

Automatic miniload storage with robot handling

System solution for LK



Fully automatic

“This is the largest structural modification in LK’s history
- implemented in record time”



*Project manager Leif Hansen, LK.
The gantry robot handles boxes,
lids and empty pallets.*



Crane picks 3 boxes for storage



*Shuttle car picks full box at injection
moulding machine, - simultaneously
delivering empty box.*

LK - part of the Lexel-group with 5800 employees - is among the leading manufacturers of electrical installation material in Europe. In 1999-2000 LK introduced a completely new production structure including a new highly automated plant in Ringsted, Denmark.

Project manager Leif Hansen:

*“We have reached our objectives.
It is a very reliable solution which
is easy to operate. At the same time
we have a better overview, less
errors and a larger degree of profes-
sional challenge and motivation
among the employees”*

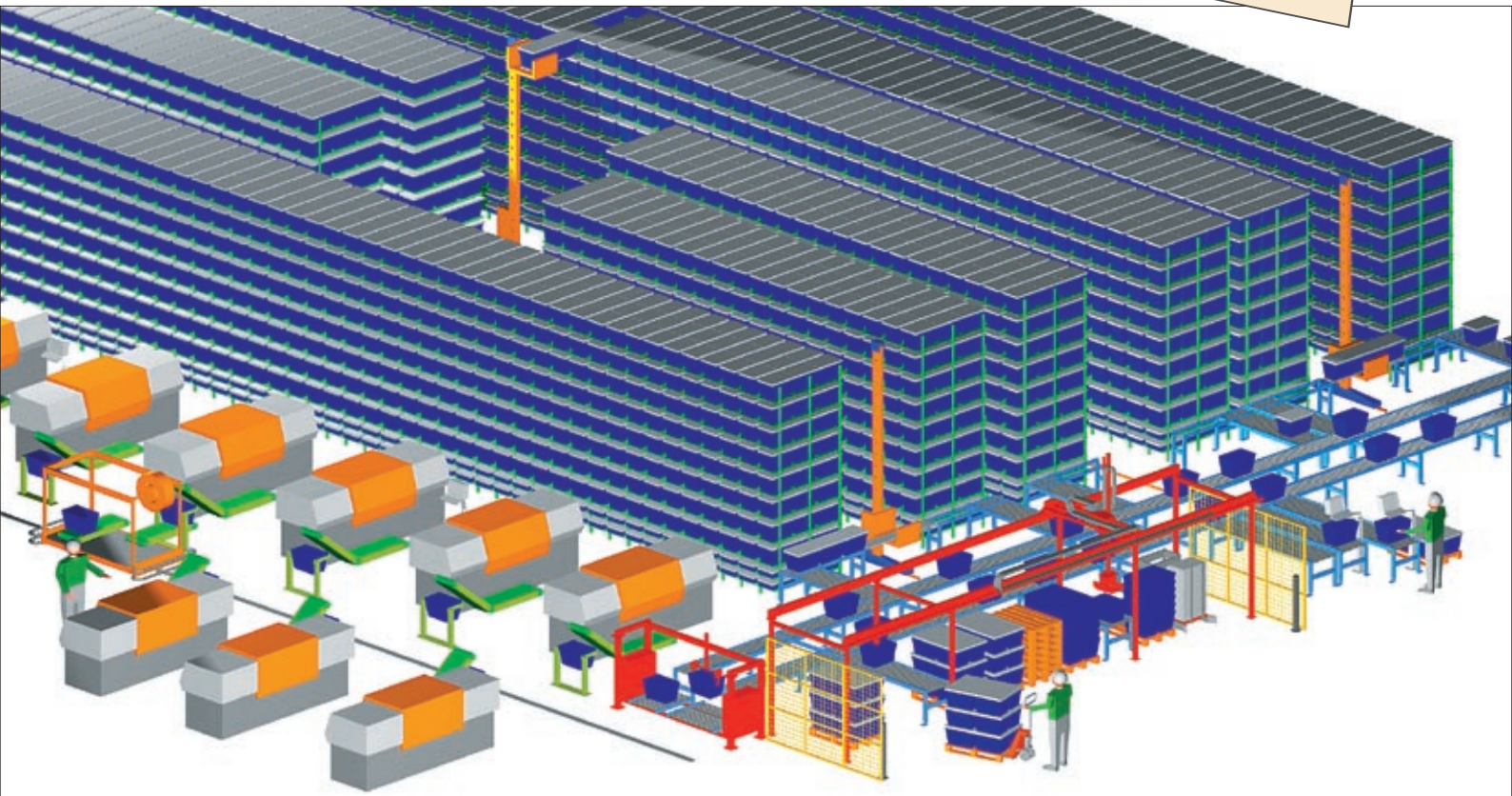
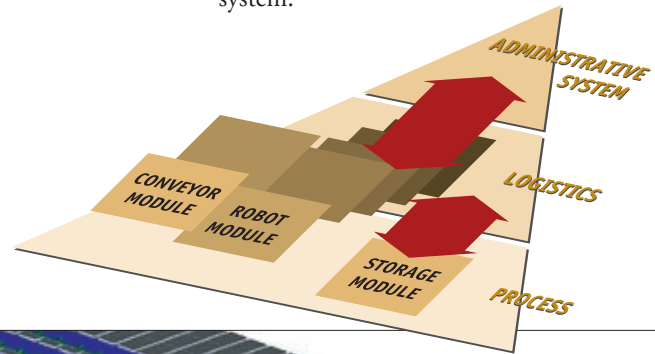
*“We have reduced
material handling and
storage costs by 75%, tripled
picking speed and halved the
storage area”*

