

# Retrofit with IO-Link

## Modernised equipment for the Meckatzer brewery

Meckatzer has been a family-run brewery in western Swabia since 1853. Beer connoisseurs from near and far appreciate Meckatzer's beer specialities. When it came to modernising, the company relied on IO-Link components from ifm.

The brewery has their own special equipment to produce the lemonade for their 'Radler' drink. Water, lemon essence, citric acid, glucose syrup and carbonic acid are mixed here in a predetermined ratio. Originally, the dosing process was performed with diaphragm pumps and a Simatic S5 controller. However, the correct dosing by means of diaphragm pumps was very error-prone and the control system had become outdated. So it was decided to modernise the plant. Now it has a brilliant new look with integrated IO-Link masters and sensors from ifm as well as speed-controlled metering pumps.

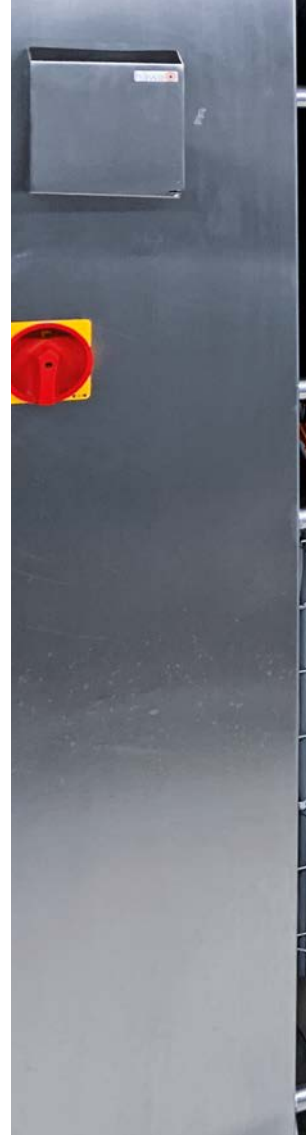
**Tobias Rossmann**, project manager and PLC programmer at the Meckatzer brewery in Meckatz, Germany, is in an interview with ifm.

### ” Mr Rossmann, how did you become aware of IO-Link?

*The Meckatzer brewery has been closely networked with ifm for many years and already participated in several field tests in the past. Since ifm products have been consistently equipped with IO-Link the last few years and the technology is very interesting, it was obvious for us to use it also in a complete project. The plant was manageable in terms of size and it was a good point to start from.*



*The flow sensor transmits several measured values to the control system via IO-Link.*



### ” Which components and systems do you use?

*All sensors are connected to a Siemens SIMATIC S7-1500 via three AL1103 Profinet IO-Link masters. A Bürkert valve terminal with Profinet control is also used. Unfortunately, I was not aware of an IO-Link valve terminal at the time of starting the project, otherwise I would have used IO-Link here as well. Today I know that IO-Link valve terminals are also offered by Festo, among others.*

### ” How did the set-up work?

*I downloaded the Siemens S7 TIA manual from the ifm website. I must honestly say, well done! If you have a basic understanding of programming, you can quickly get to grips with the manuals and the IODD descriptions. I set up the equipment for the lemonade production from my office workstation.*

*The programme "LR Device" helped me a lot with the integration in S7, especially when it came to clarifying basic issues, e.g. which sensor is connected to which port at which position, does the process value of the display match the PLC module?*



System for dosing the 'Radler' beverage (a mix of beer and lemonade) ingredients.

## ” How was the control cabinet set-up compared to conventional systems?

*It is, so to speak, “foolproof”. Compared to a control cabinet set-up with conventional terminals, the error rate is zero. We were much faster when wiring the system with the prewired M12 cables. The control cabinet we chose is quite large and still offers enough space. What also makes the IO-Link system very attractive is the modular design with the IO-Link masters. If in future more recipes need to be mixed, such as naturally cloudy lemonade, we have space for additional frequency converters in the control cabinet.*

## ” How was the selection of sensors and adaptations?

*We did the piping and welding in-house. The Aseptoflex-Vario T-pieces (order no. E33252 in DN15 and E33250 for DN25) were a great help for the small pipe cross-sections. The mounting adapters (e.g. order no. E40230) for flow sensors of the SM series have been modified by our mechanic so that they blend in harmoniously with the overall the plant design.*

**Meckatzer, a traditional brewery in western Swabia, relies on digital process control technology to produce lemonade.**

*On the tanks, we decided to use Aseptoflex-Vario welding adapters and G 1/2 sealing cones for the LMT100 point level sensors.*

## ” What future visions do you have with the IO-Link system in operation?

*Throughout operations, we already have two IT networks running. The required effort to integrate another AL1103 Profinet IO-Link master somewhere in the building, for example as planned for the ifm field test devices at the chemical dosing system soon, is manageable. We will definitely pursue this further, especially with the topic of energy data collection throughout the brewery, including compressed air consumption and definitely all water meters, which we gradually want to convert to ifm flow sensors with connection via IO-Link.*

**Mr Rossmann, thank you very much for this interview!**