

Sponsored by:



Presented by:

Klaus-Dieter Wurm

Vice President, Managing Director
Materials Handling Division



Combining Standard Solutions to Solve Complex Case and Piece Picking Challenges



© 2014 MHI®
Copyright claimed as to audiovisual works of seminar sessions and
sound recordings of seminar sessions. All rights reserved.

Agenda

- ▶ Definition “Integrated Standard Solutions”
- ▶ Standard products:
 - Racking & Shelving Solutions
 - Vertical Lift Modules
 - Ergonomic Work Stations
 - Conveyors
- ▶ Integration of standard products in practical examples

Integrated **S**tandard **S**olutions

Integrated Standard Solutions utilize traditional materials handling products to form a complete system and are seamlessly combined to solve complex picking challenges.



Why integrated standard solutions?

- ▶ Lower initial investment
- ▶ Proven technology
- ▶ Reduced implementation time
- ▶ Simple scalability

Shelving/Racking Solutions

- ▶ Carton Flow Storage Systems
- ▶ Mobile Shelving Systems
- ▶ Multi-Tier Storage Systems



Vertical Lift Modules

- ▶ An automated storage and retrieval system
- ▶ Trays are located in the front and back side
- ▶ The trays are moved via lift (elevator) to the access opening
- ▶ In principle, an automated tool drawer cabinet



Ergonomic Workstations

- ▶ A workstation that combines Ergonomics with picking and assembly processes
- ▶ Leads the employee step-by-step through the work process via instructions
- ▶ Light-controlled picking