Turn-key solution

From concept and design
to installation and implementation

Data- and control concept

A complete solution has been installed which controls the logistics from goods receipt to outfeed. The solution covers interfaces to both the administrative system and the process system.



System information

Supply:

- 3 miniload cranes
- 1 gantry robot
- Conveying system
- PC control system

System capacity:

- 200 tote boxes in and out per hour
- Conveying system: 600 tote boxes in and out per hour

Operations:

- Automatic storage from injection moulding
- Manual storage for external components
- Automatic outfeed of orders
- Palletising and handling via robot
- Manual outfeed - for instance for urgent orders

Control concept:

- Modular built for total flexibility
- Open interfaces
- Windows user interface easy to operate
- Interactive touch-screens
- Full traceability

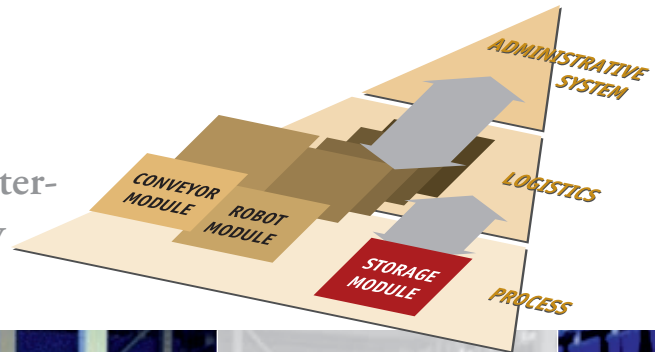
Storage management

Storage management is operated via interactive touch-screens.

This includes reports and statistics facility and full traceability (name, ID, supplier etc.).

Miniload-storage

Storage from injection moulding and of external components, outfeed to order assembly



Station for manual storage of external components and urgent outfeed

Miniload-storage

Supply:

- 3 Miniload-cranes
- 11,000 storage places
- 3 deep storage
- Full servo control
- Automatic location adjustment
- Positioning via laser

Conveying system

Supply:

- Shuttle car for automatic pick-up at injection moulding machines
- Box-shake-system for optimal filling
- Weighing and ID stations
- Label application
- In/-outfeed at miniload



The weight of boxes is double checked - controlling content and number of components

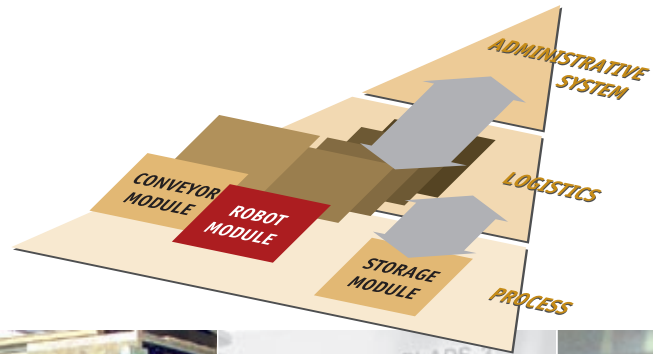
Robot management

Robot management is a standard management module adjusted to LK's requirements.

This includes among other things automatic optimisation and anti-collision control.

Robot handling

Robot with 4 function heads
- at storage and outfeed



Gantry robot with unique picking head and management

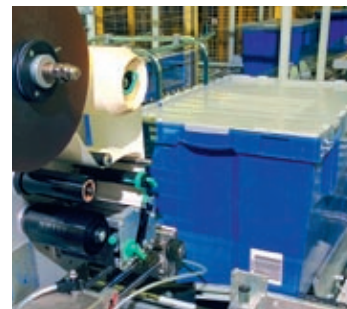
Gantry robot

Operations:

- Palletising of articles from miniload storage
- Depalletising of empty boxes
- Lid application
- Handling of empty pallets



Handling of empty pallets is one of the 4 functions



Automatic application of labels at outfeed with bar code and clear text



>> Headquarters:

Univeyor Logistics Systems
Industrivej 8
DK-9510 Arden
Tel. (+45) 9940 0000
Fax (+45) 9940 0199
info@univeyor.eu
www.univeyor.eu