

-ARCO

Automated packing line leads to a more efficient and reliable process

Customer case | 2022

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The customer: Saint Gobain

More than 350 years ago, Saint Gobain started as a glass manufacturing company in France, to produce glass for a French lord of the manor who wanted glass not from Venice, but from France. Slowly, Saint Gobain grew into more than a glass manufacturing company. With new materials, techniques, and innovations, Saint Gobain developed to become an international company active in construction, mobility, and industry.

With over 166,000 employees around the world, Saint Gobain is a major player in the field of lightweight, sustainable building materials. An important link within this multinational is found in Born (the Netherlands): the European distribution centre from which all products for grinding and abrasive solutions are transported to companies throughout Europe.



The challenge at Saint Gobain

Saint Gobain's location in Born offers a complete range of abrasives for sanding and grinding. In addition to flexible abrasives, bonded abrasives, and diamond saw blades, they also have super abrasives: grinding tools made of diamond or cubic boron nitride. The products that are transported around the world from Born vary from machine parts to discs, drills, and stones. To get all these products through the packing process as efficiently as possible, Saint Gobain enlisted the help of ARCO.

Before Saint Gobain used ARCO's line, the packing process was very labour-intensive and error-prone. Each package was manually scanned and put into the system, weighed, measured, filled with padding, and sealed.

Katleen Schepers, Process Engineer Warehouse Coordinator, explains that the team at Saint Gobain's Born location was keen to automate, and the automatic weighing function in the line was particularly important. At neighbouring company CEVA, they saw a line from ARCO that would also fit nicely at Saint Gobain on a smaller scale. Based on the quote, a conversation, and a good click, Saint Gobain ultimately chose ARCO to take on the project.



Scanning, weighing, print and apply automated in a single customized line

ARCO developed a line that largely automates Saint Gobain's packing process. Operators pick the orders from the warehouse using a hand scanner and manually place each order-filled box on ARCO's conveyor (See Figure 1, page 8). The boxes pass over a roller conveyor and are weighed and scanned several times. For each scanning position, the boxes are aligned by a skewed conveyor to minimize scanning errors. The first scan tells the system which box is on the conveyor and how heavy it should be.

Only boxes within the expected weight margins are allowed through. Weighed boxes that get a red flag – because their weight does not match the expected content – are sent to another conveyor (see Figure 1, page 8).

This also applies to boxes for which a 'no read' occurs, which means they could not be scanned correctly. The conveyor where the deviating boxes go is also called the 'reject'. An operator at the reject station checks the content of the boxes to determine whether each order has been picked correctly. When the box is filled correctly, it is placed back at the beginning of the line to be scanned and weighed again.



Boxes of the correct weight pass through a second scanner where the documents that need to be in or on the box are printed. An operator places these documents and the necessary filling material in the box. Then the package is pushed through a semi-automatic box sealer, towards the print and apply system (see Figure 1, page 8).

During this step, the shipping label is printed and affixed to the box. Lastly, the box is scanned one final time in order to verify that the package and shipping labels match, as well as to minimize errors (see Figure 1, page 8).



Fewer operators on the line and a much lower error rate

ARCO's line ensures faster package processing at Saint Gobain. To process the same number of packages, the new line requires fewer employees. There are nowhere near as many boxes in the queue, and zone control in the line ensures that boxes do not push against each other. The cooperation between Saint Gobain and ARCO went very smoothly. Katleen said:

'We saw tremendous commitment and perseverance. We pledged and were determined to get the first package across the conveyor on deadline day, and we did. ARCO did not go home until things were running smoothly. It was fantastic to see that they had the same drive that we have. They were wonderful to work with.'

A major benefit of the line is the reduction of external complaints. Before the automation, boxes with too many, too few, or wrong items still occasionally went out the door. Because all the boxes are weighed and checked against the predicted weight, errors are detected before the boxes are shipped.

The margin for error is now much smaller, and the system detects any picking errors before the orders leave the warehouse. Looking back on the Born project, ARCO is also very positive: this is an example of excellent cooperation that led to a good result.

