

Error-Proofing Food Packaging Processes

Given the importance of producing safe, nutritious food with sufficient shelf life, it's no surprise that the food industry is intensely regulated. Food packaging regulations are constantly under revision and with the rapid rise of food allergy incidences in the United Kingdom, food and beverage manufacturers are under increasing pressure to ensure correct labeling is achieved or risk heavy fines that can cost up to £120,000 (\$190,000).

Mislabeled food can have serious consequences, especially with over a million food allergy sufferers in the UK. To combat this, manufacturers have been swift to implement rigorous error-proofing solutions on their assembly lines, which provides a crucial function in packaging verification and can prevent disastrous Emergency Product Withdrawals.

Olympus Automation End of Line verification solutions provide food and beverage manufacturers with a robust system to ensure correct packing selection and accurate date coding. Six of the biggest UK food manufacturers recently installed Olympus Automation's End of Line solutions, which include Microscan's new QX Hawk industrial barcode imager.

CASE STUDY

To prevent wrong labels going out on food packaging, most systems in factories currently rely on paperwork checks and human intervention. Labels are attached to paperwork and manually signed off. Often this can be missed, especially if label designs are similar, and can result in costly food mislabels. This also applies to "spliced" reels in which multiple reels of labels are attached together.

Packaging suppliers can easily splice the wrong labels together, resulting in an operator placing the correct label reel on a food packaging assembly machine, but inadvertently switching to an incorrect label design midway through the process. Operators packing the product may not notice the change due to high line speeds.

End of Line verification solutions use barcode readers, such as the QX Hawk imager, to detect incorrect labels and stop immediately the assembly line, providing extra security to the packing operation.

- **Problem:**
Prevent wrong labels going out on food packaging
- **Project:**
Automate label verification using 1D and 2D barcode technology
- **Solution:**
QX Hawk imager installed throughout plant floor to automatically match labels to packages and immediately stop the production line if error detected
- **Result:**
Verification system produces reliable results quickly and efficiently



1D BARCODE



2D DATA MATRIX

Error-Proofing Food Packaging Processes: Case Study

In one food manufacturing End of Line solution, installed at the new Kerrygold UK cheese packing facility, the main type of code being read is the 2D Data Matrix code (10x10 4mm Std). The QX Hawk is installed in conveyor applications throughout the plant floor, reading 3mm codes on one site, and reading 1D EAN 8 barcodes on further sites. The code is located on either the top or bottom of packaging, on either printed film or labels, and the color is usually black on white but there are also a number of dark blue or green codes that are being scanned.

The encoded data is typically a 6 digit number to identify the packaging. Once scanned, the number is checked against a database to ensure there is a match. If a match is not detected, a signal can be sent to stop the line to prevent wrong labels going out on packs.

Olympus Automation engineers had developed a tough selection criteria for reading 1D and 2D barcodes for their future applications, and after exhaustive testing of a variety of scanners and vision systems, they selected the QX Hawk. During the installation the choice of the QX Hawk was reinforced with the technical support and service offered by Microscan distributor Identify Direct, as well as the need to read more than one code, including both 1D and 2D codes at once. Other application challenges such as varying position of codes and high speed operation were aided by the large window of interest, fast decode speed and variable focus offered on the QX Hawk.

CONCLUSION

In response to food labeling initiatives requiring accurate packaging, End of Line verification solutions have provided food and beverage manufacturers with a robust system to ensure correct packing selection and date coding. Automation solution companies such as Olympus Automation have seen key technical advantages in using the QX Hawk, reading retail barcodes and 2D codes in larger areas repeatedly and at higher speeds than competitive products.



IP65/67 rating specifies reliable protection from dust and water.



Ensuring correct label is on each product package.



Validating labels prior to final packaging.

MICROSCAN®

www.microscan.com

Product Information:

info@microscan.com

Auto ID Support:

helpdesk@microscan.com

Vision Support:

visionsupport@microscan.com

NERLITE Support:

nerlitesupport@microscan.com