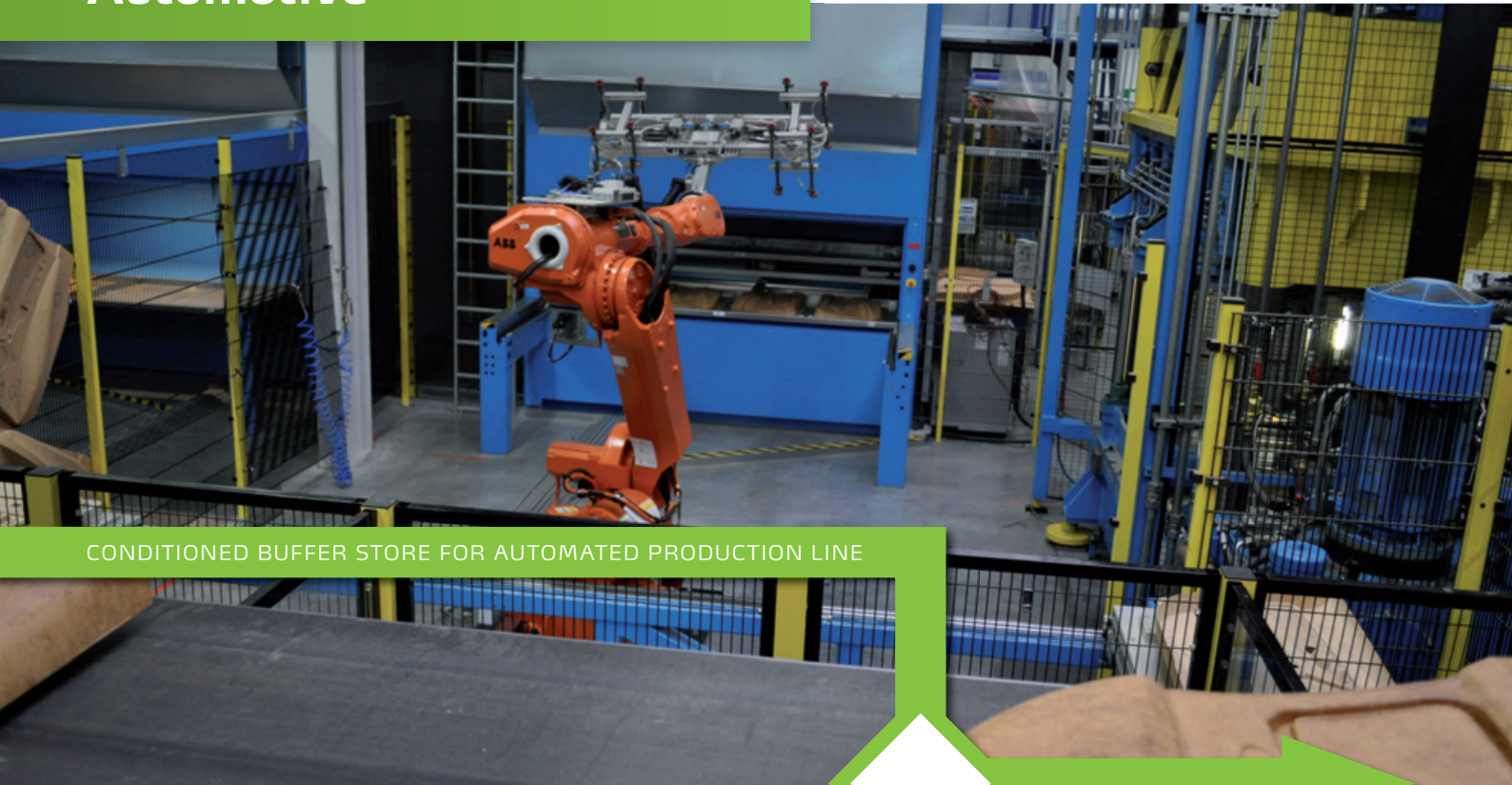


Storage
Order Picking
Handling & Automation

Case Study 030

Automotive



CONDITIONED BUFFER STORE FOR AUTOMATED PRODUCTION LINE

The Customer

Johnson Controls is a global technology and industrial leader with a wide range of products, services and solutions for the building and automobile industry. Johnson Controls Automotive Experience is a global leader in automotive seating, overhead systems, door and instrument panels and interior electronics. Johnson Controls supply some 50 million cars per year with their products.

Further Information:
www.kardex-remstar.com



1

Task definition

In Neustadt an der Donau Johnson Controls Automotive Experience manufactures amongst other products wood fibre based automotive door panels. The task was to produce them at an automated line in 3 shifts per day. For this purpose, Frimo as the general contractor supplied a fully automated plant with robots handling all production steps from providing the door panel sheets to readily pressed and punched parts. One part of the line is a conditioning plant in which the semi-finished door panels are kept for intermediate storage.



2

Solution



Two separate manufacturing lines were installed at Johnson Controls in Neustadt, one for front and one for rear door panels. During the production process, one robot picks the wood fibre panels from the hot press and places them into a vertical lift module from Kardex Remstar. Here they remain for a minimum of one hour to receive their final shape by means of controlled water absorption. Subsequently, another robot picks the parts from the opposite access opening and transfers them to the conveyor system in front of the punching unit for further processing. To make the conditioning process as efficient as possible, the air inside the storage lift is heated up to 25 °C (tolerance: +/- 5) and humidified to 65 % (+/- 5). A double extractor and a process particularly designed for the exchange of the trays achieved a dramatic reduction of storage and retrieval cycle times.

4

Advantages at a glance

- Reduction of storage and retrieval cycle time by 50 %
- New line equips 360,000 cars per year with 4 door panels each
- Warehouse management system including stock management, storage periods and minimum stock control located near the machine
- Accuracy of robotic gripper handling +/- 2.5 mm
- 24/7 service contract with reduced response times

3

Process description

We would be delighted to explain the different processes in detail in a personal consultation.

5

Scope of delivery

- 2 Shuttle FSE 3.6 (W x D x H: 3,246 x 3,520 x 7,110 mm) with opposite access openings
- Air conditioning plant (air, temperature)



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