

Dare to dream



A quarter of a century after forming the company, Dr Gerd Fuhrmann unveiled his most technologically advanced solution yet. **Paul Hill** reports from Germany

In the time of one generation, Intravis has grown into one of the global market leaders in quality inspection systems for the plastics packaging industry. Dr Gerd Fuhrmann, a graduate of Aachen University, founded the company in 1993 and decided to base it in the German city where he learnt his trade.

This association enabled him to tap into the wealth of knowledge and engineering excellence coming from graduates of a university that specialises in technological research.

It's proved to be a master stroke, with Intravis now at the forefront of numerous major packaging inspection technological advancements.

"In the beginning there was the idea to produce 'High Tech Made in Aachen', with a great team and a lot of fun at work," said Dr Fuhrmann. "I wouldn't have dared to dream that a quarter of a century later it would become a company with more than 200 employees as well as subsidiaries and service points around the world."

But amidst the celebrations of the anniversary, Fuhrmann gathered a collection of global industry officials and customers to Aachen to unveil his most advanced machine yet: The CapWatcher.

With this new development, Intravis is now focused on improving the inspection of key functional elements of a closure.

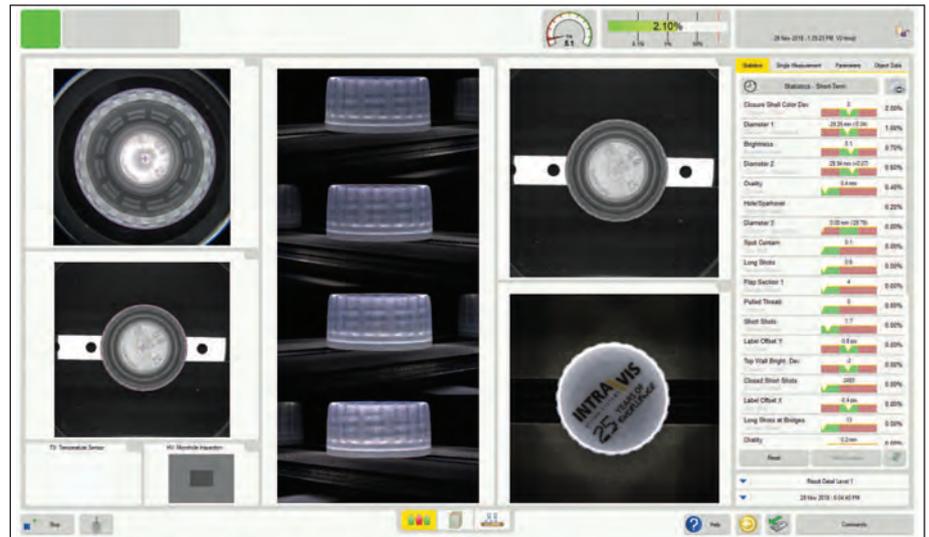
"Essentially, we want to cover three criteria with the CapWatcher: a uniform solution for testing closures with all major types of folded or unfolded tamper-evident bands, more comprehensive testing of the functional elements of the closure, and support for our vision of Industry 4.0," explained Fuhrmann.

To effectively test unfolded closures, the separation unit now incorporates a positive handling system that guides the closures from the sides. Therefore, the closures are neither in the separation unit nor in the transport process exposed to any clamping forces from the CapWatcher.

This is said to ensure increased protection

of the product and prevents damage to an unfolded, upright tamper-evident band. Furthermore, the separation unit leads to a more precise positioning of the closures, enabling a more accurate and comprehensive inspection. It also allows the system to collect data with the level of quality that is necessary for Industry 4.0 applications, such as self-regulating production machines.

Intravis has also further developed its non-contact high-voltage testing for the inspection of micro holes at the injection point area. This means the inspection is now



A new version of the German firm's proprietary testing software IntraVision was also revealed

functionally separated from the separation unit on the CapWatcher and also eliminates the need to dip into the closure.

Dr Fuhrmann described how all of the inspections have been redesigned, with some now incorporating new software.

