

Automatic environmental monitoring saves resources and facilitates audits

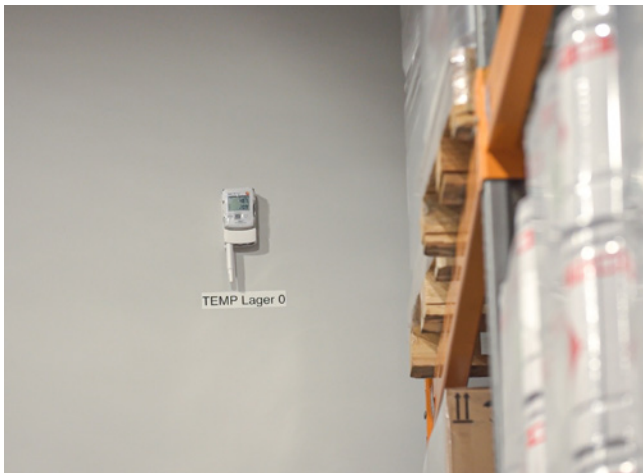


When monitoring temperature and humidity, labware specialist Carl Roth GmbH & Co. KG uses the Saveris 1 environmental monitoring system from Testo. “We supply our customers with around 6,000 chemicals in 15,000 pre-packaged sizes within 24 hours – and our warehouse is accordingly stocked”, says Production Manager Sebastian Dürr. Audits are an everyday task for the industrial supplier. As a result, in 2020 and 2023 the company invested in an automated, uninterrupted measurement data recording system with alarm management. “This gives us all the data we need to ensure satisfied customers – including in accordance with GMP where required”, states Dürr.

Carl Roth GmbH & Co. KG

Carl Roth GmbH & Co. KG has offered expert consultations and high-quality products in the fields of labware, life sciences and chemicals for over 140 years. With around 30,000 available products and a 24-hour delivery service, Carl Roth GmbH & Co. KG acts as a reliable partner for laboratories from the fields of research, science and technology. It also develops its own new and pioneering ROTH products on the basis of research projects and partnerships, thereby paving the way for the success of today’s and tomorrow’s research and analytics. The personal service is always based on reliability, experience and vision. In addition to its head office in Karlsruhe, Carl Roth GmbH & Co. KG has five subsidiaries in Europe and supplies customers in more than 100 countries around the world.





Whether in hospitals and laboratories, the food industry or when manufacturing and storing chemicals, there are innumerable areas in which stable climatic conditions are important. Many companies regularly record the indoor air temperature manually or through the use of a mobile data logger. Without an automated measurement system, this involves a huge amount of work: the relevant employees spend up to 20 percent of their working hours performing and documenting measurements.

And yet the results are still not 100% reliable: what happens if the temperature is outside the standard range in the hours between measurements? An automated monitoring system, on the other hand, ensures consistent quality and reliability – including for end customers.

The challenge

A broad range of chemicals are stored and packed in Carl Roth GmbH & Co. KG's plant 2 at the Karlsruhe Rhine harbour. The warehouses are divided up on the basis of hazardous goods classes. The temperature range monitored spans from minus 20°C to plus 40°C. The structural conditions makes it challenging to install a measurement system in the current environment as there are more than 25 rooms, from a small transitory room to a large high-bay warehouse, separated by fire walls. Fortunately, however, no cables need to be laid: "We opted for the testo system in 2020 because it offers an evaluable WLAN solution", states Dürr.

At the start of 2023, Carl Roth GmbH & Co. KG decided to also connect the production facilities, including a clean area, and other warehouse areas to the system. On doing so, the WLAN standard turned out not to be suitable in all areas, so LAN sensors are now also used:

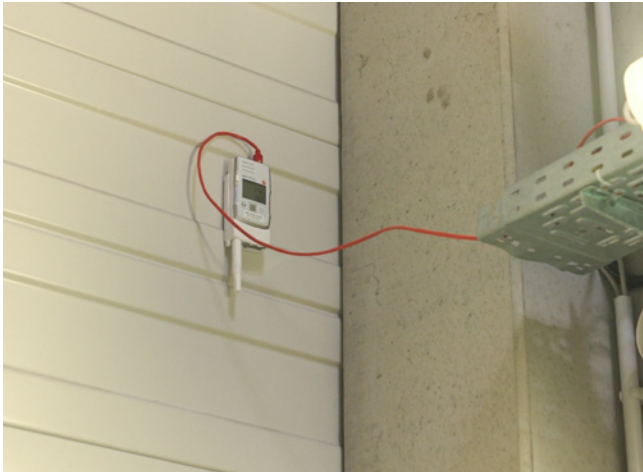
"In the automated small parts warehouse, the sensors are installed so high up that replacing the batteries from a ladder would be impractical", states Dürr.



The solution

Testo received the initial contract from Carl Roth GmbH & Co. KG in August 2020 and the system was already operational by November of the same year. "Testo is extremely easy to work with", confirms Dürr, adding: "Not only do you receive comprehensive advice and detailed quotes but change requests are implemented with impressive speed". Testo provided a test system in advance to give the customer plenty of time to trial the measurement system in its own infrastructure.

Roberto Napolitano, Group Head of Industry Account Management at Testo, likes to compare the Saveris 1 system with a building block: "The customer can decide what should be measured at each measuring point – and whether the sensor should be cable connected, wireless or WLAN based. This modularity is unrivalled in the market to date. Furthermore, the system is easily scalable."



At Carl Roth GmbH & Co. KG, the system is primarily used for temperature monitoring purposes. “We also log the humidity as this is a quality-related criterion, although only sealed containers are stored in the warehouse. We have also had the moisture sensors accordingly calibrated in the production facilities, where we use open chemicals”, explains Dürr. If a sensor measures a temperature that is outside the permitted range, an alarm matrix takes effect. The Quality Management team at Carl Roth GmbH & Co. KG then assesses whether the product is likely to have been damaged – and introduces appropriate steps.

“When a customer requires an audit, we can present the changes in temperature and generate reports at the push of a button – including in compliance with GMP if required. This is because the system precisely records who has changed what, when and why”, states Dürr. Specifically, this means: “We always have the necessary data to ensure customer satisfaction”.

The outlook

In addition to temperature and moisture, the system can also measure other factors on request, for example differential pressure. Whether a light sensor, a particle counter or a CO2 probe, external devices with an analog output can be easily connected.

This therefore makes it likely that Carl Roth GmbH & Co. KG will in future upgrade the system to include additional functions or use it in further buildings.

Overview of advantages

- Automatic measurement increases audit reliability, reduces costs and saves time
- With LAN, WLAN, wireless or UltraRange data logger modules, the system adapts to any environment
- Pure temperature or combined temperature/humidity sensors can be flexibly selected
- Modular system that can be easily and cost effectively expanded
- Quick and comprehensive support from the Testo Sales and Service teams

About Testo

Testo, with its headquarters in Titisee in the Black Forest, Germany, is a world market leader in the field of portable and stationary measurement solutions. In 37 subsidiary companies around the world, roughly 3,400 employees work in research, development, production and marketing for the high-tech company. Customers all over the world are impressed by the measuring technology expert’s high-precision measuring instruments and innovative solutions for the measurement data management of the future. Products from Testo AG help to save time and resources, to protect the environment and human health and to improve the quality of goods and services.

More information

For more information about the Saveris 1 environmental monitoring system, please visit www.testo.com/de-DE/saveris or contact our experts on +49 (0)7653 681-700 or at vertrieb@testo.de.