



How can your HVAC system help learning environments become safer?

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Controlling indoor environments may help improve our health and safety and – of course – the ability to keep our schools and campuses open. For guidance, HVAC professionals have long turned to the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE®).

Recommended strategies

- Control indoor temperature and humidity levels in accordance with ASHRAE guidance to reduce the risk of spreading illness among building occupants
- Increase outdoor air, diluting the effect of any sick occupant who may be actively shedding the virus
- Leverage your existing Building Management System (BMS) to program these changes as an “Epidemic Mode” sequence of operations

Manually implementing ASHRAE’S recommended **Epidemic Mode** may be time consuming and difficult. Although scheduling and setpoint changes are well within BMS sequencing capabilities, balancing increased outdoor air with temperature and humidity control – while minimizing increases in energy consumption – is complex. Failure to meet this challenge may mean your school building isn’t as safe as it could be.

But, this is exactly the type of problem that artificial intelligence and machine learning algorithms were invented to solve.

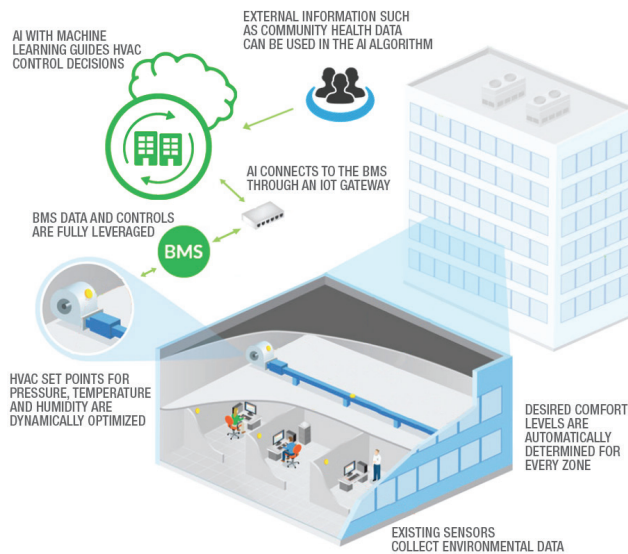
[ASHRAE.org](https://www.ashrae.org) | [link](#)

The journey toward a smart school or campus starts today.

Smart buildings are uniquely equipped to help solve complex problems like:

- Supporting healthy learning environments
- Improving comfort
- Managing workload
- Reducing hot/cold calls
- Optimizing energy consumption
- Leveraging digital strategies to improve operations
- Solving rogue zone behavior

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HOW IT WORKS

- Controls the indoor environment based on latest guidance from ASHRAE and other research organizations while ensuring comfort
- Can be deployed more easily and at lower cost than custom on-site programming
- May reduce HVAC energy consumption by up to 25%

Optimization strategies powered by AI adapts automatically

Machine learning and artificial intelligence (AI) continue to evolve and adapt, and today they have given us Dynamic VAV Optimization (DVO). It's our answer to dynamically and automatically optimizing HVAC systems based on your priorities. Relying on a patent-pending software solution, DVO integrates with your existing Siemens Building Management System for rapid deployment deployment in your school building.

Modes of operation



Green Mode – Control AHU fan speed and supply temperature to dynamically adapt to occupants' comfort requirements, minimize energy consumption and costs, and reduce hot/cold calls. DVO helps enable energy savings that can continue to provide value.



Defense Mode – Establish environmental conditions, pursuant to ASHRAE recommendations, that may help minimize virus transmission while still operating within acceptable comfort bounds.

Each mode of operation is configurable to optimize results for your school, based on its location, layout, hours of operation, and other factors.

For more information, visit usa.siemens.com/education

DVO – How it works

- Integrates cloud-based software with existing BMS
- Leverages existing control devices and sensors
- Configures operations remotely for rapid deployment
- Collects data from sensors and other external sources
- Applies machine learning to make intelligent HVAC control decisions according to comfort, health, and safety requirements

Legal Manufacturer

Siemens Industry, Inc.
1000 Deerfield Parkway
Buffalo Grove, Illinois 60089-4513
United States of America

Telephone: +1 (847) 215-1000
usa.siemens.com/education

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