Application Solution
Retrofitting Continuously Occupied Buildings

Adding New HVAC Components When a Building Is Occupied 24 Hours a Day

Apartment buildings, healthcare facilities, and other residential buildings are occupied around the clock, seven days a week. It's often impossible to retrofit these buildings without shutting parts of them down and moving residents to other locations-which is normally out of the question.

Even if residents are moved to another part of the building, the extensive construction work that accompanies a traditional hard-wired HVAC retrofit can still have a serious impact. Lengthy periods of construction disrupt daily routines. Furnishings need to be moved, raising the risk of damage to important items. The noise and dust generated by drilling walls inconvenience residents, generating complaints and seriously disrupting their comfort and daily activities.

Reducing Construction Debris: A Key Challenge When Renovating an Occupied Building

Removing the large amount of construction waste generated when walls need to be drilled adds to the disruption. Leaving behind a mess can reduce customer satisfaction with an installation, even when the work itself is perfect. The volume of debris contributes a great deal to the overall expense of a project, as well. Cleanups can consume valuable staff time.

Varying Room Layouts Mean Flexibility is a Must

Unlike an office space, where layouts are fairly standard throughout the building, a residential-style building usually has a larger variety of room configurations. Common living and dining areas all have their own separate layouts, each with different temperature sensing and control requirements. In addition, individual rooms may exist in a variety of styles, further adding to the complexity of the installation.

Rooms may also be reconfigured more often than an office. Rooms may be changed from one purpose to another, with a recreation room turned into a dining room, for instance. Changing layouts often changes the types of sensing and control that are needed, so any building automation system in a residential building will have to adapt quickly to new layouts, with minimal additional expense. Adding new devices needs to be just as easy.

Solution

Wireless thermostats, controls, and sensors from Spinwave Systems make it feasible to retrofit a continuously occupied building without the need to move residents from their rooms. With no wires and no conduit to put in, retrofits can proceed without the drilling and breaking through walls and ceilings that hard wired installations necessitate.

Spinwave's wireless thermostat controller, for instance, is a drop-in replacement for most non-communicating thermostats. It generally requires less than 30 minutes to set in place, so residents are not disturbed when the thermostat is installed. Indeed, installation can take place during lunch hours, so residents are not affected at all.

Wireless sensing and control systems eliminate the need to break through walls and take up flooring. Thus, they dramatically reduce the level of construction debris that is created during a retrofit. **Reducing construction waste can cut costs while increasing customer satisfaction with an installation.** When cleaning up in a residential building, leaving no dust or mess behind is key to customer satisfaction. When there is little or no mess to begin with, ensuring a satisfactory cleanup is far easier.

Because they are wireless, Spinwave's sensors and controls can easily be moved when room layouts are changed. They are ideal for buildings where layouts are expected to change frequently. A Spinwave battery-powered wireless sensor can be moved from one location to another in minutes. And with intuitive, drag-and-drop commissioning of wireless mesh networks from your computer, new devices can be added to a network without disruption, also in a matter of minutes.

Application Solution

Minimize Inconvenience to Occupants When Retrofitiing Existing HVAC Systems: With no wires to run, the amount of time it takes to retrofit an existing HVAC system is reduced by up to 75%. Also reduced is the level of construction-related disruption to daily activities. Drilling, breaking through walls, and installing conduit are all kept to a minimum. In some cases, they can be eliminated entirely. This means that occupants generally do not need to be moved from their rooms during a retrofit. This can make bringing heating and cooling systems up to date feasible without any disruption to daily life in a dorm, assisted living facility, or apartment building.

Reduce Construction Debris: Construction debris can be more of an inconvenience, and sometimes a hazard, to occupants than the construction itself. Its handling and removal can also be subject to strict regulations in residential and healthcare settings, adding to the difficulty. Even in situations where it's not as strictly regulated, it requires additional labor to do the thorough cleanup that is acceptable for an environment where people live. Hauling away debris can also add considerably to overall project costs. Cleanup also requires valuable time that could be spent finishing the project.

Installing a wireless system does not generate the large amounts of debris seen with hard-wired systems. Plaster can stay in place, as can flooring, so there is little debris to deal with during the construction process. Less debris means a cleaner environment for residents and your crew, lower total costs, and faster completion times.

Develop Flexible Installations for All Types of Buildings: Spinwave's sensors, thermostat controller, and input/output modules can be installed in many room locations where a hard-wired device cannot be placed. When dealing with the unique layouts often seen in residential-style commercial buildings, a wireless system can be adapted to a huge range of locations-even room layouts that are frequently being changed. Sensors can be attached to a variety of surfaces, and battery-powered devices can be added even to locations where no power wiring is available. If a room layout changes, the sensors can easily be moved to a new location.

Reduce Installation Costs: With less labor needed to install a wireless sensing and control system, project costs can be lowered, keeping a retrofit within budget. Such savings are especially welcome for non-profit organizations and schools, which often need to make the most of their annual resources.

The Bottom Line

Wireless thermostats, sensors, and controls from Spinwave Systems make it possible to retrofit a building that is continuously occupied. Efficient, quick installations minimize the inconvenience to residents and allow daily life in the building to go on as the installation proceeds.

Spinwave's wireless systems allow you to add up-to-date sensing and control to existing HVAC systems, while ensuring:

- Minimized inconvenience to occupants
- Reduced construction debris
- Flexible installations
- Easy reconfiguration at any time
- Lower installation costs

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