

Heye Newsletter II, 2021

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DEAR CUSTOMERS, PARTNERS AND EMPLOYEES

allow me to start with a short introduction.

My name is Hans-Peter Müller, in October I took over the responsibility as CEO for Heye International. Since this date I have had the opportunity to meet a number of customers and most of our employees.

I have been impressed by their knowledge, experience and dedication, making Heye International one of the leading companies for high performance machines for outstanding quality glass container production and quality inspection.

The year 2021 has been a very challenging one, with a lot of uncertainty for companies, but also for their employees and families.

In terms of business, 2021 came to a slow start amongst the impact of the Covid-19 pandemic, but has ultimately developed an unprecedented level of project demand. We are now proud to report a historic record booking level with a very dynamic and sustainable market demand for the years to come.

As a company, and with the strong support of our highly qualified and experienced staff, we will continue to focus on the further development of our full range of expertise. This also includes driving operational excellence and a strong focus on quality and performance, despite the very challenging situation in the entire supply chain.

2022 will also be the year of glasstec - we are looking forward to hopefully meeting many of our customers again face to face and we can't wait to present to you our exciting innovations, technologies and services.

I am looking forward to meeting all of you in the near future and wish you and your families a happy, successful and exciting year 2022.

Stay healthy!

Sincere regards
Hans-Peter Müller



THE GLASS PLANT OF THE FUTURE

Adopting the latest Industry 4.0 technologies is now crucial for the international glass container industry, says Hans Renders, Head of Product Management at Heye International. Heye offers customers a partnership on their individual path towards a smart plant, resulting in the creation of a highly automated and cost-effective glassworks.

Selection is key to defining the perfect path but it's a challenging job to keep track of the Industry 4.0 jungle. The Glass People at Heye combine long-term process expertise and a passion for the material with advanced skills in the latest technology. Every possible solution is evaluated by the company's process experts based on the decision criteria of financial ROI, workplace safety and influence on product quality. Heye International is your partner to select the correct technology from Industry 4.0.



SMART USER INTERFACES

The availability of smart user interfaces for operators has become especially important. The Heye Cockpit is the central user access to the Heye SpeedMaster hot end control and process intelligence portfolio. The Heye SpeedMaster consists of three modules: E-timing, motion control (servo and pneumatic actuators) and the process intelligence solution set, combining all process control closed loops.

The approach employed is user-centric. The central collection point for all data from Heye SpeedLine is the new Communication Tower. Here, the data from all control systems of the machine are merged and managed in one central cabinet. Data integration between hot end and cold end especially helps to gain time. „With the technology behind Heye’s smart user interface our customers can respond quickly on changing production conditions and finally keep the overview, which is essential for efficient glass production,“ underlines Hans Renders.

The Communication Tower has already integrated a multi-functional remote maintenance router, which enables access via a VPN tunnel, if required. Combined with precise mechanisms, the latest servo technology helps to achieve maximum production speed at high quality levels. High production flexibility is another result of the technology. Glass plants with short production runs and many different jobs have two advantages. First, job changes can be performed in a very short time, as important parameters will be retrieved and the major parts of the machinery will be adjusted automatically in the future. Second, the operators can produce different bottles on one IS machine, by using multi-weight assortment technology. This makes the production of samples or short job runs extremely efficient.

PROCESS CONTROL AND CLOSED LOOP SOLUTION SET

As well as being the inventor of the NNPB process, Heye has set the standard in closed loop production technology. A large set of closed loop solutions gives the customer a competitive edge. Heye offers operator assistance for gob loading, closed loops for gob shape and weight for NNPB and press-blow operation with the Heye Process Control. For heavy and premium articles produced by blow-blow operation, the Heye GobMaster satisfies demand for a closed loop solution according to gob shape and weight by visual gob measurement.

Following the glass flow, on the blank mould side, closed loops for cooling and press duration / glass distribution are available. The Swabbing Robot eliminates one of the most important manual working steps, at the same time being the basis for precise, temperature measurement on the blank side.

