

Food packaging

A visionary approach to potato packaging

Omron's integrated solution for Greenvale eliminates the risk of packaging and labelling errors

Company:
Greenvale AP Ltd

Application:
Potato packaging line

Omron Products:
CJ1 PLC with optional storage and processing unit, vision sensors, matrix-code readers

Introduction

Greenvale is one of the UK's leading suppliers of fresh potatoes, providing retailers, processors and caterers with both fresh and processed products. The company has built its success by working closely with partners throughout the supply chain, and they turned to Omron when they had an issue with ensuring that correct labels were applied to promotional packs of potatoes destined for major supermarkets. The fundamental problem was that if an operator loaded incorrect labels into the packaging machine, there appeared to be no automated way of spotting this and correcting the error.

Background

The packaging process is largely automated, with the fresh produce being automatically weighed and fed into pre-printed clear sleeves, sealed and – as necessary – labelled with a special promotional offer such as money-off or three packs for two. Ensuring that the correct label is affixed is important because batches of similar packs go to different supermarkets, but they have different promotional offers. When Omron was first consulted, the solution seemed relatively straightforward: simply use an Omron vision system on the packaging line, to check that the labels on the packs were the same as those entered by the line operator.

Challenge

However, when Omron engineers worked with Greenvale to assess the problem, it became clear that this would not be a satisfactory solution. Put simply, if the operator loaded the wrong kind of label in the first place, they are likely to enter that label type into the control system – which would compound the error.

Solution

Further analysis by Omron engineers established when a new order is set up on the packaging line, Greenvale's ERP system can download all of the order data as a CSV file. All that was needed was to find a way of making this data available to the vision system. For most automation suppliers, this way could have involved writing special software, which would have been time-consuming and expensive. However Omron's CJ1 programmable logic controllers (PLCs) can optionally be fitted with a storage and processing unit (SPU) that is specifically designed to make it easy to transfer data between the PLC and external computers. The CJ1 PLC also supports Ethernet connectivity, which made the physical connection very easy as well.

Working with Greenvale on this system, Omron engineers realised that this would offer additional opportunities. For example, adding a two-dimensional matrix code to the packaging, which can be checked by an Omron matrix code reader, makes it possible to check automatically that the type of film specified in the order – as downloaded from the ERP system - is used for packing the potatoes.



Benefits

The monitoring system is now operational and fully meeting expectations, minimising the possibility of potatoes being despatched with incorrect packaging or labels. The system was deployed quickly and without disruption to the production process: Omron was able to supply all of the major items of equipment needed, which simplified project logistics and clarified responsibilities. And Omron's proven expertise in vision and sensors systems, together with its unique SPU, enabled delivery of a standardised solution that did not require expensive programming or re-engineering.

Andrew Kwa is Greenvale's Operations Analyst and managed the project. He says: "Right from the start of this project, Omron could not have been more helpful and responsive. The company readily understood our requirements and did their utmost to meet them – whenever we needed support or advice, Omron was there for us – and that's certainly not been true of some of the suppliers I've had experience with in the past. I wouldn't hesitate in recommending Omron products and services and they will be my first point of call on any future projects of this nature"