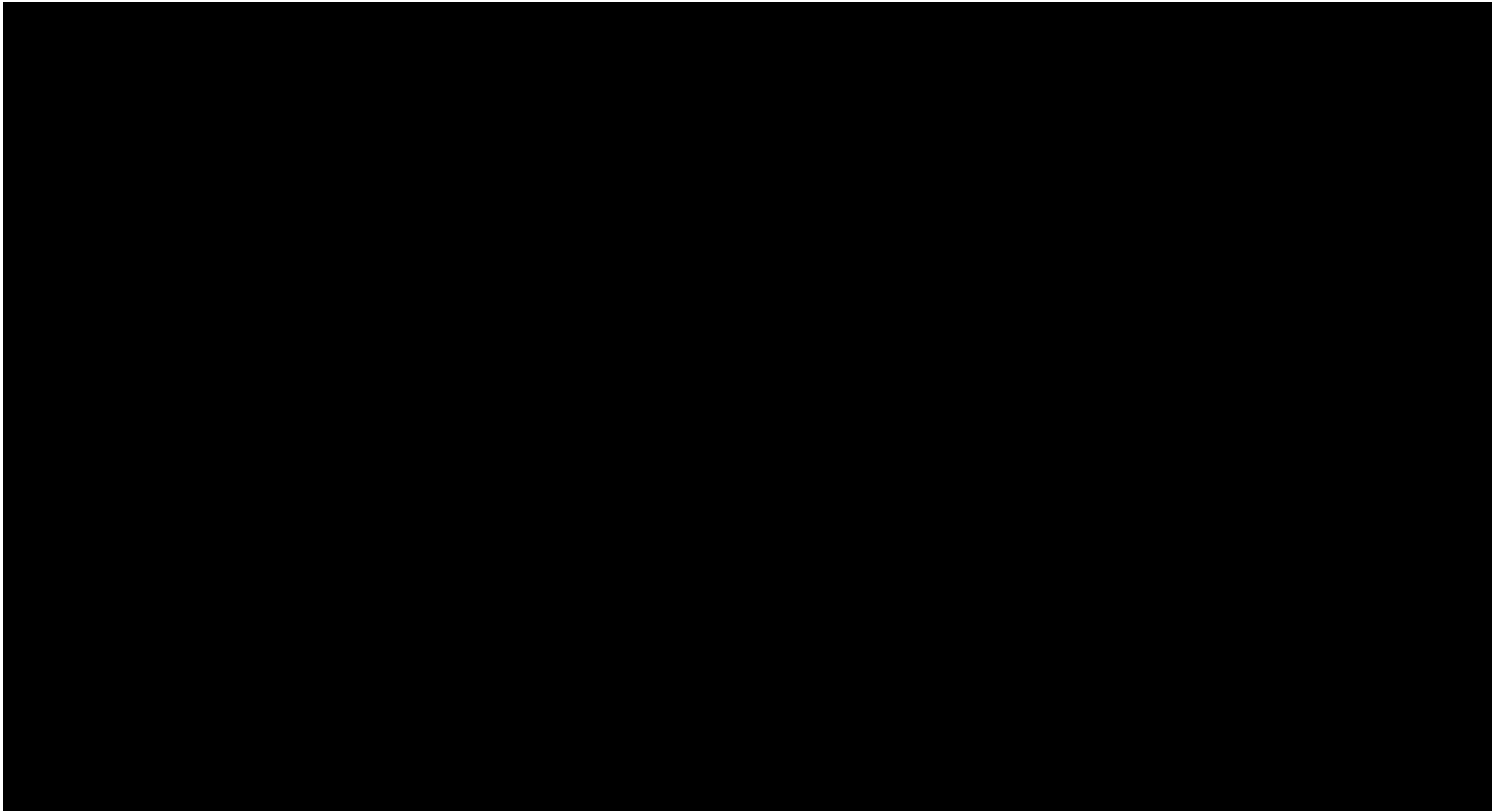


Example of an Ergonomic Workstation



- 1. Touch-Terminal + Line Controller + PBL strips with intuitive user guidance
- 2. Glare-free workstation lighting, for optimal illumination
- 3. Swivel arm elements, for ergonomic work space optimization
- 4. Work table with motorized height adjustment, for rapid adaptation to changing conditions

The Concept



Conveyor Systems

Gravity Conveyor

The simplest kind, gravity conveyors feature an incline and use the force of gravity, or of a person, to push the load along the conveyor surface.

Powered Conveyor

Driven by either an electric or pneumatic power system.



The Optimal Solution



Step by Step!

Step by Step

1st Step

▶ Data Acquisition

2nd Step

▶ Data Analysis

3rd Step

▶ System Selection and Layout

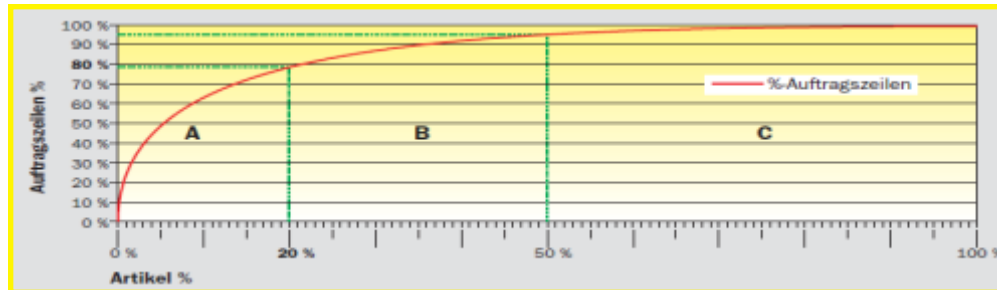
4th Step

▶ Selection of Conveyor System

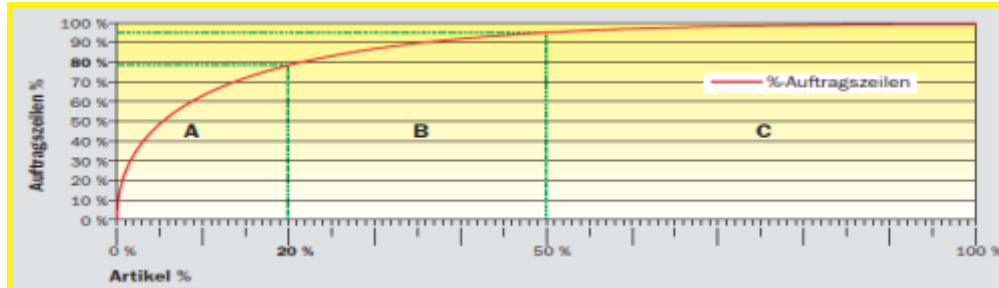
Data Acquisition

- ▶ Number of SKU's
- ▶ Number of orders
- ▶ Number of lines
- ▶ Number of picks
- ▶ Number of employees
- ▶ Working hours
- ▶ Planned growth
- ▶ ERP system