Closed loops on the blow side allow accurate, high speed ware handling. Dead plate cooling is controlled, creating the basis for proper bottle movement by the high speed pushers, while the closed loop for ware spacing is a second speed-relevant factor. Furthermore, both loops eliminate defects generated by an incorrect ware handling set-up. Many of these solutions are already available, while others are in the prototype phase. In some areas, operator assistance is a good first step and in other situations, full closed loop systems are already in place.

CONNECTING HOT END AND COLD END



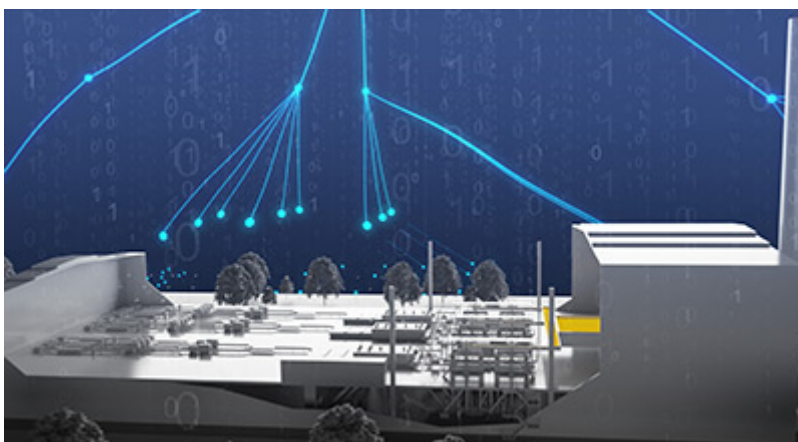
The Heye PlantPilot is a cornerstone in the field of data integration in the glass plant. By using internet-based technology, different machines or modules can be connected to manage the plant. In addition, important analysis possibilities are offered to optimise the production process. In particular, data integration between hot end and cold end helps to gain time.

Via the Heye Cockpit, the hot end operator has a perfect overview of the defect situation on the different cavities. By a future extension of the database to an expert system, recommendations for the correction of production defects can be given. As production companies encounter increased challenges to find skilled people, these expert systems for glass forming will become an important success factor.

HEYE REMOTE SERVICES

Besides supporting machine-to-machine (M2M) communication, many of the connected devices also provide an interface that allows Heye to monitor them across the Internet from any geographic location. Depending on customer settings, this remote control capability can be used to perform such tasks as virtual maintenance checks without stopping system operation. It is also used for latest software updates, failure detecting and is giving a helping hand for any imaginable scenario. Connecting machines in this way is the first step towards creating smart factories.

SUMMARY



In summary, the Heye smart plant concept combines different innovative solutions in major areas. All of them have become possible through a set of enabling technologies, from sensors and communication networks to robots and automation.

