



Omnia Technologies

Digitised brewing
systems



Efficient brewing through digitalisation

Easybräu-Velo enables transparent brewhouse processes through advanced sensor technology

Easybräu-Velo, a brand belonging to the Omnia Technologies Group, develops and manufactures complete brewhouses and equipment for industrial and craft beer production. The company is committed to optimising the brewing process through innovative automation solutions. To achieve this, it relies on a close partnership with the German automation specialist ifm.

"We realised early on that digitalisation is not just a passing trend, but a vital requirement for staying competitive in today's industrial landscape," says Stefano Giacobini, Business Unit Leader Beer at Omnia Technologies. "Our customers are also increasingly recognising the benefits of transparent monitoring in brewing and cleaning processes."

Giacobini pinpoints two core reasons why digitalisation is no longer optional. *"On the one hand, we aim to ensure consistently high product quality that meets the strictest hygiene standards for the benefit of our customers. On the other hand, we strive to use resources like energy and water as efficiently as possible to minimise both costs and environmental impact."*

Sensors from ifm provide data for analyses and production planning

Determined to meet these ambitious goals, Omnia Technologies teamed up with a trusted partner in automation: ifm.

"We chose to work with ifm to fully digitalise the entire production process and make it available to our customers in a systematic and reliable way," says Giacobini. "With each step forward in digitalisation, the demand for comprehensive, scalable and seamless solutions increases. ifm's product offering meets all these requirements. It allows us to provide our customers with detailed and precise insights into the process, which they can then use for analysis and production planning."

SM Foodmag: all-in-one sensor for flow, conductivity and temperature monitoring

In the brewhouse, where malt and water are processed into wort, various sensors from ifm are used to measure parameters such as level, flow, pressure and temperature. Since all sensors are equipped with IO-Link digital communication technology, the data is transmitted not only to the control system but also

"When it comes to selecting the right sensors for each individual system, we can rely on the expertise and competent advice of ifm."



The SM Foodmag simultaneously detects flow, conductivity and temperature – all at a single measuring point.

to the IT level, where it is analysed to optimise the brewing process. The new hygienic flow meter SM Foodmag is the first sensor of its kind to feature IO-Link. It bridges the gap in digitalised food processing and further enhances system monitoring and control: A single sensor can now simultaneously detect flow, conductivity and temperature – three key parameters. It also transmits information on flow direction and medium presence, offering comprehensive insights into the process. A large, easy-to-read display shows all relevant data directly on site. An LED ring around the display provides clear status indication, visible even from a distance.

"The SM Foodmag allows us to monitor our process in much greater detail and fine-tune settings in ways that simply weren't possible before," says Alessandro Sanson, Senior Software & Automation Specialist at Easybräu-Velo. "And all of that with just a single measuring point. For example, we can use the conductivity values to precisely dose the chemicals during CIP cleaning. We can also accurately determine when to stop the rinsing process, thereby minimising water consumption."

In the future, Easybräu-Velo's software will be able to determine wort density based on the collected data and, using artificial intelligence, automatically make adjustments – unlocking further potential for increased efficiency and improved quality.



Modern brewing systems rely on a wide range of sensors to monitor processes.



SU Puresonic: ultrasonic sensor accurately detects osmotised water

Sanson also sees key advantages in another sensor from ifm: *"The SU Puresonic ultrasonic sensor enables precise detection of osmotised water – something that was previously difficult due to its low conductivity. Here too, we can now reliably measure both flow and temperature with a single device. This supports stable product quality and enhances overall process efficiency."*

Faster and more efficient thanks to IO-Link

One of the key strengths of IO-Link is its ability to transmit additional data directly to both the control and IT levels. This is particularly valuable where digitalisation is intended to secure



The SU Puresonic can reliably measure the flow rate of water even at very low conductivity levels.



The field-compatible IO-Link master collects sensor data decentrally and transmits it to the controller in bundled form.

process efficiency and ensure production quality. Another key reason for **Sanson** to rely on IO-Link: *"IO-Link simplifies installation by combining standardised connection technology with a smart decentralised infrastructure."*

Field-compatible IO-Link masters collect and transmit bundled data from up to eight sensors each. Since the masters can be connected in series, overall cable lengths are significantly reduced. In addition, the use of standardised M12 connectors ensures error-free connection between sensors and masters.

"With IO-Link, we save measuring points, metres of cable and valuable installation time," says **Sanson**. If a sensor fails, it can easily be replaced with an identical model: The IO-Link master

can store the sensor parameters and automatically transfers them to the new sensor after replacement.

"We will now gradually adapt our plant software to make full use of the expanded data capabilities offered by IO-Link sensors. This will enable us to continuously improve efficiency and reduce resource consumption," **Sanson** concludes.

ifm supports its partner in overcoming technological challenges

Throughout this process, the Italian company values ifm as a dependable partner.

"When it comes to selecting the right sensors for each individual system, we can rely on the expertise and competent advice of ifm," says **Sanson**. *"This partnership is a key factor in the*

success of Omnia Technologies and enables us to develop and implement innovative solutions that meet the demands of the modern beverage industry."

Conclusion

The collaboration between Omnia Technologies and ifm demonstrates how digitalisation is helping to positively shape the future of the beverage industry. By deploying innovative sensor technology and intelligent networking, breweries can optimise their processes, use resources more efficiently, and further improve product quality.