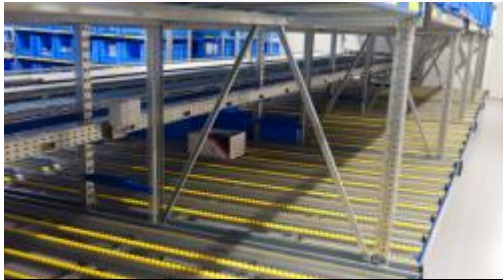
Data Analysis



System Selection and Layout



Based on Data Analysis



Product Group 1: Carton Flow Storage System



Product Group 2: Vertical Lift Module



Product Group 1: Mobile Shelving System

Selection of Conveyor System



Product Group 4: Conveyor



**Let's integrate these
standard products to
form a complete
solution!**

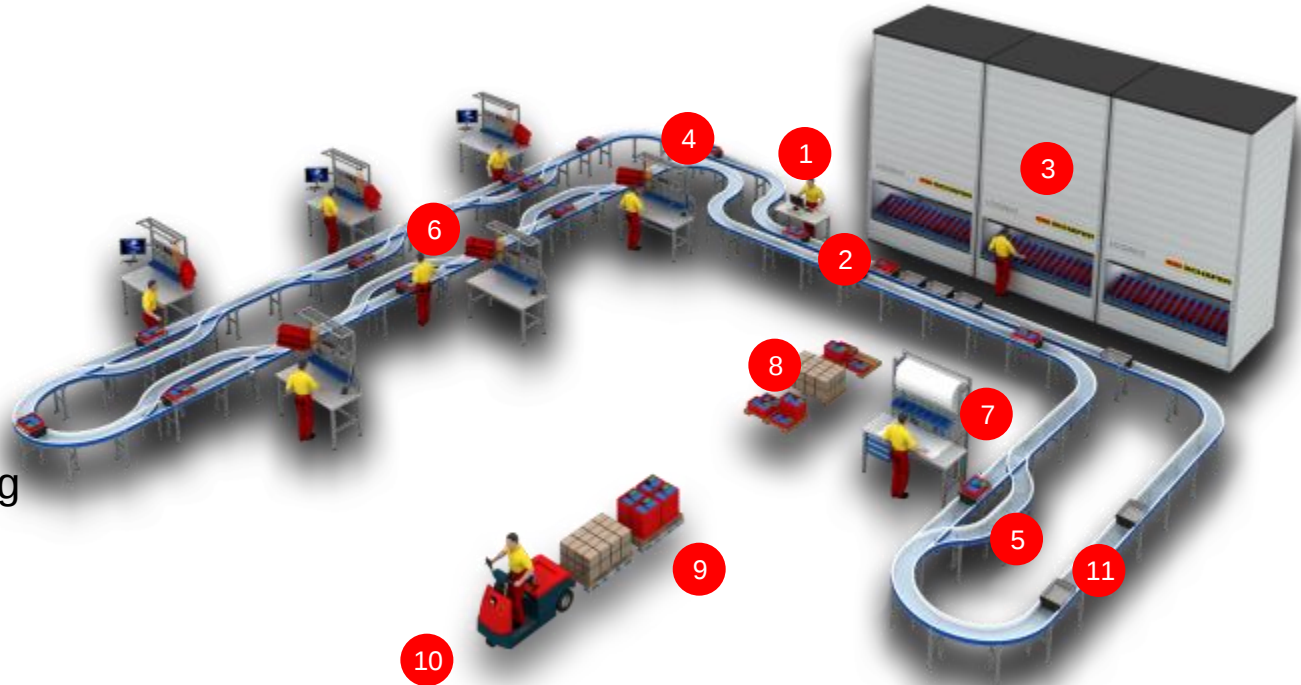


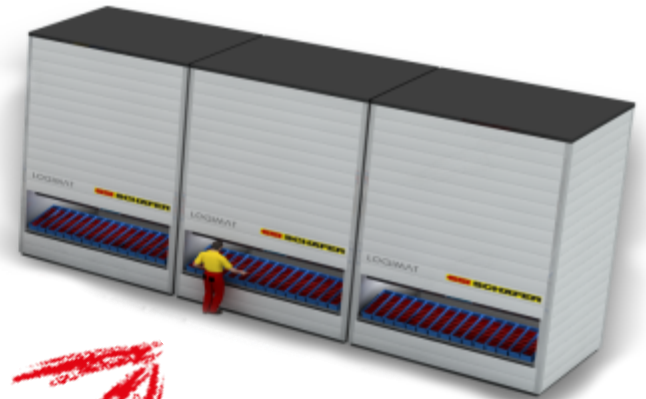
Order Process:

- ▶ Orders are recorded in an ERP system
- ▶ Assembly workstations must be supplied with components and small-part accessories before final assembly can begin
- ▶ On the factory floor, the finished product is assembled from small-part components and shipped

