



Riga First Hospital

Aranet Sensors for Improved Indoor Climate and Energy Efficiency

CASE STUDY





 **15%**
less energy
consumption

100
Installed
sensors


800
Employees

 **27%**
fewer sick
leave days

About the hospital

Riga First Hospital, Latvia's oldest healthcare institution, was established in 1803. It provides reliable and safe medical services, prioritizing both patient care and staff safety. The facility operates within renovated buildings, over 100 years old, combining historical charm with modern healthcare standards. With a team of around 800 professionals, Riga First Hospital offers an extensive range of outpatient and inpatient services, including 24/7 care, using state-of-the-art medical equipment and the latest medical techniques.

Objectives and challenges

Riga 1st Hospital faced a set of challenges due to its dual responsibility of preserving the historical structure of its buildings and meeting modern healthcare standards. These objectives are aimed to create a healthier and more efficient environment across the hospital's facilities:

- **Ensuring a safe indoor environment** for patients and staff, particularly in high-risk areas like the short-term care facilities.
- **Minimizing health risks** by monitoring and controlling environmental factors.
- Addressing the needs of diverse hospital spaces with tailored **climate monitoring**.
- Reducing energy consumption and **improving operational efficiency**.



Ilze Aleksandroviča: Board Member at Riga First Hospital

Ilze Aleksandroviča, a board member, highlighted that in patient-centered healthcare, controlling the indoor climate is crucial. It helps reduce health and safety risks, ensuring that clients coming for checkups, rehabilitation, or consultations don't fall ill. This is especially important in our short-term social care facilities, which operate 24/7 and serve individuals with low immunity.





Aranet sensors installed across the hospital

The chosen solution

The hospital consists of 23 blocks, and so far, Aranet sensors have been installed in five of them. These sensors are primarily placed in doctors' offices, vaccination rooms, pools and swimming areas, as well as treatment rooms. In total, 100 Aranet sensors and three base stations were installed. The hospital uses Aranet4 and T/RH sensors for climate measurements, along with T-Probe sensors for monitoring swimming pool water temperature.

Sensors are placed in most rooms of Rehabilitation clinic to facilitate effective monitoring. Evelīna Sendija Čubare, Head of the Rehabilitation Clinic, explains: "Monitoring temperature, CO₂ levels, and humidity helps us enhance patient safety by allowing us to respond quickly to environmental changes. This proactive approach prevents the spread of respiratory illnesses and mold throughout the hospital. **If conditions fall outside the normal range, we can respond more effectively than before.** The sensors provide precise, real-time information directly from the source, guiding us on where to go and what to do. With 24/7 online access to data, both technical staff and head nurses can respond immediately to any situation. The 'many-eye principle' ensures that no alarm goes unnoticed, improving overall responsiveness and patient safety."



Evelīna Sendija Čubare: Head of the Rehabilitation Clinic

Outcome and conclusion

Ilze Aleksandroviča emphasized that the successful implementation of temperature monitoring was a result of collaborative teamwork. By encouraging employees to adjust habits—such as turning off lights and lowering temperatures—the hospital achieved a **15% reduction in energy consumption**. Additionally, improved indoor air quality has enhanced both patient and employee safety, contributing to a **27% decrease in sick leave days**. These positive changes have not only improved cost-efficiency but also helped the hospital meet its environmental goals, making the investment in monitoring systems a success.