

measure bulletin

Newsletter for the customers of Labkotec Oy

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Monitoring of the Helsinki district heating network now even more effective:

A clear map helps in locating the alarms. Seen in the picture are Markku Åkerlund (on the right), maintenance designer at Helen, and condition management specialists Jouni Carpén and Marco Silfver.

“LabkoNet® 4 does not leave you cold”

Helen Ltd district heating network which has been proved to produce the best city in the world, is monitoring with Labkotec's solutions. The LabkoNet® remote monitoring system makes it possible to conveniently pinpoint real-time well alarms on a map view. Check-up visits are therefore avoided and costly damage to the equipment is prevented.

“The majority of homes in Helsinki are heated with district heating all year round, more than 90 percent of which is produced in our combined heat and power plants,” says **Markku Åkerlund**, maintenance specialist at Helen. When power and heat is generated in the same process, considerably less fuel is needed, efficiency remains high and total emissions are significantly reduced. Helen's energy production has been awarded the most efficient in the world. “Our district heating network is more than 1,300 kilometres long. The monitoring of such an extensive network is a demanding task, with the first priority being operational reliability,” condition management specialists **Marco Silfver** and **Jouni Carpén** say.

Waterproof benefits

The installation of the monitoring equipment was commenced in 2012, and the system has been constantly expanded since then. The version currently in use is the fourth version of LabkoNet®, with more than 100 locations being monitored around Helsinki.

The communication units are mostly located in the electrified district heating and cooling wells to monitor water level and temperature, as well as tunnels in some of the groundwater pumping stations to monitor pump motor failures.

“The constant humidity and approx. 60 °C temperature are tough on the monitoring equipment. Additional challenges are posed by the wet Finnish climate and sea level variations in coastal areas,” Jouni adds.

Helen Ltd in brief:

- Helen's district heating covers over 90 % of Helsinki's heating needs
- More than 1,300 km of district heating network
- Approx. 400,000 customers
- Net sales: approx. EUR 820 million
- Number of personnel: approx. 1,450

Read more: www.helen.fi



The LabkoNet® control unit is durable and simple to use. Picture of the Lauttasaari closing valve well.

Since the wells have different temperatures, the alarm limits must first be determined for each location by means of monitoring. A well-specific installation lasts about one day, and the values can also be changed at Helen where necessary. "It is possible to determine from the temperature of rising water whether the water comes to the well from outside the system or from the district heating network," Markku explains.

"The resources spent on regular inspections can now be allocated elsewhere. On-site visits are now only necessary in the event of alarms or in connection with annual maintenance. Considering that as many as 12 visits were previously made

on-site whereas now, in the best scenario only one visit is necessary, the saving are considerable given there are 100 wells and 40 installers. The monitoring system also protects the actuators at the wells worth tens of thousands of euros. One alarm may well be sufficient for the investment to pay itself back," Marco continues.

Listening to the customer

"The system installations, commissioning and maintenance have gone well. Labkotec's staff are highly skilled, and the challenges encountered have been successfully solved together. We have kept to what we have promised," says Markku.

As the system has expanded, LabkoNet® has been developed while attentively listening to the customer's wishes.

"LabkoNet® 4 offers excellent usability. It has an intuitive map feature, and the details of the location concerned can be directly accessed from the alarm menu. The software is stable and easy to use. The mobile application enables us to always stay up-to-date with the situation at hand," Marco says.

"LabkoNet® 4 does not leave you cold. It is a viable solution for a utility company like us," they conclude. This gives us a good basis to continue!



Maintenance designer Markku Åkerlund at the Lauttasaari closing valve well.