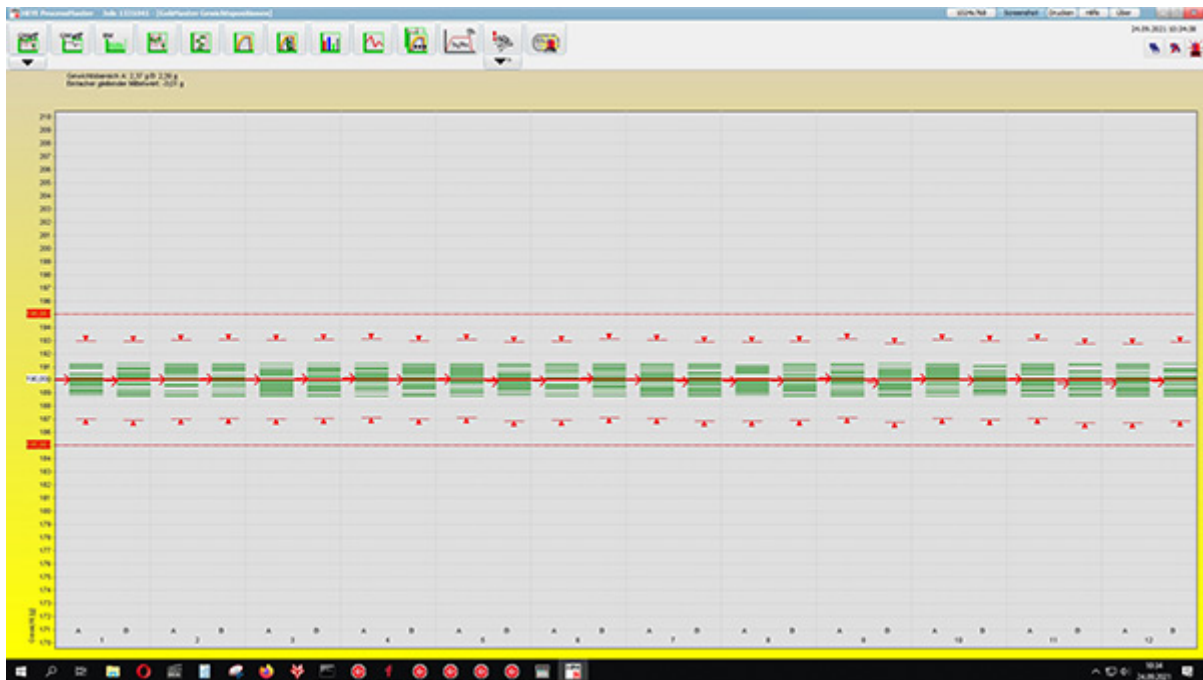
The Heye Glass People are your correct partners to develop a common roadmap for the journey to a smart plant, a factory that will be able to produce high productivity containers at low cost, resource-efficiently and with a consistently high quality.



HEYE PROCESS CONTROL: AN INCOMPARABLE SUCCESS STORY

As it reaches over 1000 process controls delivered to customers, Heye is the leading partner for process optimisation, regulation and digitalisation of the NNPB process. According to Hans Renders, Head of Product Management at Heye International, the Heye Process Control 4.0 (HPC) was the crucial milestone to initiate Industry 4.0 within the glass industry.

The Heye Process Control 4.0 is a closed-loop-solution for the press process of all plunger mechanisms within an IS-machine. Simultaneously, it keeps the gob weight stable. Its computer interface displays a number of forming events on selectable charts and allows users to improve parameter setting by comparing data.



Early detection of malfunctions increases production efficiency. The integrated plunger cylinders guarantee precise and consistent parison parameters for press-blow and NNPB production.

By delivering the 1000th HPC, Heye comprehensively demonstrated that it has recognised and fulfilled the approach required by the market for stable and sustainable process data management in the past decades. The Heye Process Control is the essential closed-loop- system for every glass manufacturer in order to

meet the high quality requirements of NNPB production.

Changes in customers' process requirements have driven Heye International engineers to modify the Heye Process Control (HPC) from solely a plunger sensor to a holistic solution. The data acquisition from different sensors and the regulation of process parameters are now realised in the Heye ProcessMaster in which the Heye Process Control becomes a subsystem.

The Heye ProcessMaster (HPM) is a modular central software solution which is used as a basis for most sensor solutions in Hot End production. HPM makes it now possible to implement single sensors as well as complex sensor systems.

These sensors are for example:

- the Heye GobMaster for weight control of BB-process and additional information like gob-shape, temperature and dimensions
- the Heye BlankMaster, which monitors different mould part temperatures and gob loading at the blank side
- stand-alone gob temperature sensor

All collected sensor and machine data can be used inside the production process to regulate process parameters like gob weight, press duration or mould part temperatures.

All collected process data is stored in the HPM for seven days.

The collected data can also be extracted via Heye SmartLink to be used by a third-party Manufacturing Execution System (MES) to get a long-term history of all relevant machine and process data. This helps to generate a better understanding of the process and the machine behaviour and consequently to implement optimisations on process and machine.

