

Omron helps packaging equipment manufacturer design a flexible system for reading barcodes on bottle labels using MicroHAWK ID-40/V430

Packaging Efficiency Solutions (PES), a packaging equipment manufacturer based in Denville, NJ that specializes in solutions for food and beverage, pharmaceutical and nutraceutical companies, was approached by several customers seeking a reliable system for reading barcodes on bottle labels to improve serialization and verification. The target customers for this system would be pharmaceutical manufacturers and CMOs engaged in serialization activities as well as consumer goods CMOs using the system to allow label and print verification on all bottle sizes and shapes.

As with any automated system meant to work for a variety of end users, flexibility was paramount. To make the new system accessible

to the broadest possible range of customers, PES needed to keep the overall machine footprint small and invest in highly intuitive technology that would minimize installation and maintenance needs. Finally, PES was hoping for a system that would exceed the level of reliability currently being used by its customers.

PES tapped Omron to design the new system, and Omron selected its popular MicroHAWK barcode readers as the key technology. Omron partnered with Saddle Brook Controls, a distribution partner based in New Jersey, to help with integration and testing. As a local company, Saddle Brook Controls has been able to provide quick support with respect to implementation and optimization.

Business need

A packaging equipment manufacturer needed a flexible, reliable and cost-effective system for reading barcodes on bottle labels that it could sell to its food and beverage, pharmaceutical and nutraceutical customers.

Unique solution

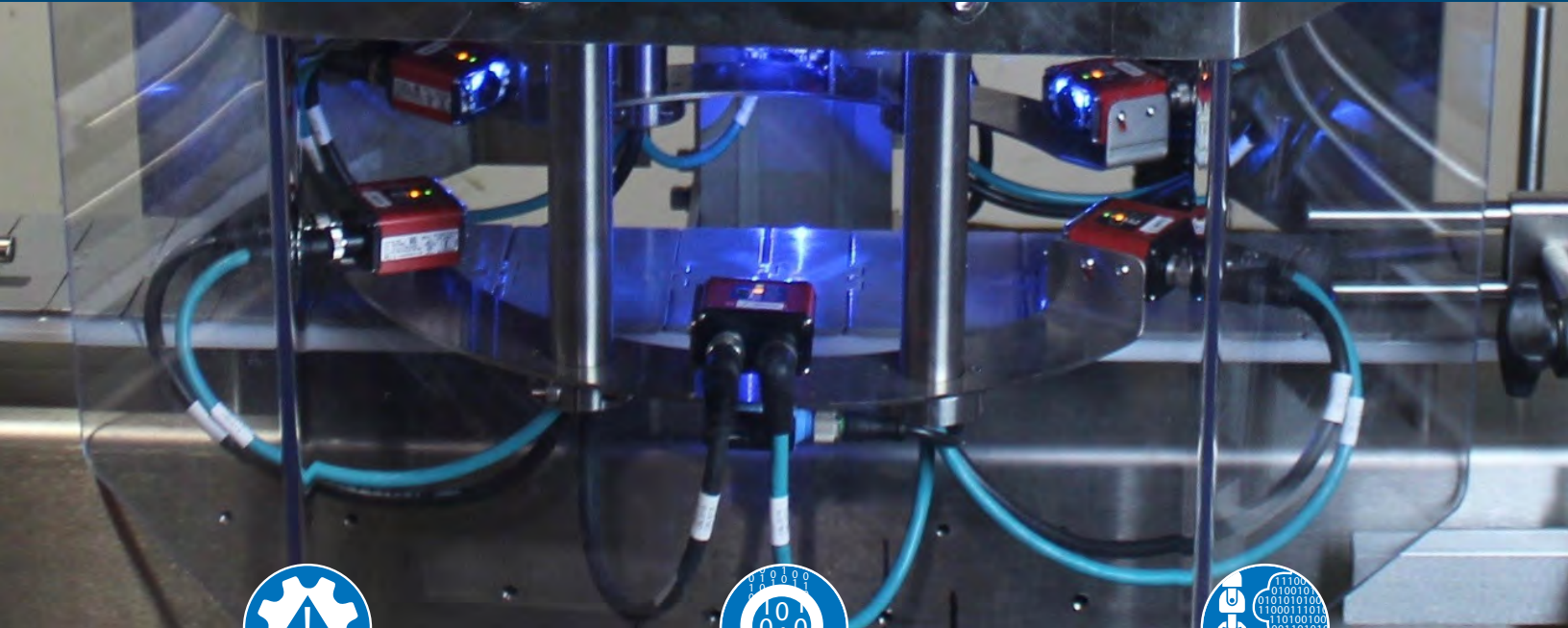
Omron designed a flexible system using six MicroHAWK ID-40/V430 cameras to minimize false rejects while keeping the overall machine footprint to a minimum.

Customer benefits

Thanks to the flexibility and compact size of the MicroHAWK cameras, the new system has helped PES become a leading resource for serialization and inspection systems.

The solution

A compact system using MicroHAWK



The need

The new system – which would be dubbed the “PES-360” – needed to reliably inspect all angles of the bottle/label at speeds of up to 100 bottles per minute. In addition, PES’s customers wanted to enhance the system’s flexibility by limiting its overall footprint and reducing the amount of integration and line modifications required for installation. Existing market suppliers were offering systems that were fairly large and quite expensive, so PES was hoping Omron would be able to come up with a more compact and cost-effective solution.

Some of PES’s customers were already using automated bottle inspection systems, but these didn’t use enough cameras to be fully reliable. Since they took just a single image per camera per bottle, they had an elevated occurrence of false rejects or no response. The PES-360 needed to make sure that every point on the circumference of the bottles would always be seen by at least one of the system’s cameras.



The technology

To combat the issue of false rejects, Omron used six cameras – initially MicroHAWK ID-40 cameras but transitioning to V430 cameras as the latest technology – to achieve maximum performance. The MicroHAWK Series is known for small size and easy installation, and the family’s compact design allowed Omron to integrate up to seven cameras in each unit (with six cameras situated around the conveyor and one either above or below). The PES-360 takes advantage of the cameras’ ability to capture images in bursts as opposed to a single image per trigger, which provides more chances to successfully inspect and decode the data.

The MicroHAWK readers are easily integrated into the current control system, where the standard/configurable I/O offers greater flexibility in machine logic setup. In addition, the system’s ability to communicate data match strings via TCP/IP messages minimizes hardware requirements, and the use of self-contained smart cameras reduces the need for more skilled technical resources to interface with traditional PC-based camera systems.



The outcome

Omron has already integrated over thirty PES-360 systems into customer lines, and the solution has helped PES become a leading resource for serialization and inspection systems. The MicroHAWK cameras work wonders when it comes to giving system integrators like PES more flexibility. Depending on the application, Omron has a wide variety of MicroHAWK resolutions to choose from without having to change the overall system’s mechanical design. There are many options for internal lighting, but there’s also the option to utilize external lighting when required. PES is currently using SXGA (which is a 1.2MP sensor) with integrated lighting.

Another benefit of the MicroHAWK ID-40/V430 cameras is that their barcode reading capabilities can be easily upgraded to a machine vision smart camera without requiring any mechanical changes to a customer’s equipment. Based on the success of the PES-360 and the ease of collaborating with Omron, PES is looking into partnering with Omron for a variety of other vision inspection and code reading applications.

