

The ARCO logo is displayed in white text within a white-outlined parallelogram shape, positioned in the upper left area of the image. The background of the entire image is a blurred industrial setting with a red overlay on the left and a blue overlay on the right. In the center, a tray of small glass vials is visible on a production line.

-ARCO

ARCO's packaging line for packing and transporting vaccines

Customer case | 2021

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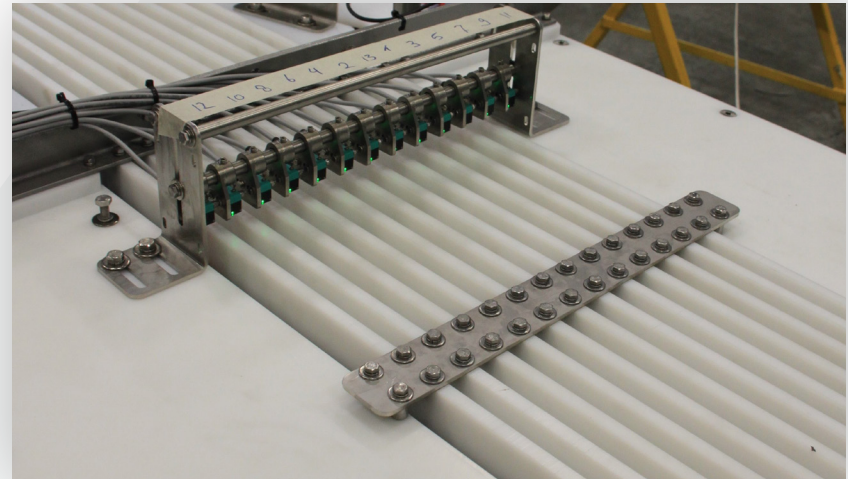
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ARCO's packaging line for pre-packaging and transporting vaccines

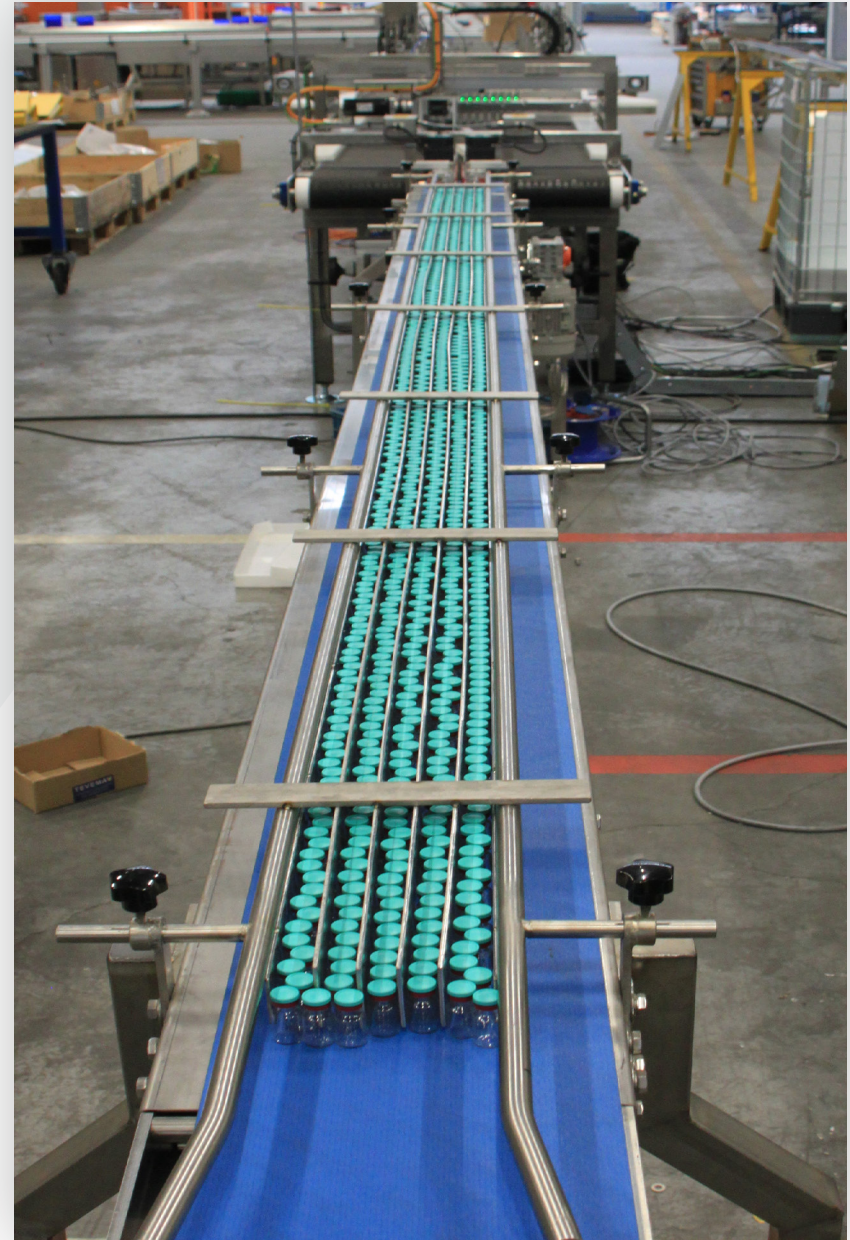
Covid-19 vaccines are desperately needed in all corners of the world in order to combat the coronavirus. This represents a huge logistical challenge. Each vaccine needs to be packaged and transported safely. To achieve this, ARCO developed a customized packaging line. This project was particularly remarkable for its short lead time; our team developed, tested, and implemented the packaging line in just 10 weeks.



