

Automated solutions for container production

Bucher Emhart Glass is rolling out a suite of automation technologies under the umbrella brand 'End to End', as described by Matthias Kümmerle.

Bucher Emhart Glass (BEG) is global market leader in equipment for glass container manufacturing and inspection. The firm has manufacturing facilities and sales/support branches around the world, employs 1800 people and has annual sales of around €335 million.

LISTENING TO CUSTOMERS

Throughout 2015, BEG sat down with customers to gain a better understanding of today's biggest challenges and to discuss what solutions were expected in the future.

Three themes were mentioned consistently: Customers expect BEG to continue delivering on its brand promise, supplying best-in-class quality and developing cutting-edge innovation. They seek a long-term partnership with suppliers and want to be involved in the development process. Finally, customers believe that the biggest innovations will come in the area of closed loop technology and process automation, maximising production efficiencies while reducing the dependency on skilled operators. Having hot end and cold end under one roof, customers believe that BEG is best

positioned to take total process control to a next level.

The objective of every glass plant is to achieve high capital utilisation, run at consistently high pack rates with low defect levels, minimise downtime and deal with changing market demands. The equipment and technology used plays an important role, as different machine types differ there in potential, reliability and cost of ownership.

However, beside the technology used, a critical success factor today is the operational knowhow in a glass plant and the skills of the machine operators. Many glass plants today are suffering from knowhow gaps and are facing increasing difficulties in attracting talent to a seemingly unattractive industry. It is no surprise that knowledge drain is seen as the single biggest challenge in the coming years by many glass plants.

AUTOMATION TECHNOLOGY SOLUTIONS

BEG's response to these challenges is a comprehensive product and service offering under the brand 'End to End', comprising a set of solutions and automation technologies. End to End will make glass production easier, more efficient and safer and it will support glass plants in supporting knowhow gaps. It will take a holistic view of the production process, unifying BEG's hot end and cold end.

BEG is also responding to customers' requirements to be involved in the development process and is offering a deep insight to the development roadmap of the coming years.

INFORMATION SYSTEMS

Some key developments are targeted towards extracting relevant information from an increasing stream of data: A plant information system will aggregate production data from throughout the plant. The control centre will be the central hub for the entire forming and inspection process, providing operators a much simpler overview of the relevant production information. Furthermore, an integrated defect expert system will display actual defects at the hot end and propose possible corrective actions to the operator.

PROCESS CONTROL

A high focus will remain on closed loop developments and ultimately, defect data from the cold end will be included, automatically adjusting the forming process to prevent defects.



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Sending data upstream, automatic sensitivity adjustment will provide safeguards when the forming process deviates from its control limit. Robots will play an important role in automating certain tasks, such as swabbing.

SIMPLIFIED MAN-MACHINE INTERFACES

BEG's latest safety controls drastically simplify setup procedures, while increasing operator safety. Application oriented programming will revolutionise the way machines are programmed.

Rather than specifying timing drum start and stop angles for mechanism motion and forming events, the users will focus on forming and process durations. Condition monitoring and preventative maintenance tools will help plants schedule repairs proactively to minimise unplanned downtime.

INSPECTION TECHNOLOGY

SCOUT, the first element of End to End to be released, is the intelligent software behind BEG's inspection technologies. It increases accuracy and control and supports fully modular expansion and upgrades in the future.

The other side of End to End is support. BEG's team will support the customers in greenfield and brownfield projects and training, as well as complete line optimisation support and ultimately increase efficiency of the customer's production.

IDEAL PARTNER

End to End makes perfect sense for a company that has traditionally been an industry leader at the hot end but has also made huge strides in inspection and controls.

"Our new offer is very simple: One plant, one partner" says Martin Jetter, BEG's President. "With the skills gap and economic reality we all face now, it makes sense to work with a single supplier who understands every area. That's why End to End is our future and we hope it's a future our customers will share." ■

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