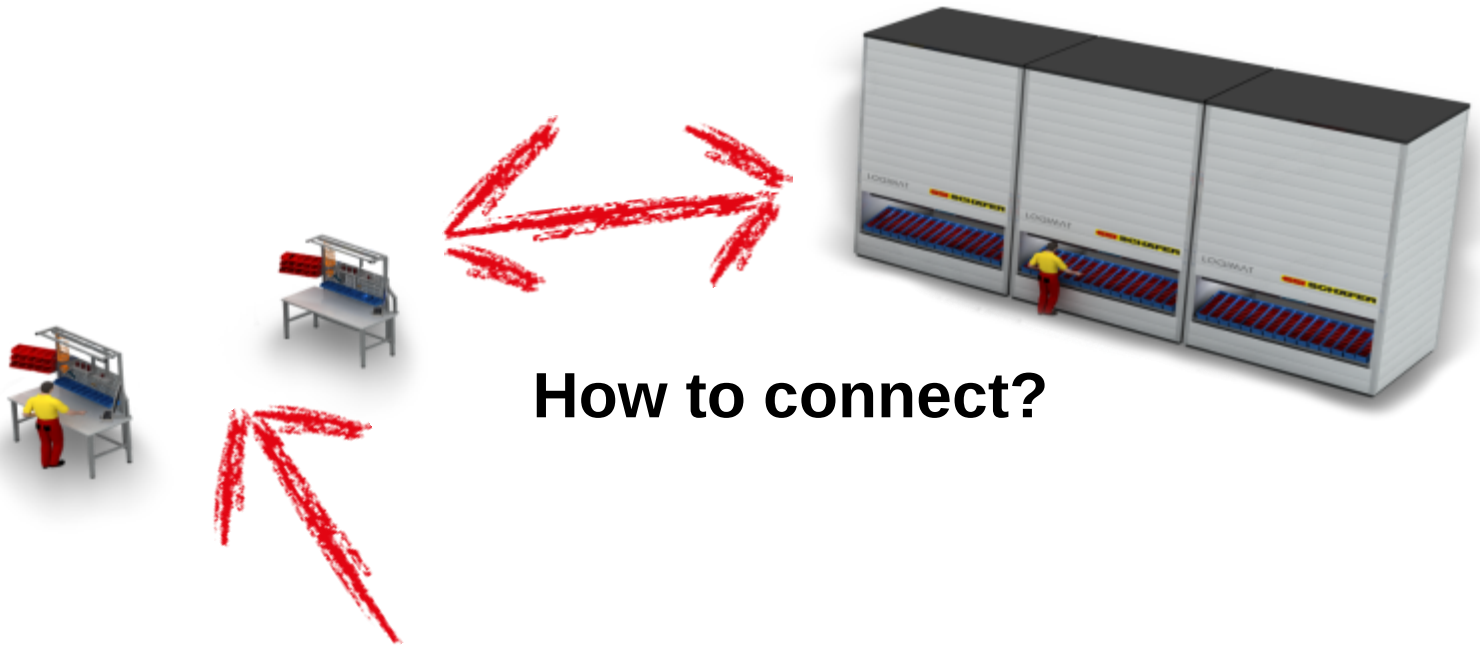
Integrated Standard Solutions

- 1 Order start
- 2 Order-picking station
- 3 VLM
- 4 Conveyor
- 5 Bypass
- 6 Assembly workstation
- 7 Packing area
- 8 Goods ready for shipping
- 9 Roller pallet
- 10 To shipping area
- 11 Empty containers buffer





Raw Material Stock



How to connect?

