NET ZERO

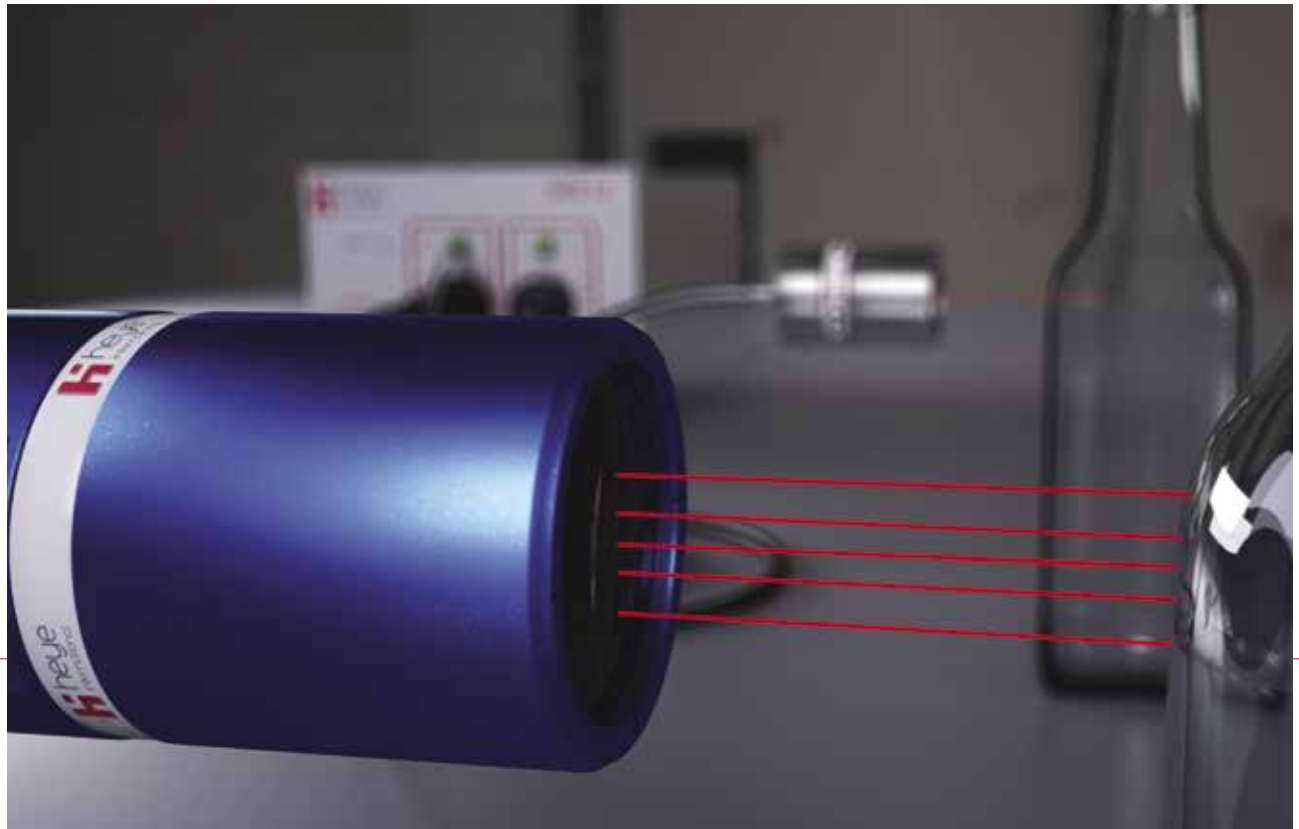
HEYE's sustained drive to reduce emissions via glass inspection

In view of rising energy costs and the continuing traction towards both machine learning and decarbonisation HEYE INTERNATIONAL outlines how the company is improving the success of modern glassmaking.

Efficiency is the word of the moment. Efficient energy use, efficient production. Our goal at Heye is to improve the efficiency of inspection, which reduces false positive ejection, cuts energy consumption and keeps costs down.

The HiSHIELD SmartLine 2 remains at the heart of Heye's inspection regime. It integrates the latest technology with robust electrics and control systems, while special operations such as mini-ware and non-round containers are standard.

On the journey to net zero,



two of the major developments in glass production are ever greater light weighting and the use of higher levels of recycled content. Both illuminate the rationale for continued innovation in glassware inspection: Heye is responding to the risks of thin wall weaknesses and contamination in cullet not melting in the furnace.

From a marketing perspective, premiumisation means inspection machinery has to recognise more complex bottle shapes as design features rather than faults. AI machine learning in Heye technology enables this to happen. Complex shape also heightens the need for contactless inspection.

