

# Intravis systems keep an eye out for defects

By Catherine Kavanaugh  
Plastics News Staff

Düsseldorf, Germany — Calling itself the eyes of Industry 4.0, Intravis GmbH is out with new vision inspection technology for the packaging industry that it says improves manufacturing efficiency and product quality.

The Aachen, Germany-based company showed several next-generation versions of software and hardware at its K 2016 booth in October in Düsseldorf as well as partner businesses, such as Arburg, Kautex and Polymac.

Among the advances: a preform inspection system (Pre-Watcher III) that reads machine cavity numbers so all defects can be traced; software that calculates estimated times of failure (IntraVisualizer); and a layer inspection system (BarrierWatcher) that inspects finished products for irregularities.

Being able to correlate a preform defect back to a cavity is especially beneficial for preform manufacturers using recycled material because contamination is very unpredictable, Andreas Mueller, CEO of the U.S. subsidiary, Norcross, Ga.-based Intravis Vision Systems, said. He described the PreWatcher III as “finger pointing to certain defect areas inside the mold,” which makes it easier for the maintenance team to correct them.

The system also allows users to sort by cavity reading to isolate problem areas, which is important when you’re running 1-liter beverage preforms at the rate of 72,000 an hour, Mueller added.

“A lot of manufacturers are running into issues having millions of preforms on hold knowing they have defects in a certain cavity number,” he said. “For example, if it’s cavities 15, 35 and 45, they can add those numbers to a blacklist and sort by cavity number. That’s the only system on the market which is doing that.”

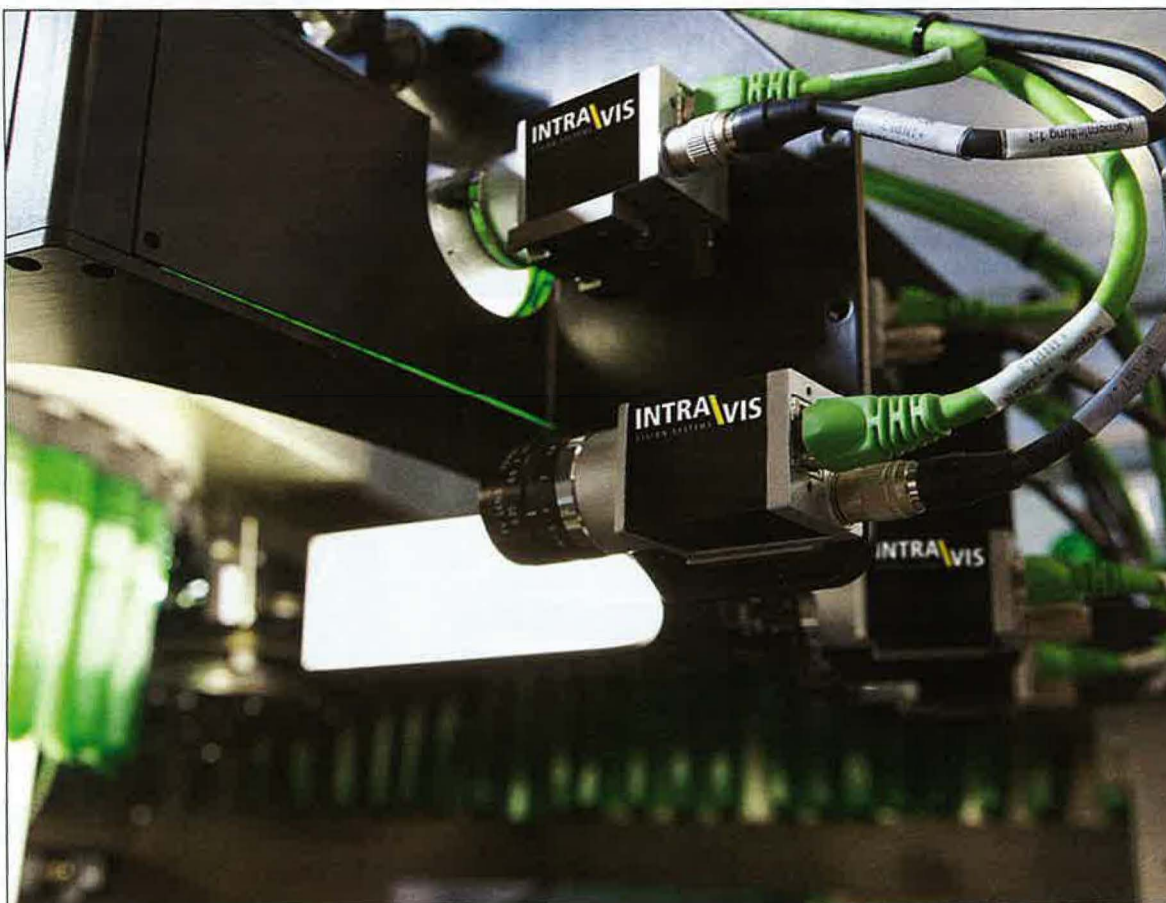
The system has been installed more than 50 times in all markets on all continents but is mainly used by the beverage industry. The Pre Watcher III is a compact rotary sorter that can fit into a production area right after the injection molding machine. Its speed and size set it apart from the competition, Mueller said.

“Competitive equipment is three times larger — way too big to do the same,” he added. “It’s also the fastest on the market, catching up to the fastest injection molding machines.”

Intravis also launched another kind of troubleshooting technology at K 2016 that monitors changes in the production environment and estimates failure times for problems like color drift. Mueller said software upgrades to the quality management software called IntraVisualizer gives operators advance notice as to when production will be out of specification.

“The system can tell that the process is drifting and within three days will be out of spec,” he said. “The system informs the customer that in three days you’re producing scrap. Do

Intravis GmbH photo



Intravis GmbH's PreWatcher III reads machine cavity numbers so all defects can be traced.

something now to avoid it.”

Cameras take pictures all around the product and a color photo spectrometer inside the machine analyzes the color and documents all the values.

“With these data points, we can calculate those estimated times of failure or trend statistics to provide very precise data,” Mueller said.

The system also can tell when dimensions of a preform are drifting and when a mold is due for maintenance, he added.

Intravis also is out with an inspection system that checks the layers of finished products for irregularities. The BarrierWatcher

looks for holes and thin-wall areas by using reference image comparisons. Mueller said they system “makes the invisible visible.”

“Layers inside preforms are not visible to the human eye,” he said. “They are actually not visible to any optics. Intravis developed a very special technology to make the layers visible in preforms. We are the first ones in the world capable of doing that.”

Along with other products called the CapWatcher and Spot-Watcher, Intravis is at the forefront of the monitoring processes that will make the transformation to Industry 4.0 possible, Mueller said. The fourth industrial revolu-

tion — steam, electricity and computers spurred the first three — is bringing computers, automation and robotics together so that less input from people will be needed.

“You are reducing labor in the plant and you are reacting to process changes in a very quick manner,” Mueller said. “How can Industry 4.0 work if you’re not monitoring processes? Our equipment, regardless if it is preform inspection, bottle inspection or closure inspection, provides that data. Without our inspection equipment, Industry 4.0 wouldn’t even work. We are the eyes of Industry 4.0.”

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# SPECIAL ISSUE

## APRIL 2017

ISSUE DATE: APRIL 24, 2017  
CLOSE DATE: APRIL 11, 2017

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