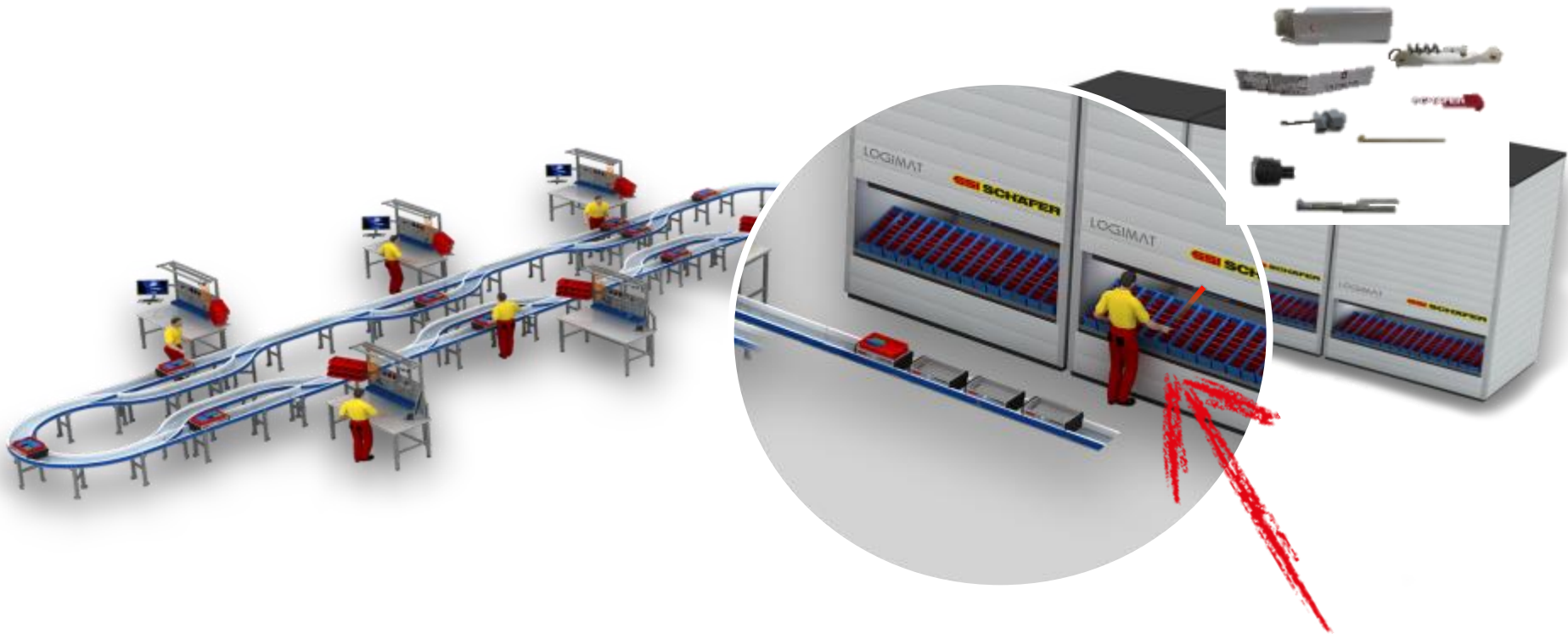
Workstations



Target Position

Order Start





Order Picking

Target Position



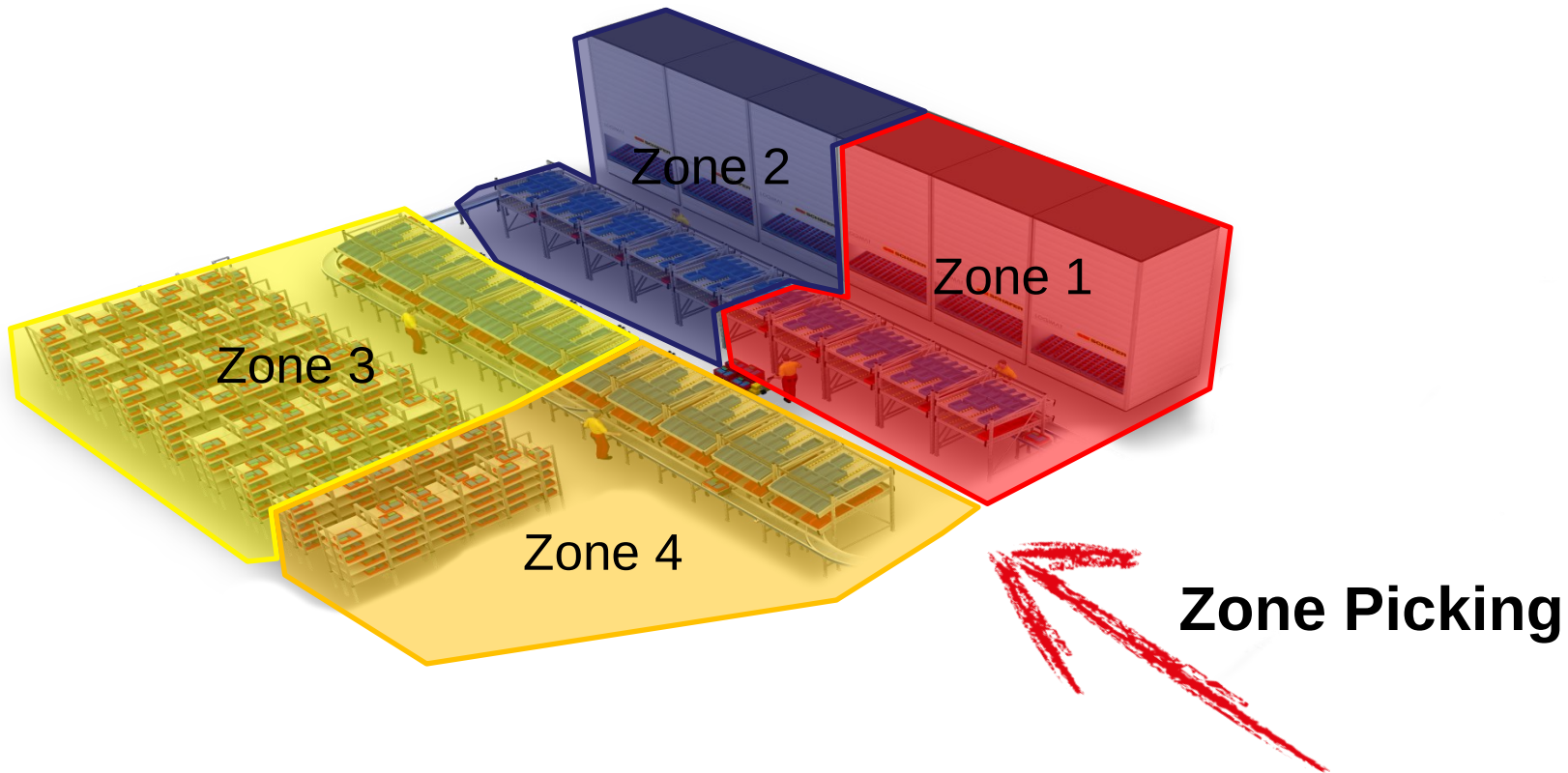
What is missing?

