

Enhanced Efficiency & Sample Safety with VisioNize®

How a Molecular Testing Lab Boosts Sample Safety & Efficiency with VisioNize

An Eppendorf Customer Story

[VisioNize Lab Suite](#) is a cloud-based platform offering real-time device monitoring in the lab. From freezers, incubators, shakers, centrifuges, PCR cyclers and mixers, a whole range of devices can be connected – even fridges and freezers that are from third-party suppliers. Several environmental conditions can be tracked, including ambient temperature, pressure, humidity, and light.



Dr. Kevin Roth

Lab users are instantly notified if device parameters drift outside their specified range, meaning samples and reagents can be kept safe at all times.

The VisioNize Lab Suite is transforming sample monitoring in labs around the globe, across a broad range of applications. To delve further into the real-world benefits of the system, we spoke with Kevin Roth, PhD, Head innovation and personalized therapy monitoring at a diagnostics lab in Heppenheim, Germany. Learn how VisioNize from Eppendorf has improved sample monitoring for Dr. Roth and his team, and the far-reaching impacts this has had on their lab.

The labs' samples and reagents are stored across a large number of fridges and freezers. These must be kept at consistent temperatures, as explained by Dr. Roth:

"Our fridges and freezers contain lots of highly valuable and irreplaceable cell and nucleic acid samples. To ensure integrity, we need to be sure they are stored properly at all times. Additionally, reagents for routine testing, such as antibodies, enzymes, primers, dPCR Assays, kits, and NGS reagents, have to be maintained at specific temperatures, to ensure our assays remain as accurate and reliable as possible. Monitoring our fridge and freezers not only mitigates financial risk, but also is a requirement for accredited laboratories."

The molecular test lab alone processes around 5,000–6,000 samples annually, and this is predicted to increase year-by-year. As workflows continue to expand, the lab increasingly needs a reliable and efficient digital solution to monitor the temperature of its fridges and freezers.

The Search for an Effective Sample Monitoring System

Before adopting VisioNize Lab Suite from Eppendorf, the testing lab evaluated different monitoring systems. Other systems were not able to record real-time temperature data or were incompatible with the lab's ultra-low temperature (ULT) freezers, meaning separate systems would have to be used for these units complicating monitoring. Furthermore, customer support was not accessible during off-peak times, as Dr. Roth says:

"During testing of another system, one of the routers failed on a Friday afternoon and we couldn't get support from the software provider. This meant we were completely blind for the weekend, not knowing if our samples and reagents were safe. Lack of system alerts following sensor failure can lead to significant consequences, as seen at the Karolinska Institute in Stockholm in December 2023, when decades of research were destroyed when a freezer malfunctioned."

HÄMATOLOGISCHES LABOR

Storing Precious Samples and Reagents in a Diagnostics Testing Lab

The diagnostic lab is based at the MVZ Centre for Laboratory Medicine in Heppenheim

and specializes on hematological malignancies. Dr. Roth leads the department of innovation and personalized therapy monitoring. The MVZ team handles a variety of critical samples, including blood, bone marrow, and other tissues collected from biopsies. These samples are used for a wide range of diagnostic techniques, such as classical morphology, flow cytometry molecular biology, and next-generation sequencing (NGS).

An Effortless Transition to VisioNize Lab Suite

Dr. Roth and his team happened to speak with a sales rep at Eppendorf, and by chance came onto the topic of their sample monitoring issues. After carefully listening to the lab's problems, the sales rep introduced them to VizioNize Lab Suite. A main factor that drove the team's transition to this software was its ability to monitor all the lab's fridges and freezers, regardless of the manufacturer or the temperature.

The simple setup process and the comprehensive customer support provided made the transition to this system easy, as Dr. Roth commented:

"Installing the VisioNize System is very straight forward. Furthermore, Eppendorf's setup team provided a great service, and it only took a day to get the system running. From installation, we had the confidence that everything was set up correctly, which instantly put our minds at ease. Since then, the Digital Solutions team from Eppendorf has always been at hand to make sure the system is operating exactly as we need."

Since the lab started using VizioNize, the number of monitored devices has increased from 10 to more than 20. The connection of new devices to the system has been fast and easy. Wireless sensors are sent to the lab in the post, which are charged, switched on, registered onto the cloud system, and placed inside the device. Effortless device connection, in addition to the ongoing support provided by Eppendorf, ensures the VisioNize system can meet the lab's evolving needs.

Elevating Sample Monitoring and Lab Efficiency with Sample Safety+

The molecular testing lab uses the Sample Safety+ subscription that provides several enhanced sample monitoring functions, including instant SMS alerts. The team has set up an escalation chain across six employees, ensuring fast responses to alerts, even outside of working hours.

The VisioNize Lab Suite system has already prevented a critical incident. When a -80°C freezer began to fail, the system's rapid alert allowed the lab to relocate samples before any damage occurred. Dr. Roth commented on this key benefit, explaining:

"The fast and effective alert system is a huge benefit of VisioNize. We are glad we have a system that we trust will warn us if anything happens, so we can be sure that our samples are kept safe."

Additionally, the cloud-based platform streamlines the molecular testing lab's sample monitoring workflows. Previously, the team dealt with frequent system errors and had to manually record temperatures across 23 refrigerators and freezers each day. Therefore, switching to the automated VisioNize system has helped free up the lab's time.

Future Plans: System Expansion and Continuous Improvement

Praising the several benefits of the VisioNize Lab Suite, the MVZ molecular testing lab plans to connect future devices to the system as the facility expands. The system will also aid the lab's accreditation which will be received at the end of the year. The accreditation requires Dr. Roth and his team to provide evidence that they have a system to monitor sample and reagent safety. The Sample Safety+ subscription is helping Dr. Roth to collect evidence, with its built-in audit trail and extended 90 days of device data access history.

Looking to the future, Dr. Roth is excited to continue expanding the use of the VisioNize Lab Suite and is eager to see its continued development.

"The Eppendorf team is really interested in hearing our feedback. We're happy that they listen to our thoughts and are eager to implement new functions to keep developing the system."

Final Remarks

For the MVZ lab, the integration of VisioNize Lab Suite from Eppendorf has transformed their approach to sample monitoring. With reliable monitoring, improved efficiency, and comprehensive customer support, Dr. Roth and his team can focus on their diagnostic assays without worrying about undetected fridge and freezer failures. As the facility continues to expand, Eppendorf digital solutions will remain an integral part of the lab. Leaving a final comment on the team's successful partnership with Eppendorf, Dr. Roth says:

"If every lab supplier was like Eppendorf, life would be so much easier!"

[Discover how VisioNize Lab Suite can benefit your lab!](#)

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