In addition to all these hardware optimisations, Heye is always in contact with its customers to set up user interfaces for a friendlier and more intuitive operation. Hence, the HPM gets a reworked user interface on each operating system update to let the operator feel more comfortable and familiar when handling the system.



HEYE'S SUCCESSFUL REMOTE INSTALLATION IN THAILAND

When machinery and equipment is to be installed, our Heye experts travel around the world – usually. But what is still „usual“ and „normal“ these days? We are all longing to return to the good old times when terms such as „social distancing“, „home schooling“ or „travel restrictions“ did not determine our lives. And yes, we will get back to these glorious times one day. But this requires patience and stamina –

and new ideas and steps in the meantime.

So we are very proud that again, Heye experts - in cooperation with a great customer's team on site - successfully installed and commissioned an IS-machine via REMOTE ACCESS.

The 8 Sect. 5inch DG IS-machine (overhauled) runs NNPB operation and produces lightweight juice bottles.



This project was accomplished remotely with Heye experts' knowledge in Germany and powerful performance of the L. Lighting Glass team in Thailand. Our thanks also go to our local partner in Bangkok who tremendously supported the team on-site.



IRIS AND HEYE COOPERATE AT CARIB GLASSWORKS



Container glass manufacturer Carib Glassworks in Trinidad benefited from Iris and Heye's cooperation.

Camera and check inspection solutions specialists, Iris Inspection machines and Heye International have gathered in a synergy.

The cold end alliance, named WENSPECT, has proved working together as one, its ability to overcome challenges at Carib Glassworks, the only glass container plant in the Caribbean.

The factory produces standard and custom-made containers in flint, green and amber for customers in the soft drinks, beer, food, alcohol and juice sectors.

In 2016, the glassworks doubled production capacity to 70,000 tons/year via the commissioning of a second melting furnace and three production lines.

Carib Glassworks started working with Heye International almost 50 years ago equipping one furnace with Heye IS machines and Heye carousel machines for the cold end.

In 2015, as they were facing new quality challenges, Iris Inspection machines delivered non-contact inspection solutions for five production lines.

Sharing the same passion for collaboration, Iris and Heye, now joined in WENSPECT alliance, have supported the glassmaker's business expansion initiatives, in a close working relationship.

"This is the kind of cooperative dynamic that we establish with our customer. So we have been delighted to find this level of support and service with IRIS and Heye." says Ms Tahira Khan, Project Manager at Carib Glassworks.

Having encountered wire edge and overpress defects last year, the glassmaker relied on IRIS solution, with the installation of the Wire Edge module on two production lines. Carib Glassworks has been impressed with the results achieved, so much so that at the beginning of 2020, all the impacted lines were equipped with the dedicated wire edge module.

Located in Port of Spain, Trinidad, Carib Glassworks has a history dating back to 1948.

The glassworks is a member of the ANSA McAL Group of Companies, its founding fathers having laid the platform for a highly automated manufacturing facility, employing some of the best regional technical professionals.



MESSAGE IN A BOTTLE

Last week we received the following email from the Isle of Anglesey:

Hello from the Isle of Anglesey in North Wales, I hope you can help. After last night's very stormy weather I found a glass float on the beach. I've identified the stamp and it was made by Heye Glass Manufacturers. I'm trying to find out how old it might be. Would you be able to find out when the company stopped producing glass floats please?

Thank you so much for your help 😊



The ball shown is a floating ball that was used for fishing. They were used to keep fishing nets on the surface by the buoyancy of the air trapped in them. The floating balls are actually blown balls, originally blown free and later blown into shape. They were locked in a string net attached to the edge of the fishing net. Heye Glass manufactured these spheres from 1910 to the 1950s.

It's a pity that the glass ball that's washed up can't speak. It could certainly have told a lot about her travels on the oceans of this world.



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