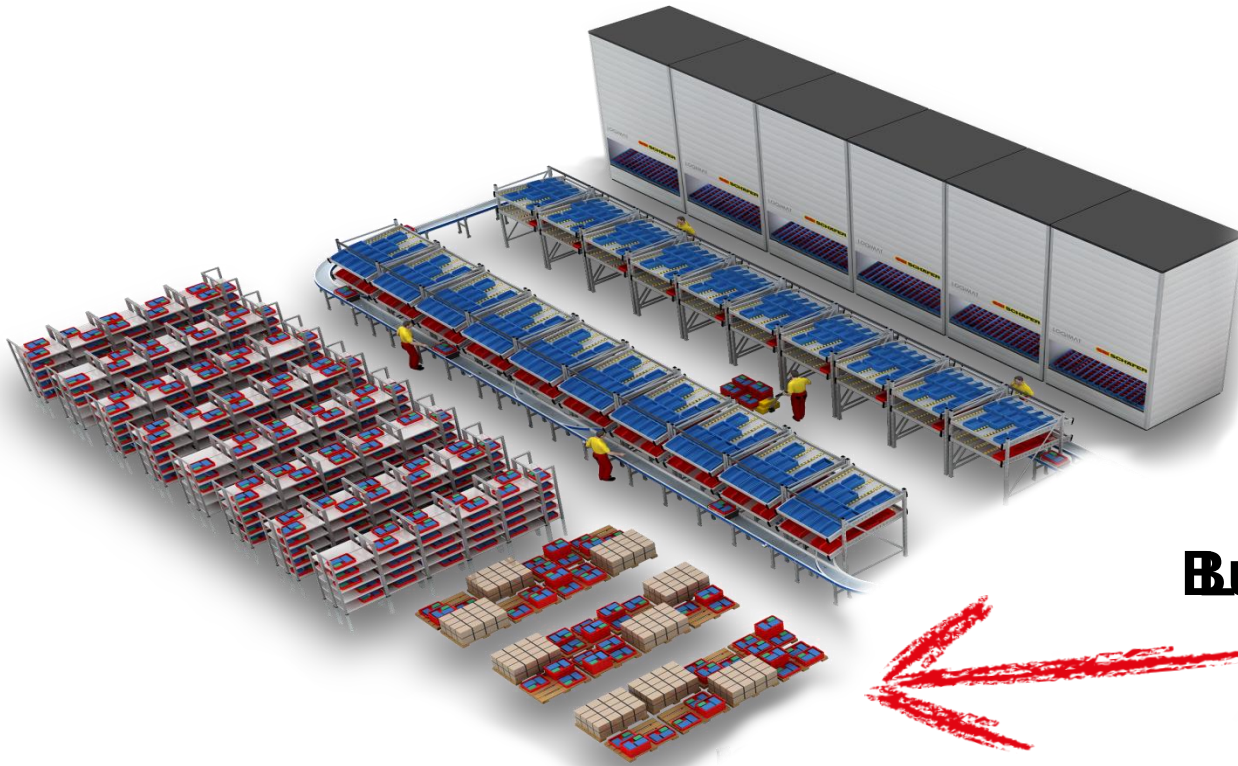




Situation Before:

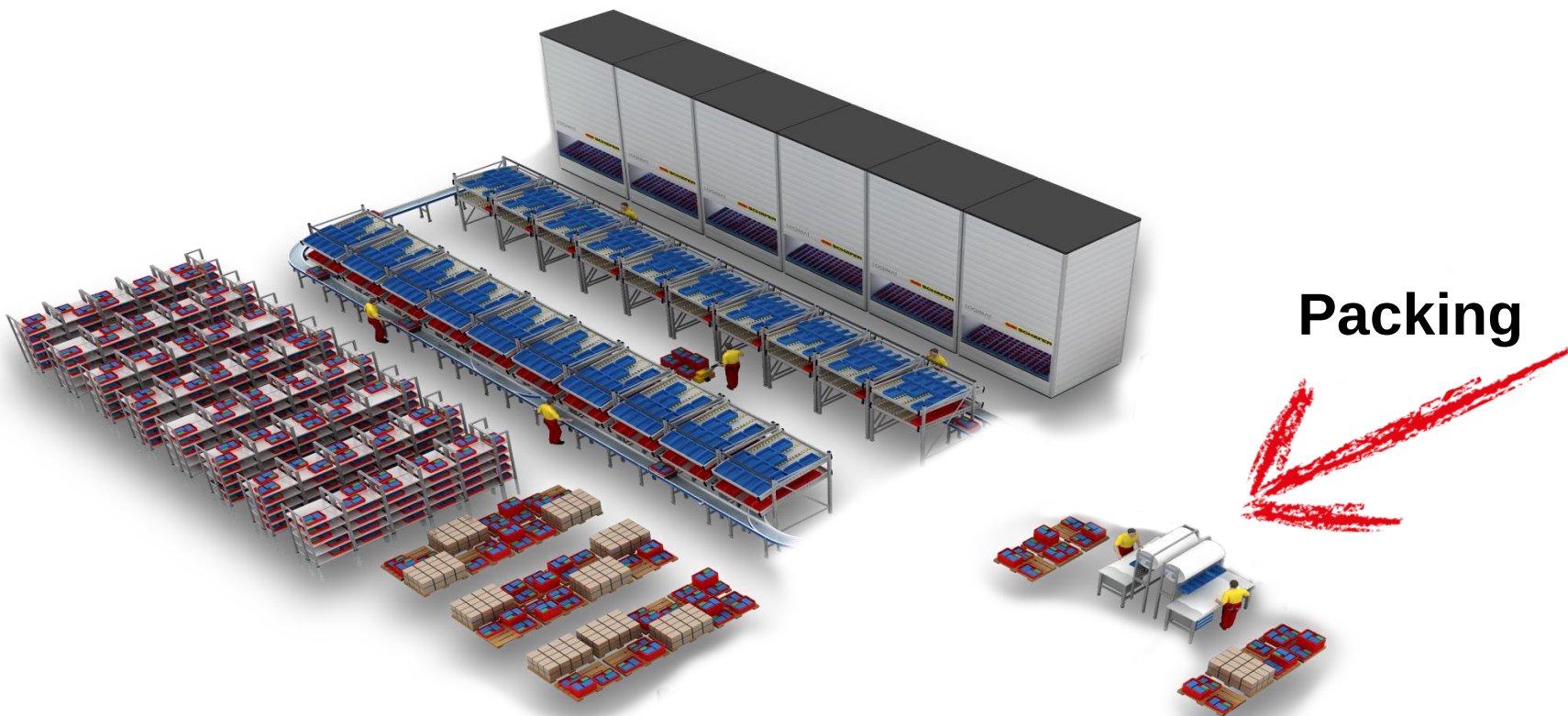
- ▶ An up-and-coming, midsized, online mail-order company wants to automate its manual order-picking and intralogistics process
- ▶ The company wants to keep its financial investment below \$1 Million
- ▶ The new concept must be scalable so that the system's output can be increased if necessary



