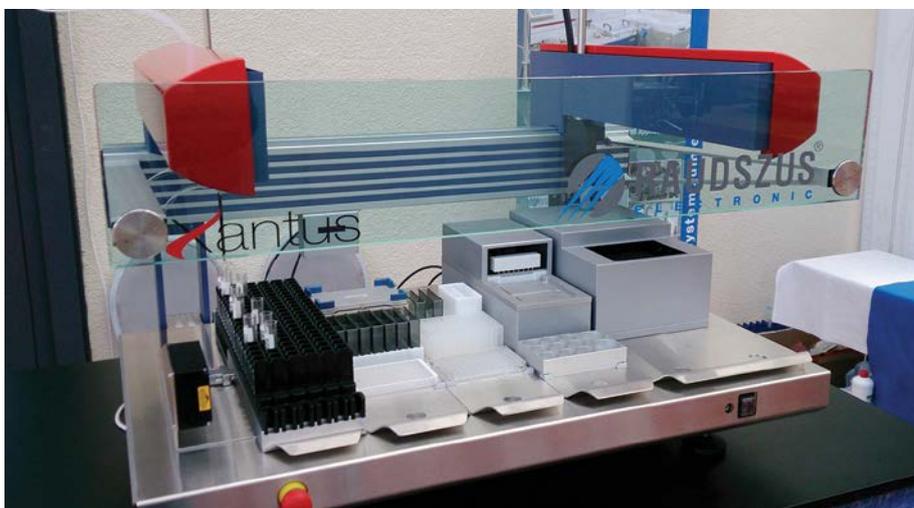


Putting milk to the test

Milk testing plays an essential role in the dairy industry, ensuring the quality and safety of the end product. RAUDSZUS Electronic in Bavaria provides customized front-end sample preparation solutions to help laboratories cope with the high throughput demands of this work, enabling complete automation of the testing process, and has also recently introduced automated ELISA testing of milk for disease and pregnancy.



Several of RAUDSZUS' automated systems are based on the Sias Xantus instrument

Dairy products depend on high quality raw materials. Milk testing is therefore essential, and so samples are collected from dairy farms and transported to specialist laboratories to ensure the quality of the product. Typically, this involves high throughput analysis of various milk constituents, including inhibitor testing, spore analysis and disease screening. More recently, there has been growing demand for ELISA testing for various analytes in milk, further increasing throughput needs. Automation is essential for efficient, cost-effective sample processing, offering labor savings and ensuring reproducibility, and a growing number of companies are turning to laboratory automation solutions that include liquid handling stations, track systems and RFID traceability.

RAUDSZUS Electronic, based near Munich in Germany's Bavarian forest, is focused on supplying milk testing

laboratories with front-end sample preparation solutions for integration with laboratory analyzers, and works with Tecan to provide tailored systems for its customers. Michaela Raudszus-Weidenschlager, Head of Sales and Project Management, explained: "Some routine sample preparation is required before any testing can take place, including warming and mixing samples, uncapping and recapping vials, and sub-sampling for further analysis. When this is done manually, it is time consuming and there is always the potential for human errors and inconsistencies. Over the last few years, we have seen more and more laboratories – even small ones – wanting to automate their analyses, not only to reduce costs, but also to ensure that every sample is treated identically. Our role is to provide automated solutions that can be integrated with existing laboratory analyzers to eliminate manual processing."

To accommodate wide-ranging throughput demands, RAUDSZUS systems incorporate Sias® Xantus® pipetting solutions from Tecan which can be tailored to individual needs. Michaela continued: "Each of our customers has specific demands and requires a different degree of automation. A small laboratory may only need to integrate a single sample preparation solution and analyzer, while a larger organization might connect several analyzers via a track system. It is important that our systems can be customized to provide exactly what the customer needs, and partnering with Tecan allows us to do this."

"Our automation solutions handle all the sample preparation steps required for fully automated milk analysis. This



Michaela Raudszus-Weidenschlager, Head of Sales and Project Management

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standardizes procedures, enhancing reproducibility and eliminating manual handling errors. One big advantage of the Sias Xantus systems is the ability to cherry-pick samples. Each customer uses vials with different dimensions, and the distance between them varies. The pipetting arm can be set up to accommodate these differences, allowing multiple samples to be transferred directly into a microplate in one step using a multi-channel pipetting arm. This is much quicker than sample-by-sample transfer, and is a big improvement. Equally important is the option to choose disposable or washable fixed tips; although the majority of customers choose fixed tips, there are occasions when disposable tips are a necessity.”

“Recently, there has been a surge in ELISA testing, particularly for pregnancy markers, as this is much cheaper for farmers than a veterinary call-out. When milk samples are sent to the laboratory, they simply request this additional test on an *ad hoc* basis, and the result is delivered via an online database. This is a huge benefit for farmers and has led to a large increase in ELISA sample numbers, with some laboratories now running as many as 50 microplates a day. Larger platforms are needed to cope with this demand, and we are currently installing a fully automated solution with two pipettors and an integrated plate reader at a customer site, enabling end-to-end processing from receipt of the initial sample to result readout. This offers several advantages; each step is perfectly timed and performed in the correct order

- with no user-to-user variation - the process is full traceable as every action is logged, and staff are freed up for other activities.”

“We have worked successfully with the Sias Xantus for over a decade now. Our own in-house knowledge and experience is perfect for installations using existing applications or equipment, and is complemented by support from Tecan when designing a bespoke system for a specialist process. In just a few hours we can visit the company and discuss every detail of the project, using our combined expertise to devise a solution that simplifies the customer’s workflow,” Michaela concluded.

To find out more about the Sias Xantus, visit
partnering.tecan.com/products/sias

To learn more about RAUDSZUS Electronic, go to
www.raudszus.de



Several analyzers can be connected via a track system