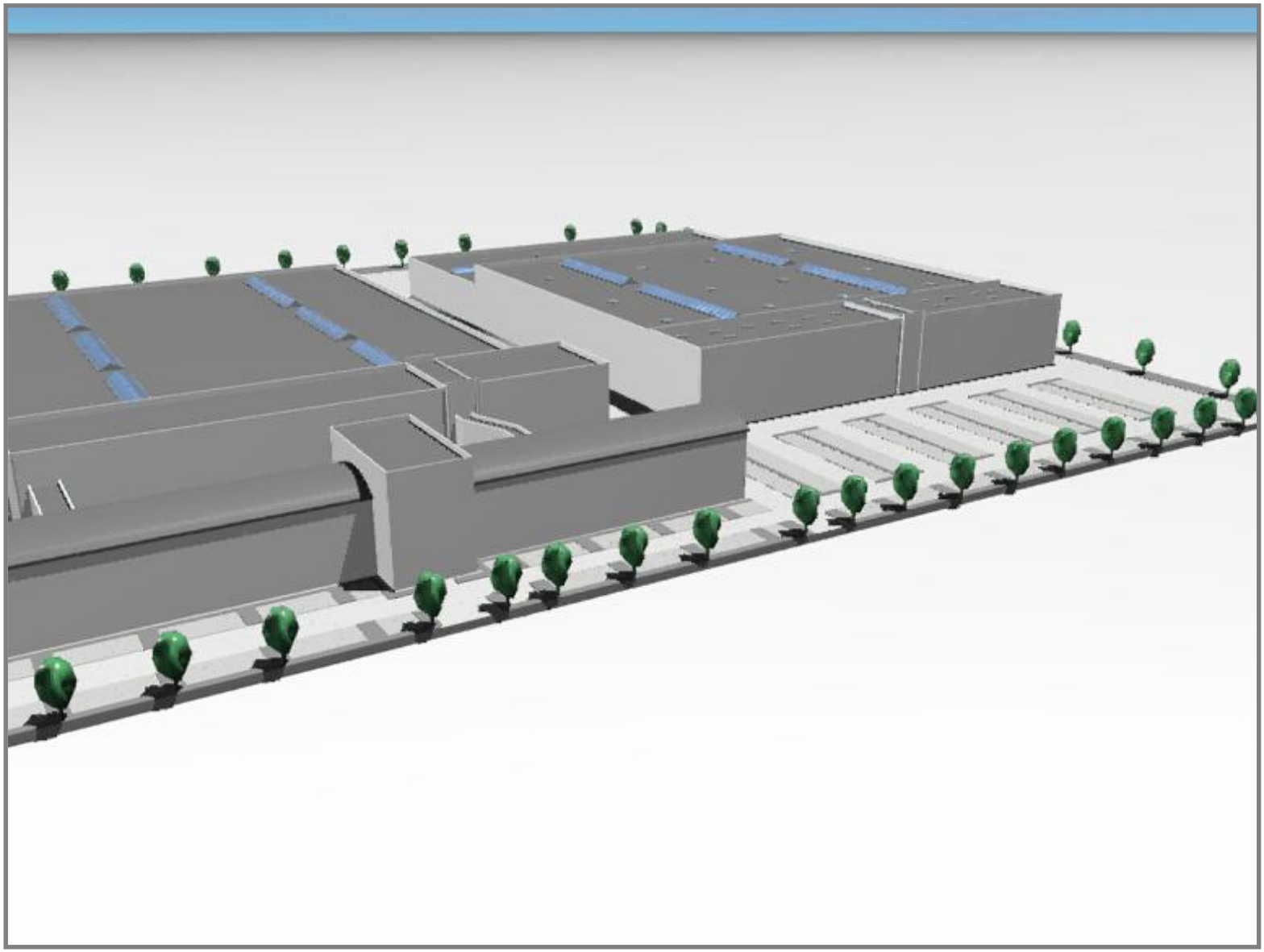

Example of a Warehousing Excellence DC
Production supply and spare part center

Main key elements of Warehousing Excellence DC covered:

- **Same process design for different throughputs**
- **Material flow is continuous and smooth**
- **Visualization of performance and status**
- **Automation to cover main capacities**
- **Manual operation for peak situations**
- **Adaptive control of resources**
- **Long term in-/decrease of capacities**
- **High personal skill level of operators**

3 year‘s after start up the system is running at index 1.5 above planned capacity without mayor bottlenecks

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Summary
The role of the staff and technology

- **Automation in material flow and warehouse technology does not end in itself and will endure as an integral part of warehouses – within changed conditions**
- **The human potential especially flexibility and adaptability have to be more utilized in the future, e.g.**
  - **to cover peaks in operation**
  - **to realise different processes and throughputs on one machine**
  - **to implement short- and long term as well as planned and unplanned changes of requirements**
- **Automation will relieve the employee**
  - **where similar actions are taken more rational by machines**
  - **where high material throughputs are not manageable without automation**

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The way to Warehousing Excellence
Program Overview

STEP 1: Definition of expected business standards for productivity, KPI's, cost
Goal: Leadership team of sites understands expectation of company

STEP 2: Loss Analysis (of pilot site) for processes, technology and training level
Goal: Losses as well as improvement areas are clearly defined and ranked

STEP 3: Focused improvement of process losses
Goal: Optimized use and utilization of the existing infrastructure

STEP 4: Optimization of losses caused by technical infrastructure
Goal: Infrastructure fulfills material handling requirements

STEP 5: Introduction of autonomous and preventive maintenance systems
Goal: Infrastructure will be kept in perfect condition

STEP 6: Introduction of continuous improvement concept
Goal: High training standard, commitment and buy-in of all employees

STEP 7: Re-application and roll-out to all sites (if applicable)
Goal: Successful roll-out of the warehousing excellence program

LOGISTIK HEUTE forum

Impressum:
Warehousing Excellence: Technik vs. Lean – Widerspruch oder Ergänzung

28.05.2008
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