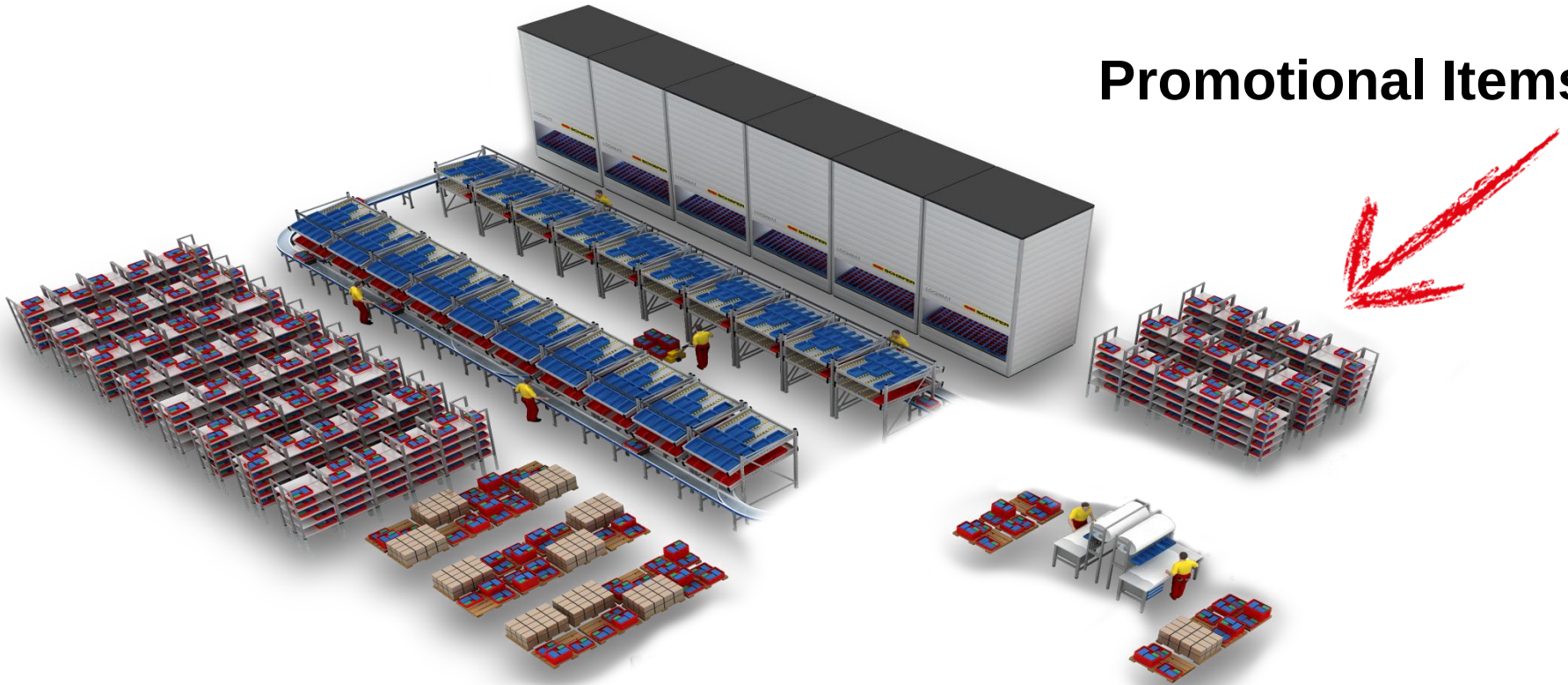


Bulk Storage?





