Adapting your HVAC system to ASHRAE-recommended strategies

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Controlling the indoor environment may help improve our health and safety and – of course – the ability to occupy public and commercial buildings. For guidance, HVAC professionals have long turned to the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE), which established an Epidemic Task Force in response to the COVID-19 pandemic.

This committee's work culminated in comprehensive guidance for Building Readiness. Recommendations include modifications to HVAC control sequences, ventilation and filtration standards, and other steps designed to help make buildings ready for occupancy*.

ASHRAE recommends consideration of the following strategies to promote a safer, healthier indoor environment:

- 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 building management system 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 building isn't as safe as it could be. And because the guidance may continue to evolve, ongoing programming changes could be needed to stay in alignment with evolving recommendations.

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

*ASHRAE.org | link

The journey toward a smart building starts today.

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

- Supporting healthy work 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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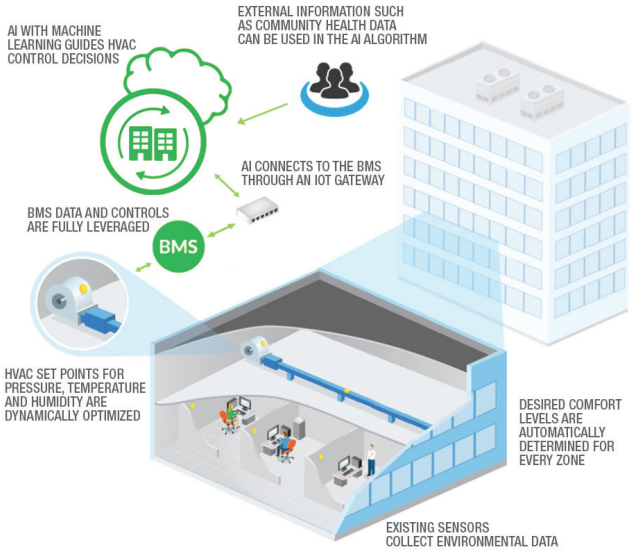

HOW IT WORKS

- 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 machine learning let you adapt to industry recommendations

Machine learning and artificial intelligence (AI) continue to evolve and adapt, and today they have given us Dynamic VAV Optimization (DVO). It's Siemens' 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 to enable rapid deployment in most buildings—letting you quickly and easily respond to industry recommendations such as ASHRAE Epidemic Mode.

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 every building, based on its location, layout, hours of operation, and other factors.

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

DVO – How it works

- Integrate cloud-based software with existing BMS
- Leverage existing control devices and sensors
- Configure operations remotely for rapid deployment
- Collect data from sensors and other external sources
- Apply machine learning to make intelligent HVAC control decisions according to comfort, health, and safety requirements

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