GA Pet Food Partners

CASE STUDY

Robotic Labeling System

THE CUSTOMER

GA Pet Food Partners provide private label pet food solutions for partners across the globe.

REQUIREMENTS

The customer approached Sorion to design and build an automated labeling system for their 2kg My Label dog food bags

RESULTS

- Improved throughput and consistency in the label placement process
- Error reduction
- Free up staff by automating repetitve tasks
- The system is designed to work safely alongside people

THE CHALLENGE

The challenge was to design and build a system to automate the labelling process of GA Pet Foods' 2Kg MyLabel products.

Sorion opted for a collaborative robot solution to deliver this project which involves picking of a bag of food, orientation of the bag and checking of contents, label printing and application to the front and the rear of the bag.

The customer's goal was to improve throughput and the consistency of label placement on the bags.

Robotic labeling system

THE APPROACH

To automate the labeling process, Sorion opted for Universal Robots collaborative robots, known for reliability and flexibility.

The full system consists of the following:

- Storage system with 28 infeed racks and 1 reject rack
- 1 UR10e robot inverse mounted on a gantry frame and fitted with a Robotiq 2F-85 gripper
- 5 conveyors
- 1 chute to align the bags
- 1 SensoPart vision system to read the codes from the bag
- 2 UR5e robots to label both sides of the bags with specially designed vacuum label applicators
- 2 SensoPart vision systems to send the position of label
- 2 full colour label printers with label presentation

THE PROCESS

The UR10e collaborative robot picks one bag at a time from the infeed rack based on the work order received via Sorion's process control software. The robot has a collaborative gripper mounted on the flange with specially designed jaws to pick up the bags.

The robot will display the bag to the vision system to determine the contents using the printed code. The vision system is mounted above the chute. If the code is not found, the bag will be turned, and an attempt made on the other side. This also confirms the correct orientation.

If the bag matches the work order and there are no issues it is dropped into the chute for printing. The chute will guide the dropped bag onto the conveyor that will transport the bag into the first labelling station.

Label application is performed by UR5e robots, each fitted with a bespoke label application head. The vision system mounted above the conveyor provides the robot with the precise location the labels should be placed.

The robot will by then already have the label picked from the printer positioned next to the conveyor and apply it. The bag is flipped over and the second label is attached.

At the end of the line, an operator picks the bag for packaging and dispatch.

RESULTS

The cobot system has provided a more efficient solution for the customer's labelling operations.

GA Pet Food Partners are happy with their first robotic system, and they hope to add more label placement cells for their other products.

ABOUT SORION

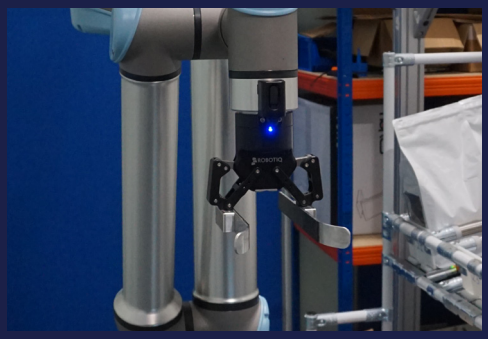
With over 32 years of industry experience, Sorion designs and manufactures bespoke guided assembly, collaborative robotics and end of line test systems to a range of industry sectors: automotive, aerospace, warehousing and manufacturing.

Your Partner for:

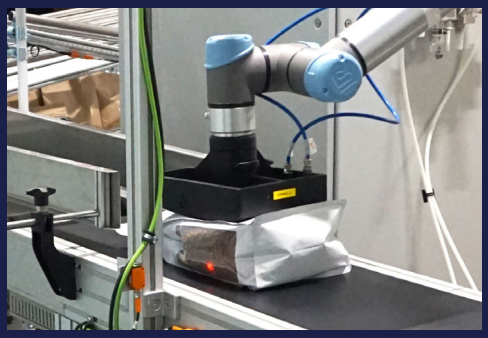
- Guided Assembly Process Control
- Autonomous Mobile Robot Systems
- End of Line Test Systems
- Ruggedised Electrical Connectors & Harnesses
- Quality and Traceability Reporting
- Electronic Product Design and Development

THE SORION SOLUTION

Picking station



The picking robot is fitted with a gripper to pick up bags



The labeling robots are fitted with a bespoke label application head

Conveyor system

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