**Quick but safe transportation
and packing of vaccines below
2-8 degrees**

A vaccine had to be developed for the entire world population. It is important that, once produced, these huge quantities of vaccine also reach everyone as quickly as possible. This is a huge logistical challenge – perhaps the biggest we have ever faced. To make the situation even trickier, the vaccines have to be transported and packed in an ambient temperature of between 2 and 8 degrees.

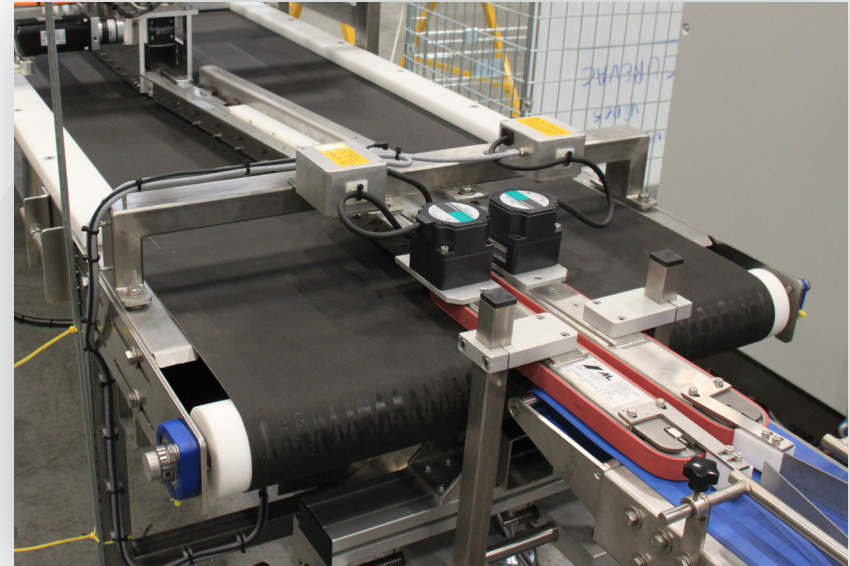
On top of that, the vials of vaccine must be protected from tipping over at all costs, while being processed as quickly as possible. The aim is to process up to 400 vials per minute, without the risk of them breaking. The vials are placed into boxes by operators by hand, which are then put into larger boxes at another station.



ARCO's high-speed line divider

For DHL, ARCO developed a Covid-19 vaccine packaging line, where the vaccine vials are distributed among 12 operators who pack the vials semi-manually. The vials travel to the gantry between two side guides. The gantry has an X and Y axis that distributes the vials to 13 tracks; 12 tracks go to the operators and one track is the escape track, which serves as a buffer. The sensor in the gantry determines the moment at which the X and Y axis starts to move, so that each vaccine is directed to the right track. The smart system ensures that the feed rate is adjusted to the processing speed of the operator. And because each track is equipped with sensors, the system knows when there are no or too many vaccine vials on each track.

The operators operate a gripper, which can pick up three vials at the same time thanks to vacuum technology. When the operator places the vials in a box, they press the button on the handle and the vials are released.



There are 12 workstations in total, where each operator processes approximately 5.5 to 6 boxes per minute. The operator opens the boxes by hand and feeds the vials into the box in two retrieval motions. The vials are placed in the inserts. When the box is full, the operator closes it by hand and places it on the extraction belt that runs down the middle of the length of the packing line.

The full boxes proceed to a check weigher that weighs and seals the boxes simultaneously. Behind it, a curve conveyor belt has been installed that transports the sealed boxes to a packing table where an operator manually repacks the boxes into a larger box.



Vaccins transported safely

DHL teamed up with ARCO to find the quickest and most efficient solution to contribute to solving the global pandemic. DHL came to us with a challenge, and we delivered:

“We asked ARCO to collaborate on an ambitious project. And they delivered. We were able to go from the concept phase to the launch within just ten weeks – an accomplishment achieved through good collaboration.”

The machine is an excellent example of ARCO’s vision of using innovation where it is most needed. By doing so, we are able to have the greatest impact and ensure optimal customer support. We are constantly looking for ways to do things better.

This time, that resulted in a high-speed line divider with automatic manually operated vacuum grippers that was developed within the space of just ten weeks. Our next project? Well, that might be in collaboration with you.



Need help with a technical issue?



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