

 **Grupa Żywiec**

PART OF THE  **HEINEKEN** COMPANY

Automating Inline Quality Control at One of Poland's Largest Breweries

Brewing Industry



→ Krzysztof Gilek, senior automation specialist at Żywiec Brewery.

Żywiec Brewery in Poland uses Anton Paar process controllers and Davis 5 software to ensure product quality across more than 100 varieties of beer and beer-based products.

Żywiec Brewery is one of Poland's most established beer producers. Founded in 1856 by the Habsburg Imperial Family, it was once considered one of the largest and most modern breweries in Europe.

In 1994, Żywiec was acquired by Heineken International, ushering in a new period of expansion and modernization. Today, it produces around 5 million hectolitres of beer and beer-based products per year across more than 100 varieties, from top-fermented beers to dark beers and non-alcoholic lagers. However, the brewery's expansion in the years following the acquisition was not without its challenges.

Expansion brings new quality-control challenges

Automation specialist Krzysztof Gilek, who joined the company in the 1990s, says one of the biggest issues was maintaining consistent quality assurance across such a large and diversified product portfolio.

"Different naming and numbering systems were used at various stages of production (filtration, BBT, and filling), which made standardizing process control very difficult."

The existing infrastructure also posed difficulties. Older fillers at the brewery were unable to handle the numerous new product types, and the cost of upgrading them proved prohibitive.

"We had to find a way to bypass these limitations while ensuring that the filler still knew which product it was handling and which beer parameters it needed to control," says Krzysztof.



→ Carbo 6100, maintenance-free optical inline CO₂ sensor, a part of Beer Monitor.

One standard from filtration to filling

The goal was to create a scalable and standardized monitoring system that would maintain consistent product identification and control parameters from filtration through to packaging, without rebuilding the filling lines.

To achieve this, Żywiec implemented Anton Paar Beer Monitor and Cobrix systems, supplemented by Oxy 5100 oxygen sensors where required, to continuously measure critical parameters such as alcohol, extract, CO₂, and oxygen throughout filtration, BBT storage, and filling.

At the start of production, product-specific control parameters are retrieved from a single data source in the Brewmaxx brewing process control system and transferred via PLC systems to the fillers and inline analyzers.

The fillers continuously supervise the process inline and can automatically stop production if any parameter deviates from the specified limits – a feature that is particularly crucial for producing non-alcoholic beverages.

Centralized data with Davis 5

Tying everything together is Anton Paar's Davis 5 data acquisition and visualization software, which provides centralized management of the inline analyzers, process visualization across multiple client stations, and reliable archiving of production and calibration data.

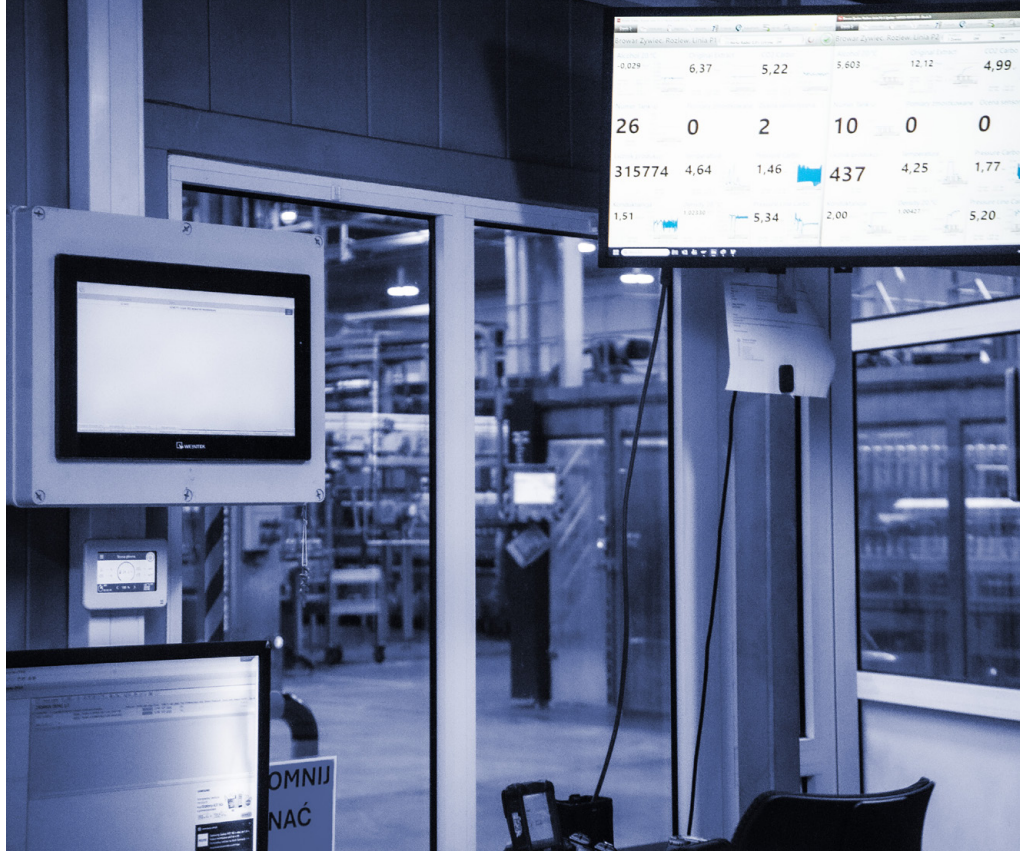
Krzysztof says implementing the inline process quality-control system significantly improved process consistency, traceability, and operational reliability.

“Ultimately, we managed to integrate the entire system successfully. We’ve achieved fully automated and reliable real-time control over the production and packaging process.”

Today, most of the complexity operates automatically in the background, but the implementation was not without its challenges. For example, Żywiec's custom solution required integrating 17 Anton Paar Beer Monitor units into one Davis 5 platform and optimizing the network architecture to ensure reliable communication and efficient data transfer between systems.

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to the proactive
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Anton Paar Poland
service team
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**Krzysztof Gilek,
automation specialist,
Żywiec Brewery**



→ Centralized data analysis with Davis 5.

Proactive support from start to finish

Nevertheless, Krzysztof says Anton Paar's support throughout the process and beyond has been a decisive factor in its success.

“It was thanks to the proactive approach of the Anton Paar Poland service team that this project was successfully completed. We could rely on their professional support at any time, even outside working hours.”



Find out more

Instruments: Beer Monitor, Oxy 5100, Davis 5

Measured parameters: alcohol, extract, CO₂, oxygen

Samples: beer (more than 100 varieties per year)