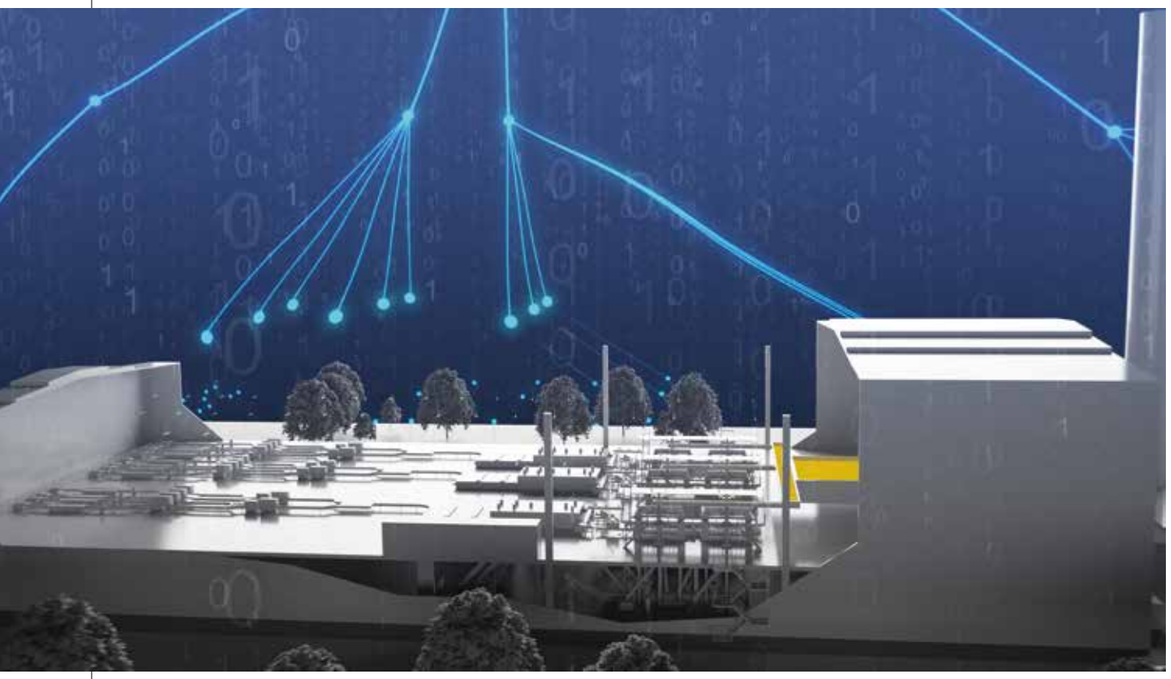
Digitalisation

Data-driven forming technology strengthens performance across HEYE operations



Digital technologies are reshaping container glass production as manufacturers pursue efficiency, quality and sustainability. Through decades of innovation, HEYE has developed systems that connect forming processes with real-time data and analytics - enabling smarter production control, predictive maintenance and more transparent, energy-efficient glass manufacturing environments.

SMART GLASS MANUFACTURING: UNLOCKING THE POTENTIAL OF DIGITAL TECHNOLOGY

The glass container industry is undergoing a fundamental shift. As sustainability targets rise and expectations for efficiency increase, glass production is being redefined. Rising energy costs and stricter environmental regulations are accelerating the move toward smarter, leaner and more data-driven operations. In this environment, digital technologies are no longer optional; they are becoming essential for overcoming operational challenges and ensuring long-term viability. Digitisation has been embedded in the strategy of HEYE for decades. As early as the 1990s, the company introduced PC-based image processing systems and servo-controlled IS-machine processes, well before 'Industry 4.0' entered the industry's vocabulary. Today this focus continues through technologies such as the bus-capable SpeedLine IS-machine, advanced Hot End Closed Loop control systems and digital solution like Heye SmartLink. The common objective across these developments is tighter control over forming processes, leading to improved uptime, higher yield and consistent product quality.

REAL-TIME CONTROL AT THE FORMING PROCESS

The direction of the industry is increasingly clear: critical parameters must be measured as close to the forming process as possible, and in real time. Only then can deviations be detected early enough to prevent defects and conserve valuable resources. Infrared and optical sensors, together with non-contact measurement technologies, have made closed-loop control systems possible. These systems automatically adjust forming parameters before defects arise. At the same time, remote connectivity and secure access to data have become essential tools for efficient technical support and for gaining plant-wide production insights. Digitalisation, however,

only delivers its full value when the right data reaches the right place at the right time. This is where Heye SmartLink plays a central role, acting as an interface between machine-level operations and higher-level analytics systems.

