

Novio Packaging reaches new levels of quality with machine vision

Inline quality inspection ensures defect-free production of bottles

Novio Packaging has selected an OMRON FH series Vision System for use in its bottle production line in Denmark. The OMRON system ensures that all of the bottles shipped to customers are of the highest quality, with no defects.

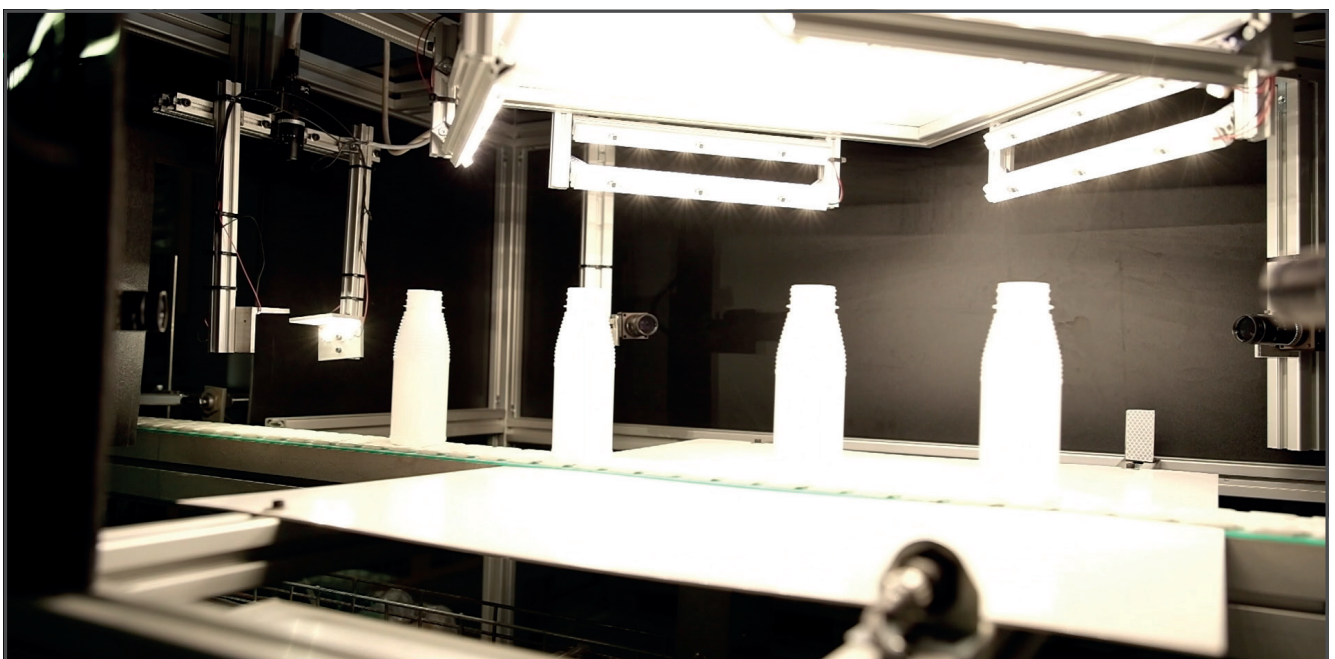
The Novio Packaging Group produces and distributes primary packaging and packaging solutions for various markets from pharmaceuticals and cosmetics through to the food and domestic non-food industry, since 1978. The group is part of Berlin Packaging, the world's largest packaging distributor.

Novio Packaging has a broad network of operations throughout Europe and Asia, with factories in Denmark and England. These have been set up to ensure that the company's customers receive bottles with guaranteed quality.

A need for accuracy and flexibility

The Danish factory needed a sophisticated and flexible quality inspection system to cope with changes in the types of bottles being produced, and to achieve the right levels of quality. It explored systems that proved to be ineffective, as they were insufficiently accurate and users couldn't make adjustments or programme the software themselves. The company subsequently started looking for a system that would eliminate defects down to one bottle out of 100,000.

As a result of its investigations, Novio opted for a versatile solution from OMRON. This included OMRON's FH vision system as well as its FQ2 cameras. The OMRON system is used on the production line, and incorporates lights and cameras set at different angles so that they can detect any defects, such as scratches or dust, that would affect the quality of a bottle.



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Peter Lykke, Novio Packaging's Technical Manager, explains: "We use the FH vision system with four cameras to check the bottles we produce from all sides, to ensure that there isn't any dirt and there are no black spots etc. on the bottles. The cameras carry out the checks on running conveyors, so we don't need to stop the bottles for inspection."

"In addition, we use two cameras on top of the line to check issues such as the dimensions of the caps, and to ensure that there is no residual plastic or anything missing from the caps that might cause a problem (such as making them too tight). Our customers use air conveyor systems and the diameter of the bottleneck has to be very precise. It's very difficult to check this accurately with any method other than a quality inspection system with a vision camera."

Any bottle identified as having defects is automatically discarded. This is important, as if one bottle proves to be sub-standard, the customer could send the whole shipment back, which would be very costly to Novio. The finished bottles go mainly to a leading juice company, so it's vital that they don't have any defects or items that could contaminate the juice or affect the appearance of the bottle.