Figure 1

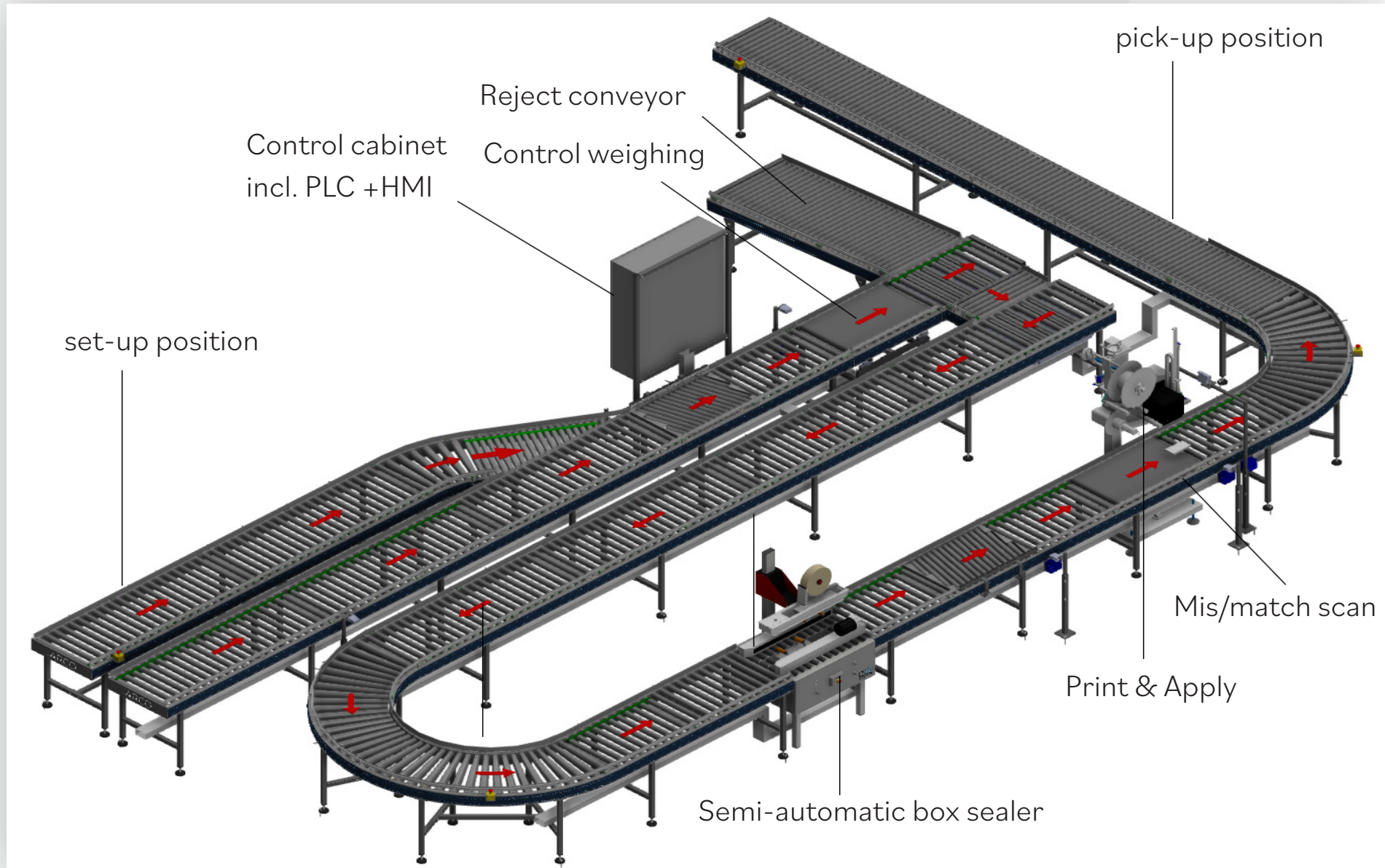


Photo automated packing line - Saint Gobain Born



Facts and figures: automated packing line Saint Gobain

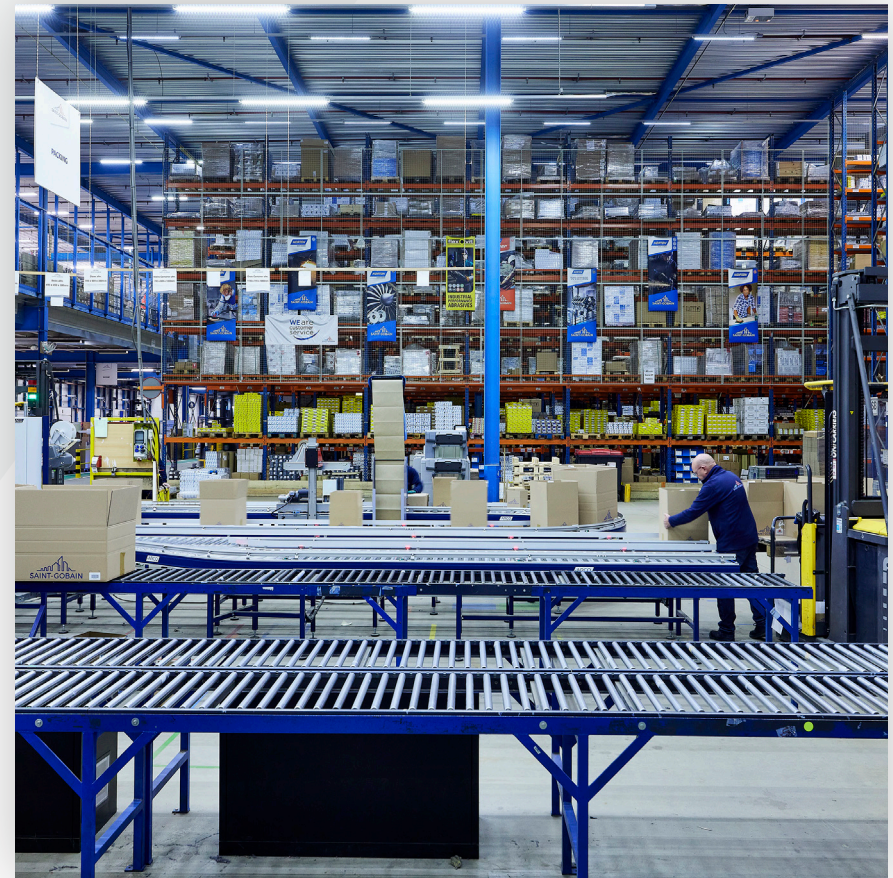
Box dimensions:

Length boxes: 200 - 700 (cm)

Width boxes: 200 - 500 (cm)

Height boxes: 32 - 350 (cm)

- Capacity max. 1000 boxes/hour
- Control weighing ✓
- Print & apply unit ✓
- Semi-automatic box sealer ✓
- WCS-software ✓



Need help with a **technical issue?**



Contact information

Phone number	+31 (0)88-006 5300
E-mail address	info@arco-solutions.nl
KVK number	14098500
BTW number	NL 8188.59.805.B.01
IBAN	NL66RABO0132780518
SWIFT/BIC	RABONL2U

Visit us

ARCO Solutions
Horsterweg 84
5971 NG Grubbenvorst

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