



INDUSTRY 4.0 IN CONTAINER GLASS PRODUCTION



Industry 4.0 is a major trend on everyone's lips, referring to the fourth industrial revolution. Projects have been started in many companies. In Germany, the biggest industry organizations have set-up a common platform for the application of the strategic growth potential of this development. Experts believe that Industry 4.0 or the fourth industrial revolution could be implemented in full width in about 10 to 20 years.

Heye International is working to adapt the best concepts to container glass manufacturing. An interesting bunch of ideas will be presented during this year's *glasstec*. One big area of innovation is information integration. This means the use of sensors, the processing of collected data and intelligent analysis. The Heye Plant Pilot is the answer to the challenge of information integration. This solution is a continuous further development of the Heye

Information system. The Heye Plant Pilot now offers control for different user levels, presented on mobile and stationary devices. The Plant Pilot, with all its features, supports the group director who wants to know the performance of all plants, primary by mobile. The plant manager can be monitored the plant efficiency and quality level. The department manager can manage his department in terms of maintenance and improvements and not to forget the operator, who can react quickly thanks to the Plant Pilot's information delivered.

Higher safety comes hand-in-hand with new technologic possibilities. Global safety standards are rising. Manual intervention on an IS-machine has been daily business. Now, we have the possibility to increase the number of safety sensors and process data-recording sensors. The Heye Process Control with new features and news sensors

to increase production safety is a major foundation in this context.

Apart from high speed at top quality, high safety was one of the key requirements for the design of the Heye SpeedLine IS-machine. More sensors, improved user interfaces and a clear, functional design structure make this machine more intelligent, safer and more productive.

Machine building in times of change is an exciting subject. Heye's engineers are looking forward to applying the best concepts to container glass production.

Examples for brand-new features in this context, enhancing machine safety are, for example, Dead Plate Monitoring. The dead plate position for each cavity is monitored by an infrared sensor underneath the dead plate over the whole cycle of a section. If the heat radiation is abnormal or does not exist at a certain time a failure in glass handling or de-moulding has occurred. In that case

the following gobs for this section will be rejected.

This reduces potential dangerous manual intervention in the machine and minimizes downtimes.

Swabbing of the mechanisms and moulds is as well a potential dangerous manual intervention in the machine. Heye is introducing a robotic system to perform this task on the blank side of the IS-Machine. Apart from the safety-aspect, robots increase process precision and repeatability. This has strong positive aspects on product quality.

Protection grid with sensors on the blank side, increasing the safety for the machine operator.



User levels of plant management systems