HEYE SMARTLINK: THE DATA GATEWAY FOR INTELLIGENT GLASS PRODUCTION

As digitalisation reshapes container glass manufacturing, access to real-time production data is becoming a decisive competitive factor. In response, Heye developed SmartLink, a compact software solution designed to connect production equipment with analytics platforms or manufacturing execution systems (MES). Heye SmartLink enables fast, secure and standardised transfer of process data from connected glass production equipment to customer's internal systems. Operating entirely within the customer's local network, the solution provides reliable access to structured machine data without compromising security or increasing network complexity. By converting machine data into a uniform format, Heye SmartLink establishes a reliable foundation for process transparency, condition monitoring and data-driven decision-making.

KEY FUNCTIONS OF HEYE SMARTLINK

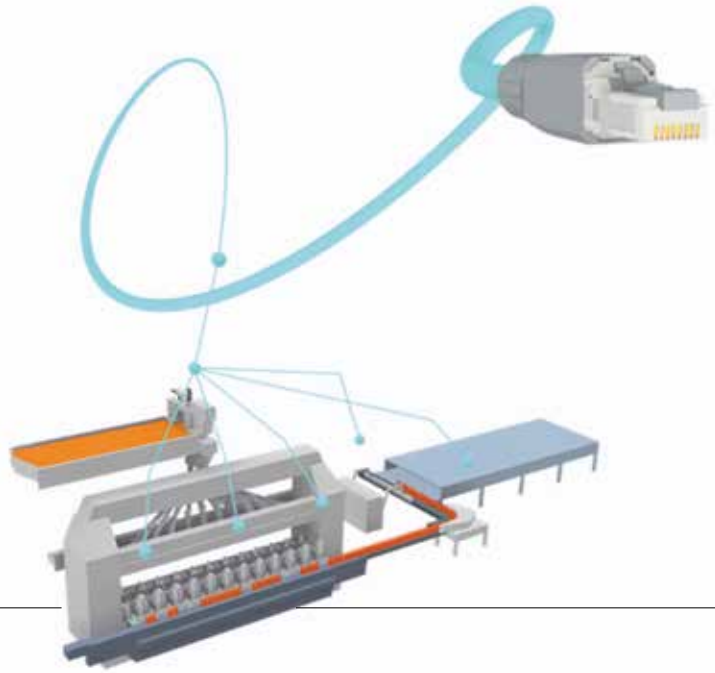
Heye SmartLink is designed to support seamless data handling and integration across glass production environments. The system receives real-time process data from connected equipment and converts raw machine information into a standardised JSON format. This data is then published through an MQTT broker, enabling efficient communication between systems while maintaining clear separation between machine networks and plant-level infrastructure. This architecture allows manufacturers to integrate production data without exposing critical machine systems, ensuring secure communication while maintaining high levels of operational transparency.

DATA EXPORT

Heye SmartLink can deliver a wide range of equipment-dependent data. This includes operating and configuration data, event parameters and section status, as well as gob characteristics such as weight, temperature and measurement values. Additional process information may include mould and plunger temperatures, plunger positions and press duration, forming pressure and production counter data. Reject counters and reject reasons can also be transmitted, providing valuable insight into production quality and operational performance.

ADVANTAGES AT A GLANCE

Heye SmartLink is designed for simple integration into existing infrastructure. The system requires only a single dedicated LAN Ethernet port and keeps all data within the customer's local network. Its standardised JSON format ensures compatibility with modern analytics tools, while the MQTT-based architecture reduces network load and supports efficient data transmission. Because the platform is modular and scalable, it can be adapted to a variety of plant environments and digitalisation strategies. By providing a unified interface for machine data, Heye SmartLink allows manufacturers to derive insights for monitoring, diagnostics, traceability and predictive maintenance. In doing so, it enables real-time access to standardised production data, supports predictive maintenance strategies, and facilitates both quality and energy analytics. The system also simplifies plant-wide integration, reduces infrastructure complexity and helps establish the foundation for greater automation and data-driven decision-making. Providing machine data seamlessly, securely and in real time for analytics and process tools, Heye SmartLink represents an enabling step toward the smart, energy-efficient glass plant of the future. ■



heye international

HEYE INTERNATIONAL GmbH

Lohplatz 1, 31683 Obernkirchen
GERMANY
Tel.: +49-5724-26-452
marketing@heye-international.com
www.heye-international.com