Smart glass manufacturing boosts plant efficiency

Mark Ziegler* explains how Heye's SmartLink technology provides real-time machine data for process optimisation, supporting the move towards smarter, more energy-efficient glass plants.

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 landscape, digital technologies are no longer optional – they are essential to overcoming today's challenges and ensuring long-term viability.

At Heye International, digitisation has been an integral part of operations for decades. As early as the 1990s, Heye introduced PC-based image processing systems and servo-controlled IS-machine processes – well before "Industry 4.0" became a buzzword.

Today, this focus continues with technologies like the bus-capable SpeedLine IS-machine, advanced Hot End Closed Loop control systems, and digital solutions like Heye SmartLink. The common goal: tighter control over forming processes, with increased uptime, yield, and quality.

Forming

The industry's direction is 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, defects prevented, and resources conserved.

Infrared and optical sensors, along with non-contact measurement technologies, have enabled closed-loop systems, which automatically adjust forming parameters before defects arise. At the same time, remote connectivity and secure data access are now essential for efficient support and plant-wide insights.

However, digitalisation delivers full value only when the right data reaches the right place at the right time. This is where Heye SmartLink comes into focus – as a central interface between machine-level operations and higher-level analytics.

Heye SmartLink

As digitalisation reshapes the industry, access to real-time production data is becoming a decisive competitive factor. In response, Heye developed SmartLink – a compact, efficient software solution, which connects 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, it ensures 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.

Heye SmartLink offers core capabilities that support seamless data handling and integration. It receives real-time process data from connected equipment, transforms raw data into a standardised JSON format, publishes data via an MQTT broker for efficient communication, and separates networks cleanly, keeping machine and plant systems secure.

Data export

Heye SmartLink can deliver a wide range of equipment-dependent data, including operating and configuration data; event parameters and section status; gob characteristics (weight, temperature, measurements); mould and plunger temperatures; plunger positions and press duration; forming pressure; as well as counter data, reject counters, and reject reasons.

Advantages include simple integration into existing infrastructure; requiring only one dedicated LAN Ethernet port; keeping all data within the customer's local network; a standardised JSON format for compatibility; an MQTT-based architecture that reduces network load; and being modular and scalable for different environments.

By providing a unified data interface, Heye SmartLink allows manufacturers to extract insights for monitoring, diagnostics, traceability, and predictive maintenance. It addresses key industry needs; enables real-time, standardised data access; supports predictive maintenance; facilitates quality and energy analytics; simplifies plant-wide integration; reduces infrastructure complexity; and lays the foundation for automation and data-driven decision-making.

In conclusion, Heye SmartLink securely delivers real-time machine data for analytics and process tools, driving the transition to smarter, energy-efficient glass plants. ■

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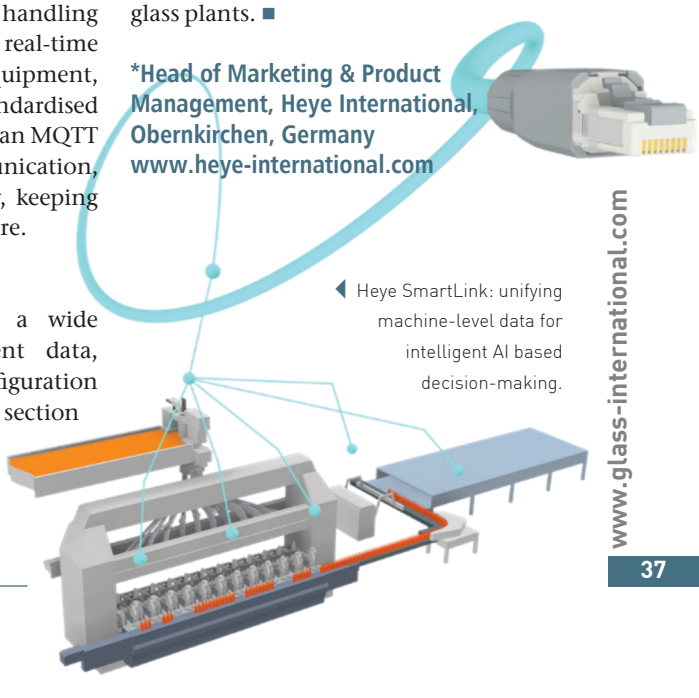

Heye SmartLink: unifying machine-level data for intelligent AI based decision-making.