



Initravis GmbH, Gerd Fuhrmann, CEO

(I) "I founded Initravis in 1993 and initially focused on the development of computer tomography systems. Since 1995, Initravis has focused on inspection solutions for the plastic packaging industry. The trigger for this was a request from Alpla for a bottle inspection system using our ideas and technology. Over the years, this request has led to a specialisation in complete solutions for the plastic packaging industry. Today we offer turnkey systems and equipment for quality control of preforms, closures, bottles and containers as well as decorations (e.g. IML label). An increasingly growing part of our business is analysis software. Today, ten of ten major global converters are using our systems."

(II) "We are fortunate that we have several strong markets where we each belong to the world market and innovation leaders. These are above all the preform, closure and bottle area. Also our solutions for IML inspection are unique on the market."

A growth market is analysis software. In recent years, we've seen a lot of change in our industry: our systems are no longer just used to sort out poor quality. Today's customers claim that the results of the quality inspections must help them to improve the production processes and thus prevent them from producing any bad parts at all. We have dedicated ourselves to this topic since the very beginning and with today's computer technology it is possible to implement our ideas profitably for our customers."



As far as developments are concerned, of course there have been many exciting projects in the last 25 years. It has always been our goal to be technologically in the very fore-



The in-line quality lab CapWatcher Q-Line

Killing two birds with one stone

The CapWatcher Q-Line was recently rated as one of the top ten innovations at Plastimagen in Mexico City. The high inspection speed of up to 70 closures per second was impressive and convincing. The CapWatcher Q-Line, referred to by Intravis as the in-line quality lab, checks for typical features such as diameter, ovality or contamination. For the first time, an in-line inspection system records the temperature of the closures. Why? "With the help of temperature we can kill two birds with one stone," says Dr Gerd Fuhrmann, CEO of Intravis. "Firstly, we can help the operator make an accurate prediction of the shrinkage behaviour of his closures. The operator can then determine if the promised sizes are precisely met or if something should be switched around the system to be on the safe side."

He continues: "On the other hand, the temperature measurement allows our system to detect how long ago the production time of the closure approximately goes back. For statistical evaluations and trend determinations, which are nowadays regularly used to optimise the production line, it would be fatal if an older closure that "hid" in the bunker for some time would have the same influence on selected trend statistics as a newly produced closure under new settings. By determining the temperature, we can weigh the influence of the individual closure accordingly."

Industry 4.0

For many years, the company has been committed to offering more than just sorting out bad parts. Extensive data is collected from each individual object produced. If they are prepared in statistics and condensed into trends, this provides a unique insight into the production processes. And that's exactly what Intravis systems have been doing for a long period of time, states Dr Fuhrmann: "Back in 1996, I came up with the idea that the quality of previous batches needed to be able to influence and optimise

the quality of future batches. Unfortunately, at that time the technology was simply not ready to return the data to the producing machine in a timely manner". Today, with the computing technology available, it is easy to collect all the important information and prepare it in a timely manner. This makes it easy for an operator to make better decisions when setting up the production line.

A first example of the practical application of this idea was shown in 2017 at the Drinktec together with Netstal. The two global players jointly presented a closed loop solution. Netstal's injection moulding machine regulated the operation, fully automatically, based on the feedback provided by an Intravis CapWatcher. Targeted deviations from the desired standard were detected immediately and the injection moulding machine responded immediately with appropriate countermeasures. Within minutes, the closure was back within the desired tolerance ranges.

Cooperation with Henkel

Intravis provides another example of the possible influence of trends and statistics provided by its inspection systems in cooperation with Henkel AG. Recently, they were part of a comprehensive information campaign on the digitisation strategy for the supply chain of the Düsseldorf-based company. An important element in this: the inspection systems which have been in use in Henkel's production lines worldwide for over 15 years now. The spectrum ranges from bottle to label to closure inspection systems. Dr Dirk Holbach, Managing Director, Global Supply Chain, says: "The Intravis systems take a picture of each bottle and its label.



For example, they check whether the right label is on the bottle, whether it is in the right position or whether there are wrinkles in the label." The data of the inspection systems are decisive in the optimisation of the production line. "In addition to inspecting, the systems help us to set machine parameters correctly to get the perfect result," Dr Holbach continues.

The team behind it

And who is behind all these innovative ideas? Dr Gerd Fuhrmann, who was named one of the Leading Lights in the PET world in the last issue of PETplanet 6/2019. He says, "I could never handle it all alone. Surely I give one or the other thought-provoking idea, but without my staff none of this would be feasible. More than 50 engineers as well as skilled employees and trained technicians work here in Aachen. Each one of them contributes to the innovative power of this company."

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