

HEALTHY LEARNING ENVIRONMENTS FOR EDUCATIONAL FACILITIES



EDUCATION GUIDE

ALERTON

SUSTAINABLE EDUCATION

How to improve well-being and comfort while increasing operational efficiency in educational facilities.

Air quality in educational facilities is of great importance. It is critical to consider whether existing facility management systems provide the right level of protection for students, teachers, staff and visitors. Implementing advanced, intelligent technology can help school leaders achieve security, comfort and productivity goals while avoiding the replacement of existing systems, providing a quick return on investment, thus saving money in the long run.



INTRODUCTION

An average adult takes about a dozen breaths per minute. Children breathe even faster - newborns can take 40 breaths per minute. We breathe in life-sustaining gases, but the air can also be filled with various pollutants, pathogens and allergens.

Breathing unhealthy air can be harmful to people not only outdoors but also in buildings where air exchange is limited. Fortunately, even though it is difficult to quickly improve outdoor air quality, thanks to modern technology it is possible to monitor with precision and improve indoor air quality in buildings. This can have a significant positive impact on the well-being and comfort of building occupants.

This is also true in schools and university buildings. It is a major challenge for education facility managers to deliver solutions that provide effective protection and yet are flexible enough to adapt smoothly to changing needs.

Educational success depends on the health of the physical environment in which learning takes place. In spaces with good air quality, school attendance is higher.

Students, as well as staff, can enjoy a higher level of comfort while being more productive.

A recent survey conducted by Honeywell found that compared to their pre-pandemic priorities, 63% of surveyed education facility managers are now more willing to invest in healthy building solutions.



CHALLENGES IN EDUCATION

The pandemic has shown that education systems around the world need to be better prepared for potential sudden changes to their mode of operation.

In other words, shifting to remote and hybrid teaching from the traditional in-school models and the use of digital working tools. At the same time, it has exposed the strengths and weaknesses of educational processes conducted without direct contact with the student. Entirely remote learning is not an optimal solution, so the return to mainly traditional forms of on-site teaching is expected and desirable.

Creating a healthier building environment, driven by air quality improvements, can help to better sustain in-person learning. Yet, poorly ventilated or overheated rooms, in which pathogens can easily spread and carbon dioxide and temperature levels increase, are a common problem in school buildings. That is why K-12 facilities and higher education are in need of effective and flexible solutions to improve air quality; offering students optimal learning conditions and protecting their well-being.

Air quality in schools and universities must be frequently monitored and optimized.

It's important for facility managers to take a look at the air quality systems installed in their buildings and assess their conditions and performance against industry benchmarks.

Do they meet all current air quality requirements?

- Do they adequately address the needs of users?
- Do they require modernization or development?
- Do they need to be enhanced with new components or functions?

Another increasingly difficult challenge is to optimize energy management in schools and university buildings, as the time and effort required to provide an ideal learning and working environment are increasing. Therefore, education facility managers should strive to achieve these goals with maximum efficiency, preferably by minimizing the time spent managing the systems with the help of intelligent, automated mechanisms.

At the same time, it is necessary to limit investment expenditures. Digital transformation of education requires financial resources, so cost savings are important. Therefore, each new investment should bring a fast return and should not waste previous ones. Instead, it should cooperate with previously launched systems.



Protecting the well-being of students and all staff in educational institutions is now a top priority for facility managers. A modern school should be safer and comfortable for everyone. Therefore, it would be worthwhile asking: do we have at our disposal up-to-date and complete information on the quality of air in the rooms occupied by people?

Do we have the correct ventilation systems to support adequate comfort and well-being of students, teachers and administration staff?

OPTIMAL SOLUTIONS

The use of modern HVAC (Heating, Ventilation and Air-Conditioning) solutions, as well as monitoring and filtration technologies, allowing to effectively reduce the number of pollutants and pathogens by occupants of school and university buildings

Alerton offers a full range of advanced, state-of-the-art solutions and services to monitor and improve air quality dedicated to educational facilities. These include filtering the air and controlling its temperature, humidity, air quality and pressure, at the same time providing tools for easy, automated management.

How Alerton solutions help protect the health and well being of school children, students and teachers.



OPTIMIZING HUMIDITY TO 40 - 60%

Abnormal humidity levels can foster an unhealthy environment for students and staff. Humidity sensors can help manage and maintain comfortable humidity levels for your school building.



CREATING FRESH AND CLEAN AIR SUPPLY

Adequate fresh air exchange can support student comfort and allow staff to focus on teaching. Bring in the right amount of fresh air based on occupancy and environmental conditions, and help meet school building regulations.