Promotional Items









Integrated **S**tandard
Solutions are
applicable to all
industries!



Case Study

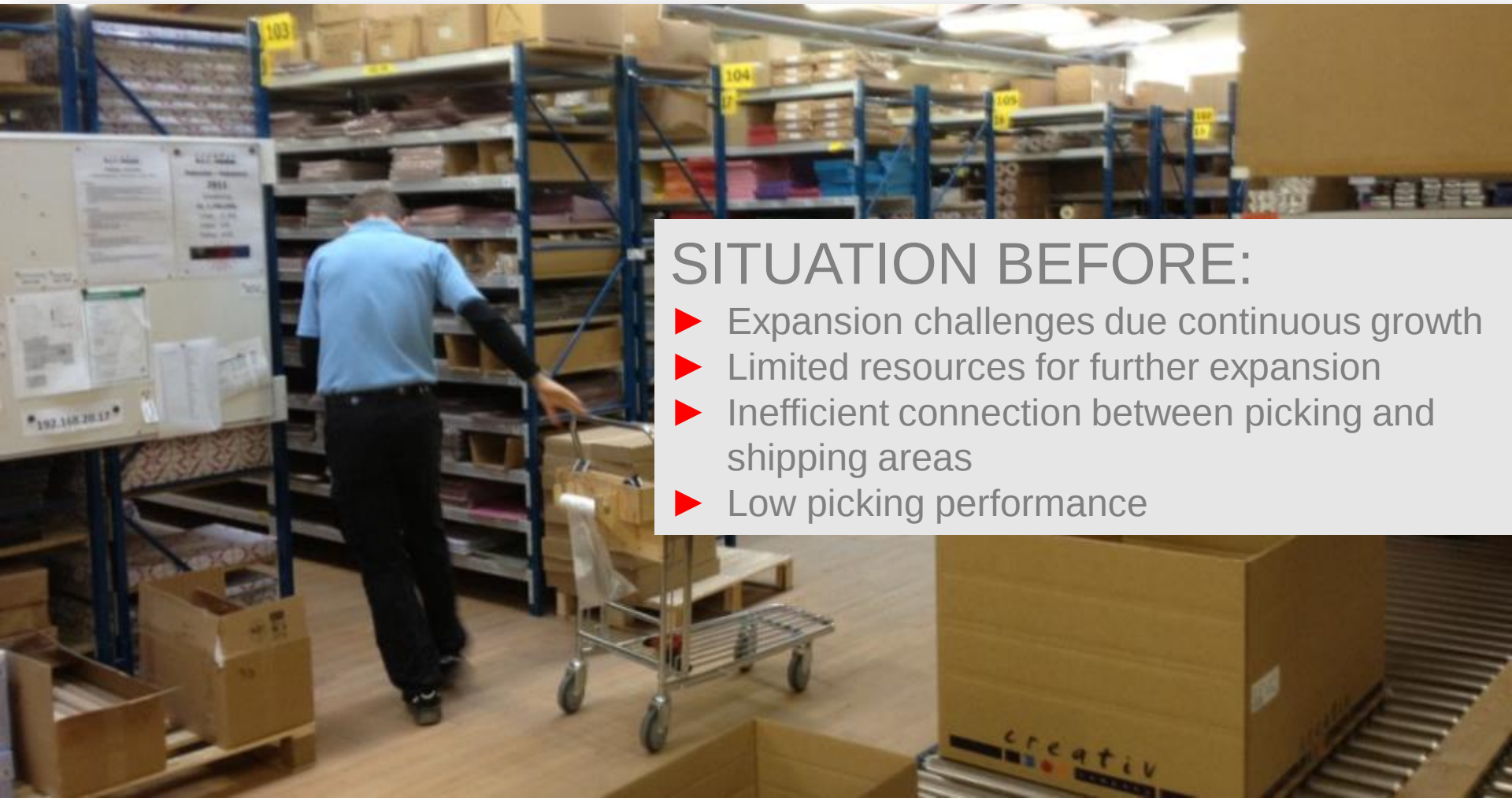


Creativ Company A/S (DK)
E-Commerce



Optimization Process

- ▶ Data Acquisition
- ▶ Data Analysis
- ▶ System Selection
- ▶ Layout



SITUATION BEFORE:

- ▶ Expansion challenges due continuous growth
- ▶ Limited resources for further expansion
- ▶ Inefficient connection between picking and shipping areas
- ▶ Low picking performance



SITUATION AFTER:

- ▶ More efficient layout
- ▶ Optimized stock locations (ABC)
- ▶ Optimized pick process
- ▶ Efficient connection between zones
- ▶ First step into automation
- ▶ Scalable and flexible solution for future growth

Customer testimonial



**For More
Information:**

Schaefer Systems International, Inc.
www.ssi-schaefer.us
Booth #5423

Speaker:

Klaus-Dieter Wurm
Vice President, Managing Director
Materials Handling Division
klaus.wurm@ssi-schaefer.us