Areas of improvement include the tamper-evident band, with special inspection options for unfolded bands, an evaluation of the cut quality for slit closures, a rollout of the threads to inspect for deformations, and inspections of the inner and outer seal cone. Inspection of the outer walls was,



meanwhile, retained and supplemented with a new evaluation of printed and unprinted head plates.

The CapWatcher also features the ability to measure the temperature of each individual closure at the time of inspection. This allows the dimension of the final, cooled closure to be determined using a temperature response curve. As well as this, it is equipped with cavity number reading for the production of quality reports.

It also comes with a second, freely configurable ejector. This gives the operator



Dr Gerd Fuhrmann founded Intravis 25 years ago



Intravis unveiled its CapWatcher machine at the birthday celebrations

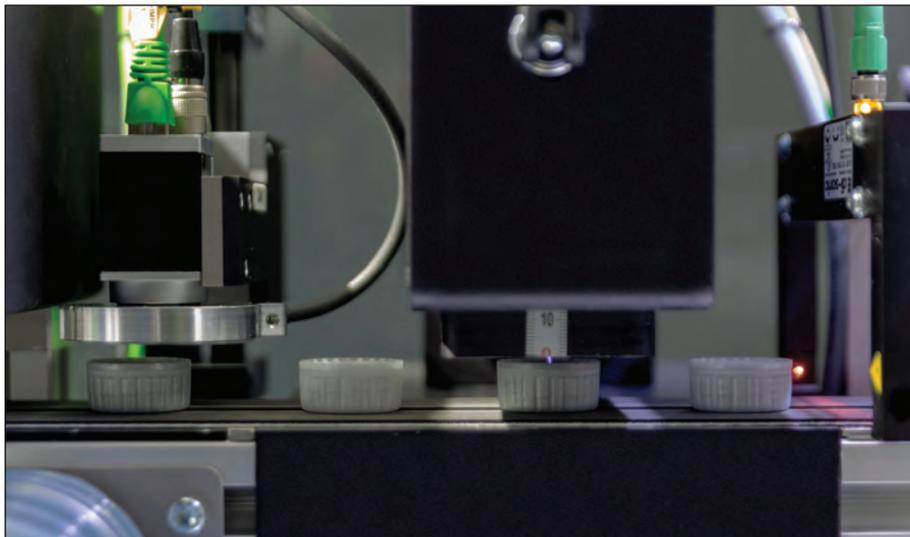
regions on the object now placed in the centre of the data. Results from different test stations are summarised and evaluated according to their origin, depending on which test region on the object they originate.

Klaus Schönhoff, chief technical officer at Intravis, added: "It does not matter to the customer in which test station a defect is detected. But he is very much interested in learning about a certain area where mistakes are repeatedly detected, for example, the thread or injection point. This may indicate a serial defect that can be corrected by changes to the production process."

The unveiling didn't stop there, as Intravis presented the prototype of its CapFeeder cap sorter, with the business even managing to sell its first machine immediately after the presentation.

The gravity-based sorter delivers up to 288,000 closures per hour with a single-lane discharge. This high speed is made possible by minimising gaps in the object flow. Schönhoff explained: "By offering all the important elements of downstream equipment from a single source, we can dynamically regulate the delivery of closures across all elements. This enables us to achieve the maximum possible output of the entire system."

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The CapWatcher is said to improve the key functional elements of a closure

the flexibility to reject individual cavities, specific types of defects, or specific types of defects within a certain cavity.

As well as the CapWatcher, Intravis has introduced an updated version of its proprietary software IntraVision.

Dr Fuhrmann explained: "With more and more individual devices and machines in a production line, a lot of technical knowledge is expected from operators nowadays. The easier it is to set up and operate a system, the easier it is for the operator."

"That's why we've clearly focused our

developments on making the setup and operation of the software even easier. This gives the operator more time to work on other tasks."

Setting up a system is claimed to be easier with this version because test settings can be applied across products. Settings do not have to be created repeatedly for each new product, but can be directly transferred from an already created product with just one click.

Furthermore, the statistics functionality has been improved, with the inspection

