



Results with Indoor Environment Verification in Lahti City

Objective. The City of Lahti Facilities Management unit is responsible for management of 470 000 m² consisting of about 400 premises.

The goal of Facilities Management unit is to improve indoor air quality. As a pilot Lahti City's indoor air group decided to utilize Halton's Indoor Environment Verification service to evaluate indoor environment problems. Schools and day care centres that had received indoor environment complaints were chosen as a pilot.

-With the indoor environment verification, the conditions can be analysed comprehensively taking into account also combined effects of several indoor environment factors. The expertise of the service provider complements our team's skills, and a third party involvement increases trust for the results. Trust is needed, as indoor environment problems are often solved under time pressure and many concerned about the progress, Facility Management Manager Jouni Arola analyses. -And naturally, indoor environment verification service is a welcome resource for us, Arola, the head of 14 people maintenance team adds.

Project

- City of Lahti Schools and Day Care Centres
- Facility owner: City of Lahti
Facility management: City of Lahti

Benefits

- Improved quality of indoor environment
- High user satisfaction
- Revised design guidance for schools and day care centres

Halton's solution. - Typically indoor environment problems aren't caused by an individual factor but a combination of several factors. Typically problems related to both air quality and technical systems malfunctions. That's why the indoor environment experienced by the users can rarely be improved with one single test. Systematically analyzed user feedback helps to locate the problems. Suitable tests are then chosen to examine the problems further. This speeds up the process considerably," Kirsi Villberg, Halton Group's indoor environment specialist, explains.

Indoor environment verifications were carried out in all the schools with user complaints. In four of the schools the verification lead to a more extensive analysis and actions to improve the situation.

Results. After the recommended corrections at the Laune School were done, the feedback from the users has been positive. Symptoms have clearly diminished or disappeared completely. The results have been similar in other premises.

-The recommendations of the indoor environment verification have been adopted to our schools and day care centres design guidance. I consider especially beneficial the changed instructions regarding the air distribution and location of the terminal units. The guiding factor in design is indoor air quality and this needs to be taken into account in the architectural design as well," Facility Maintenance Manager Jouni Arola comments.



In addition to improved conditions, we have saved time and money by doing only the needed tests. The results from the pilot are encouraging and we intend to use the evaluation in the future in our other facilities as well. Therefore, I can recommend the service to other users.

Jouni Arola, Facility Maintenance Manager, the City of Lahti

The Laune School. One of the more extensively examined schools was the Laune School. According to an earlier survey, 90 % of users had reported inefficient ventilation. Many had also complained about musty and dusty air. The survey also revealed symptoms, such as eye and mucous membranes irritation, respiratory problems and skin symptoms.

-We began by evaluating the premises. Smoke tests revealed the reason for the musty air. Air distribution and location of diffusers wasn't suitable and left most of the classroom without fresh air. The pressure conditions caused smells from the sewer to spread across the premises. The bad smell was also partially caused by bulletin boards made of linoleum, Villberg explains. In addition, open mineral wool surfaces were found from ducts of the Laune School.

According to Halton recommendations air distribution was changed, the diffusers were relocated, the pressure conditions were changed and partly dirty ductwork was cleaned. In addition, the bulletin boards and open mineral wool surfaces were coated to prevent fibres to spread with the ventilation.