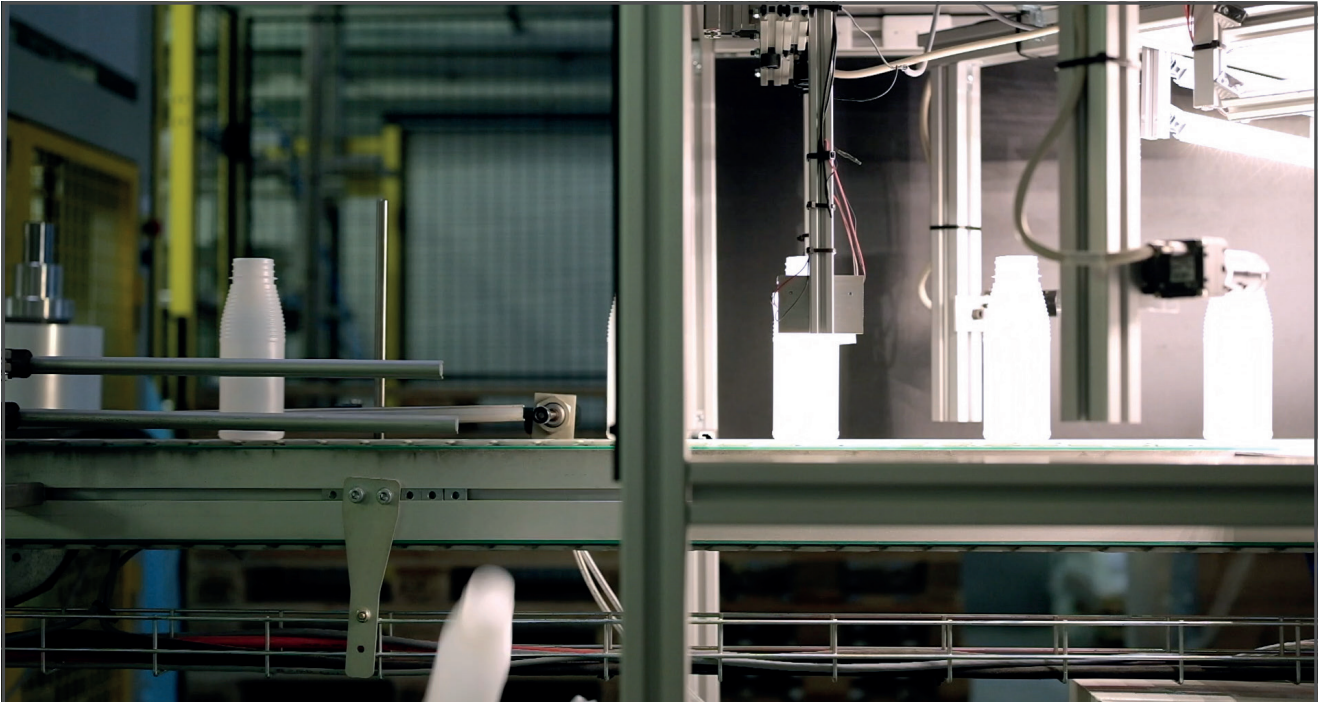
Further benefits of the OMRON system

The system needed to provide new changeover possibilities for Novio, as the company has to produce different types of bottles at different times. If the system wasn't flexible enough, the firm would have to resort to expensive mechanical changes to ensure that good images could be obtained of each bottle.

The solution provided by OMRON enables Novio to cope with rapid changeovers and has also enabled it to meet customer demands for a wider packaging portfolio, involving smaller but more variable batches. This also helps to avoid any delays in the development of new products.

The OMRON vision system is very precise, scalable, and adaptable and can easily cope with changes in the production of different types of bottle. It also has a single software programme that Novio was able to programme, integrate and modify via the FH software, which is very easy to use.

Peter Lykke comments: "One benefit is that after I've carried out the basic programming and set up the cameras, our



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technical staff can easily adjust the programme for new types of bottles themselves." This saves Novio both time and money, as the company doesn't need to call in a specialist or a systems integrator to handle any changes. Novio Packaging leases the vision system for a monthly fee.

"OMRON has always been very helpful," concludes Peter Lykke. "I always get good answers to any questions on software changes; a range of new ideas; and advice on issues such as using the right lighting to gain the best inspection results."

He continues: "Quality is very important, as we provide bottles for juice and any blemish could be seen as dirt by the consumer. I believe that it's essential to have an automated system to provide this level of quality, as it's not possible for a human to inspect the bottle from all sides. Furthermore, if they looked away for just a second, a mistake could easily be made. We are therefore delighted with the flexibility and accuracy of the new system"

About Novio Packaging

Novio Packaging is a manufacturer of PET and HDPE containers, specializing in the pharmaceutical, nutritional supplement and personal care markets. The Novio Packaging Group produces and distributes primary packaging and packaging solutions for various markets from pharmaceuticals and cosmetics through to the food and domestic non-food industry, since 1978. The group is part of Berlin Packaging, the world's largest packaging distributor.

About Omron

OMRON Corporation is a global leader in the field of automation, based on its core technology of 'Sensing & Control + Think.' OMRON's business fields cover a broad spectrum, ranging from industrial automation and electronic components to social infrastructure systems, healthcare and environmental solutions. Established in 1933, OMRON has about 30,000 employees worldwide, providing products and services in some 120 countries and regions. In the field of industrial automation, OMRON supports manufacturing innovation by providing advanced automation technologies and products, as well as extensive customer support, to help to create a better society. For more information, visit OMRON's website at www.industrial.omron.eu.