

The Longyearbyen Community Buildings



📍 Longyearbyen, Norway



The Settlement of Longyearbyen, Norway

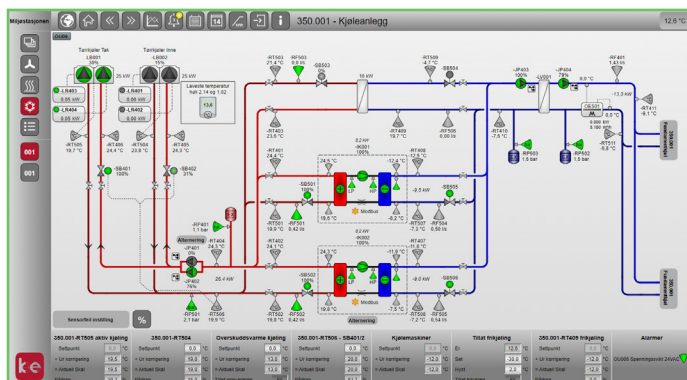
About Longyearbyen

Longyearbyen is the world's northernmost settlement and has a population of about 2000 registered permanent citizens and 3,000 polar bears. Longyearbyen is a small settlement and the administrative center of the Svalbard archipelago - a group of islands in the Arctic Ocean approximately 400 miles (640 km) north of Norway - and is located just 810 miles from the North Pole in a valley on the shores of the Advent fjord, surrounded by steep mountains and several glaciers. Despite its small size, the bustling community has support functions such as a hospital, library, sports hall, church, and cultural center in addition to schools, restaurants, and a variety of shops. Since the 1990's, tourism has slowly but surely become a major industry and is now one of the main pillars of society. Tourists from all over the world travel to Longyearbyen to experience the unique Arctic environment. Research and education are also important industries in Longyearbyen.

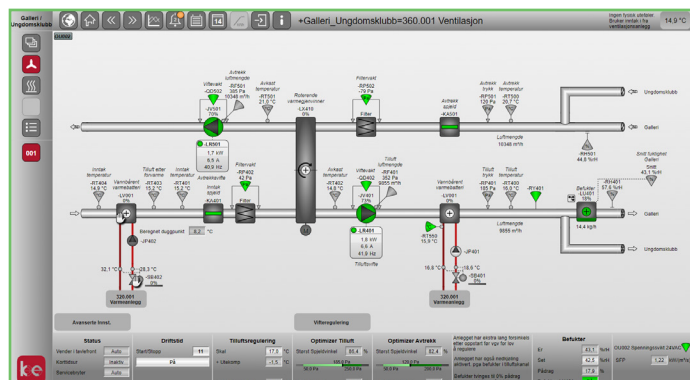
Students study at the University Centre in Svalbard (UNIS), which focuses on Arctic research in biology, geology, geophysics, and technology.

Project Summary

The Longyearbyen community wanted a system that could help monitor and control energy consumption of all the nonresidential buildings with the main purpose of reducing energy consumption. One Longyearbyen resident who had previously lived in Oslo, the capital of Norway, and who had worked with system integrator KE Automasjon in the capital, suggested that the company contact the community leaders to discuss the installation of an automation solution for the community buildings. KE Automasjon installed their first automation system in the community shopping center. The system uses the KE Automasjon's solution - the Datavaktmesteren® which integrates ICONICS GENESIS64 - to monitor and control



The Environmental Station Overview



Building Ventilation System

energy consumption of all the center assets that use energy including the building ventilation, heating, lights, etc.

After success with this first installation, the community asked KE Automasjon to help address issues with energy and environmental stability in the kindergarten buildings where the temperature was sometimes too hot, sometimes too cold, and sometimes had poor air quality. After the installation in the kindergarten building, the community scaled the automation system to include all the rest of communal buildings in the Longyearbyen. The last installations included the monitoring and control of the water and wastewater treatment system and the distribution of hot water from the power plant.

ICONICS Software Deployed

- GENESIS64™
- Hyper Historian™
- GraphWorX™64
- AlarmWorX™64

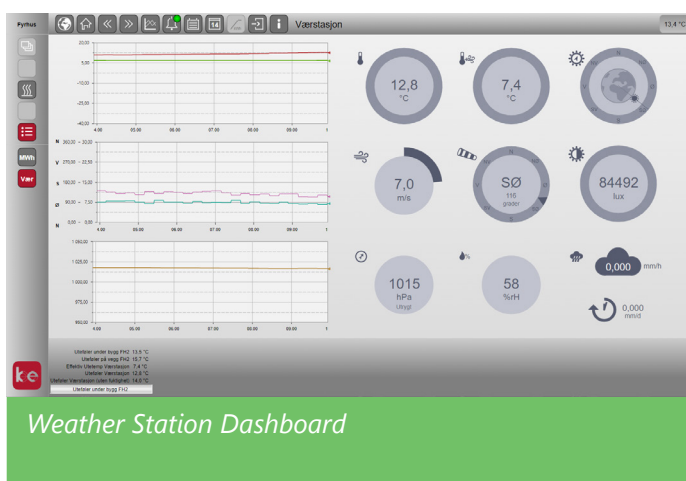
Realized Benefits

The Longyearbyen community realized substantial benefits from the application. They were able to centralize the control and management of all nonresidential buildings allowing the operations team to gain an understanding of what is going on from a unified dashboard. The KE Automasjon and ICONICS technology also allows the team to control and manage the system via mobile phone, tablet, etc., no matter the location of the operator. Since

the Datavaktmesteren® system was deployed, the heating energy of the shopping center was reduced by 76% and electricity energy by 50%. The community also reduced the total heating energy of the other community buildings by 46% and the total electricity energy by 32% and improved the overall environments of the buildings. Moreover, besides increasing energy efficiency, workflows also improved. Now, operators do not have to drive around the community to check on operational statuses but can check statuses through the centralized system. Additionally, using the automation system's alarm management capability and especially the early alarming for low temperatures on heating systems, the community was also able to increase operational security and radically reduce the number of frozen leakages.

Conclusion

The Longyearbyen community is greatly satisfied with the KE Automasjon/ICONICS system. The community's satisfaction with the system is exemplified through the onboarding of numerous additional community buildings to obtain even greater functionality and value. KE Automasjon has been successful in implementing the system with a focus on energy and cost savings. As a critical centralized system for what was previously only available in a handful of siloed applications, the community can now control and monitor buildings and all the subsequent assets and aspects of these buildings. As an extension of this capability, the community is using this system to successfully monitor and control its water and wastewater treatment.



“Longyearbyen is on top of the world. And what we see from the KE Automasjon/ICONICS automation systems in this community is that distance doesn't matter. No matter where you are in the world, this system delivers significant value and savings.”

Thomas Liland-Vik
KE Automasjon General Manager