TRACEABLE MEASUREMENT IS THE BASIS FOR AUTOMATIC QUALITY ASSURANCE

More measurements and measurements that are automatically traceable.

That is the result of apps and algorithms taking over previously manual monitoring tasks.

"In addition, temperature sensors and other sensors must also increasingly often be customised for their specific measurement task," says Per Hammargren of ICU Scandinavia.

ICU SCANDINAVIA is located just north of Sweden's capital, Stockholm. The letters ICU mean "I See You". The company develops, installs and maintains automatic systems for quality assurance. Originally it supplied alarm systems to small companies and did development work for manufacturers of medical devices.

"In 1998 we were commissioned by the Sahlgrenska University Hospital in Gothenburg and the University Hospital in Linköping to develop a wireless monitoring system for laboratories," Per says. "After the work was done they wanted to sign maintenance contracts."

That led the company to move from providing consultancy services to developing its own products. The original monitoring system has been developed into a sophisticated quality assurance system called Boomerang. Its customers are found around the world, with laboratories in medical premises and fertility clinics being the biggest sector.

"Temperature is one important quantity but we also measure and document carbon dioxide, air humidity, air-borne particulates, fluid levels and more," he adds.

The demand for traceable measurements is constantly increasing. ICU's system ensures that measurements are documented.

"Pentronic trains us in temperature measurement once a year so we can stay at the top in a field that's important to our customers," says Per Hammargren, ICU Scandinavia. Right: Michael Steiner of Pentronic.

The sensor, a special version made by Pentronic, supplies digital signals to nodes in the wireless temperature measurement system Boomerang.

This is important everywhere but not least in fertility clinics, where a lot of emotions are involved and the result is not always what a childless couple had hoped for. Then the laboratory must be able to prove it did everything right.

"In our turn we must take the correct measurements, and this places ever-higher demands on our sensors, especially for temperature," Per says.

ICU Scandinavia is a small company with complex products. That is why it has a network of specialists with cutting-edge expertise in their respective fields. Pentronic is ICU's partner for temperature and supplies not only customised temperature sensors but also knowledge.

"Pentronic gives a course for our entire organisation once a year so that we can keep our knowledge at a peak level and can discuss things that have arisen over the preceding twelve months."

Many customer-unique sensors have been developed for special tasks. One of them is a fully digital sensor that is connected to the wireless nodes with modular connectors. The signal is digital all the way, which means that no more errors can be added after the signal leaves the sensor.

"The sensors are calibrated at delivery. We also have our own routines for field calibration that we've developed together with Pentronic," Per says.

In addition to digital sensors, ICU Scandinavia also uses conventional temperature sensors when a larger measuring range or a different mechanical construction is required, and then Pt 100s are the main choice.

The other product from ICU Scandinavia is called Coolguard and is designed for large commercial kitchens. In terms of measurement technology it is not as complex as its counterpart for laboratories but the functions are all the more more advanced. The system logs temperatures in environments like fridges and freezers, warns if doors are left open and so on. It also sends alerts to whoever is on duty at a particular time. All the statistics are accessible in real time via a mobile app.

But it all begins with the measurements, and for that ICU Scandinavia chooses to partner with the specialists in the relevant fields.

"The demand for traceable measurements and for minimising human errors is constantly increasing, and thereby so is the need for our products. That's why we see a positive future for us here at ICU Scandinavia – both in Scandinavia and in the rest of the world," Per concludes.