THE FUTURE IS CONTACTLESS

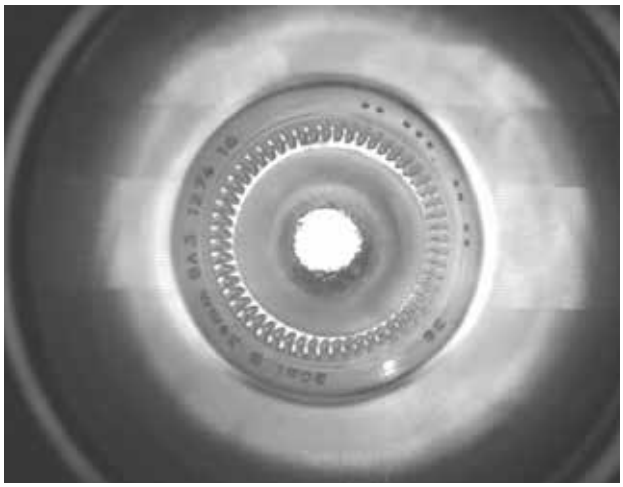
For many engineers, probes, plug and dip remain core to their inspection technology. However, contactless inspection is the line of growth for most of our customers. SmartLine 2 already provides non-contact options for bore gauge, diameter as well as ovality and wall thickness inspection.

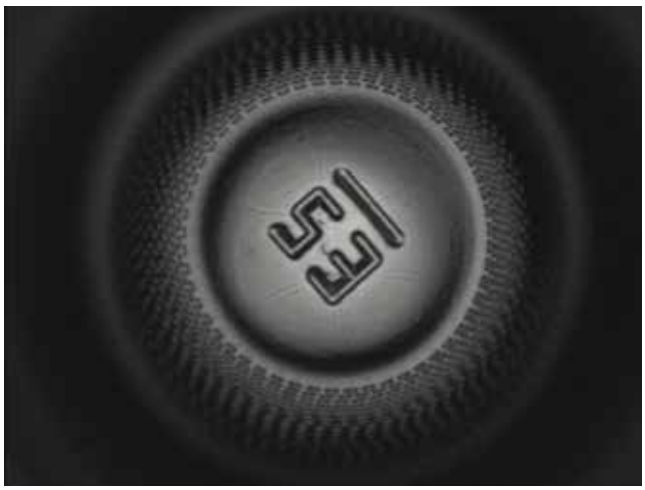
Heye is to introduce two innovations for non-contact inspection over the first quarter 2023 - thereby extending into this segment further.

The first innovation is a non-contact article presence detector. Replacing the finger probe, this camera-based module detects the presence of a correctly aligned container in the carousel and initiates inspection. It is suitable for rounds and non-rounds and can be retrofitted into customers' existing SmartLine 2 machines. Being contactless, the module reduces mechanical wear and tear.

BOTTOM THICKNESS INSPECTION

Heye's second new module, bottom thickness inspection. We have developed a version of our wall thickness sensor which can be positioned under the container to measure the thickness of the base. As manufacturers continue to develop lighter bottles through better control of glass distribution, thinner bases create a potential weak spot. This new contactless sensor, only available from Heye, provides reassurance to makers and fillers that the entire wall of the container is free of defects. As well as on the other Wall thickness Products, Heye is using the superior chromatic confocal method which is much more precise, robust and reliable than other solutions.





FOCUS ON THE MOULD

Heye has adapted the Konatic data matrix code reader to interface with its inspection systems. It runs from the machine, but the screen and user interface is in a separate cabinet. The data matrix code is engraved at the hot end. By integrating the Konatic reader into its SmartLine 2 line means users can systematically reject specific moulds on a time frame basis not only by mould number. It provides for resorting during the production cycle. When a defect is found, the reader transmits the section/cavity code to SmartLine 2.

The KSL 3 mould number reader was a major development last year, replacing the KSL 2 and increasing the reading rate to over 99 percent. Its AI algorithm increases the reading rate of badly-engraved mould numbers. The reader relates detected defects to repeating mould numbers and communicates this so the hot end can take remedial measures.

These things matter: a study indicated that glassmakers can save at least EUR 20,000 a year per line by increasing the reading rate of badly-engraved mould numbers from <95 percent to over 99 percent. Payback time on the KSL 3 can be very short.

Last year we launched a standalone version of the KSL 3 mould number reader. It's the same as the internal version but this unit can be retrofitted to Heye and non-Heye star wheel inspection machines to enhance their respective performance. The external unit also enables glassmakers to move the KSL from line to line to perform a resort and the resulting flexibility also keeps costs down by neither forcing users to install a separate unit on each line nor upgrade their entire inspection system.

These innovative steps reinforce Heye's reputation as glass people, not glassmakers. The company develops solutions for the entire glass plant - forming, inspection, machine learning, project management and the integration of Smart Plant technology. ■

smart plant

ABOUT HEYE INTERNATIONAL

Based at Obernkirchen, Germany, Heye International GmbH is one of the international glass container industry's foremost suppliers of production technology, high performance equipment and production know-how. Its mechanical engineering has set industry standards for more than five decades. Extensive industry expertise combined with the positive attitude and enthusiasm of Heye International employees is mirrored by the company motto 'We are Glass People'. Its three sub-brands HiPERFORM, HiSHIELD and HiTRUST form the Heye International equipment portfolio, addressing the glass industry's hot end, cold end and service requirements respectively.

heye international

HEYE INTERNATIONAL GmbH

Lohplatz 1
31683 Obernkirchen - Germany
Tel.: +49-5724-26-452
Fax: +49-5724-26-229
E-mail: marketing@heye-international.com
www.heye-international.com