CREATING PROPER AIR PRESSURE

Room pressurization and air circulation are key components in critical environments such as restrooms and nursing stations. Venturi valves can help maintain proper positive or negative pressurization in spaces where it matters most.



ACHIEVING THERMAL COMFORT

Maintaining the proper climate in your building improves occupant comfort and health. Wall modules and commercial thermostats can manage temperatures in your schools.



DEPLOYING 24/7 FACILITY MONITORING

Take your facility management to the cloud with Honeywell Remote Building Manager. It's building control software that makes it convenient and more cost effective to manage your site from wherever you are.

COST EFFECTIVE SOLUTIONS

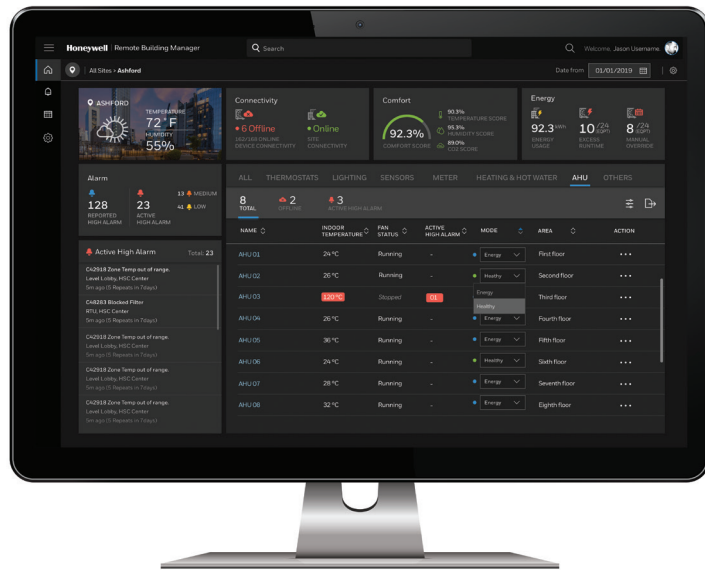
The implementation, use, maintenance and expansion of Alerton solutions can be cost effective.

They can provide operational savings as they can be implemented without replacing existing HVAC systems and because they help reduce management responsibilities. Alerton solutions for buildings work holistically way to integrate heating, ventilation, air conditioning, air quality monitoring and air filtering systems. They also integrate with other components included in the BMS (Building Management System).

What Alerton offers in this field consists primarily of two elements: indoor air quality sensors and advanced management and monitoring platforms. The first step to improving air quality is accurate, real-time knowledge about the current condition of the air. Sensors can help determine the quality of the air and which actions to take to improve it. You can integrate them into a BMS system and get an automated response to changes in individual parameters. This includes sensors that can measure a single parameter and all-in-one sensors that simultaneously measure temperature, humidity, carbon dioxide, particulate matter and VOCs.

Once the current state of the environment is known, you need equipment to improve it. Schools, universities, and educational estates present various challenges, as each building is different in size and age. Each building may also have a range of technologies installed from differing brands and eras.

Remote Building Manager can integrate these diverse technologies and then connect you to your buildings from virtually anywhere, anytime and on almost any web-connected device. You can then manage a single building or multiple sites from a central point.



As a secure, cloud-based supervisor, Remote Building Manager integrates with your existing BMS and devices. Once in place, the system can create a “digital twin” of your building. With a window into your building’s infrastructure, you can closely monitor and manage air quality and energy consumption.

Remote Building Manager gives you the capabilities to:

- Connect to your BMS remotely and securely via the cloud
- Manage energy consumption and distribution
- Adjust system set points and scheduling for individual or multiple sites
- View and respond to system alarms and issues in real time Identify patterns and trends in historical system data
- Easily add and remove any number of buildings or sites as needed
- Quickly generate reports to demonstrate compliance with regulations

Critical data from the system can be visualized in various formats, including live dashboards, customizable tables, and automated maps. Whether it’s in the office or at home, you can view and edit schedules, automate maintenance activities, or set alarms and setpoints by list, site, zone, or equipment level.

And when your building is easier to manage, it’s easier to achieve strategic goals such as supporting sustainability goals.

But the value of Remote Building Manager extends beyond greater visibility and control. It also enables you to navigate the maze of current and upcoming regulations.

CONCLUSION

As you can see, air quality and the well-being of students and teachers can be supported in a relatively simple, quick and cost-effective way. By choosing Honeywell solutions, you can effectively monitor and improve indoor air quality without replacing existing HVAC systems. This protects your previous investment and helps achieve faster ROI.

To provide effective learning environments, without disruption and with minimal system redundancy, talk to Alerton today. One of our team will be very happy to help you select the perfect solution for your needs.



ALERTON

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