Application Solution
Energy Retrofits in Government & Commercial Office Buildings

Aging Buildings Leave Today's Facility Managers with a Wide Array of Problems

For many organizations, funding for building maintenance and repairs has been limited over the years. This has taken its toll on government and commercial office properties and has left many facility managers with major financial decisions regarding whether or not to repair, reuse, recycle or replace. Also, the introduction of new materials and the removal of materials now known to be hazardous, adds to the complexity of building maintenance projects.

A lack of adequate funding for HVAC upgrades has also contributed to a facility manager's burden. Over the years, occupant discomfort, lost productivity and wasted energy have been on the rise. In many of today's aging buildings you will find wasted energy in shared spaces, temperature set points that are too high and no means for night or weekend setback. These inefficiencies just add fuel to the fire as far as escalating energy costs are concerned.

High Performance Buildings - The Pressure is On

Facility managers are feeling increasing pressure to create and maintain high performing buildings. Reduce energy consumption, lower operating costs and improve the indoor environment are all part of the challenge that many facility managers face today.

Sustainable buildings, or high performance buildings, are rapidly moving from the realm of "nice to have" to a fundamental requirement and expectation across many industries. There is now demonstrable evidence to support the theory that high performance buildings can have a significant impact on an organization's operations in the form of reduced operating costs and improved bottom line performance. Add to this the less tangible benefits stemming from successful energy retrofit projects - healthier, more comfortable indoor environments, higher worker productivity and an improved asset value for investment and income properties.

The Struggle to Get From Point A to Point B

Establishing an energy profile is the first step in creating and maintaining an energy efficient, high performing building. It provides the basic building block of information needed to begin evaluating a building's potential for

energy savings. This information also helps to determine baseline energy performance and can be used to benchmark a building's performance against comparable properties.

Unfortunately, the quandary facing many of today's facility managers is that their building automation systems often do not provide the required sensor points for a comprehensive energy and comfort audit. To provide base-line information on how natural resources are used and on how comfortable the current indoor climate is, facility managers need to expand their system's measurement capabilities, however, the installation of additional wired sensors to obtain the necessary information is often cost prohibitive.

Solution

The good news is that more and more government and commercial building owners are beginning to realize that energy costs are controllable and can be managed.

The question is how can they achieve reductions in energy and operating costs while also improving the indoor environment. Expanding measurement and control capabilities is the simple answer. The more difficult question they have been struggling with is how this can be accomplished without making a significant capital investment.

Application Solution

First Step in Comprehensive Energy Audit: As the old saying goes, "you can't control it if you can't measure it". Begin by using Spinwave wireless sensors to establish a clear profile of energy usage. Measure, analyze and document comfort parameters within your building.

Gathering such knowledge is extremely valuable. It can be used to identify problems such as large sources of off-hour energy consumption from poorly controlled HVAC systems and/or energy management systems. Armed with this information, you can begin to develop, promote and implement plans to reduce energy costs while at the same time improving the comfort level within your building.

Low Overall Install Cost: The low overall installed cost of a Spinwave wireless mesh sensor network makes it easy to justify the use of more data points in order to better understand and control energy consumption in buildings while maintaining best possible occupant comfort levels.

Quick and Easy to Install: Spinwave's wireless temperature and humidity sensors can be easily mounted at key locations throughout your facility, capturing temperature gradients and relative humidity values and enabling you to synchronize heating and cooling schedules as well as allow for short-term overrides when necessary.

Installation is virtually transparent to the building's occupants. There is no inconvenience to them and the business operations of the facility are not disrupted during installation and commissioning of a Spinwave wireless mesh network.

Integrates with Virtually Any BMS System: Temperature and humidity sensor data collected from within your buildings can be easily integrated with any new or existing building automation system. For older legacy systems, Spinwave offers a direct I/O interface and for newer, open protocol building automation systems you can take advantage of Spinwave's BMS Protocol Interface that makes wireless sensor data available as BMS protocol variables (LON, BACnet, Modbus, etc.)

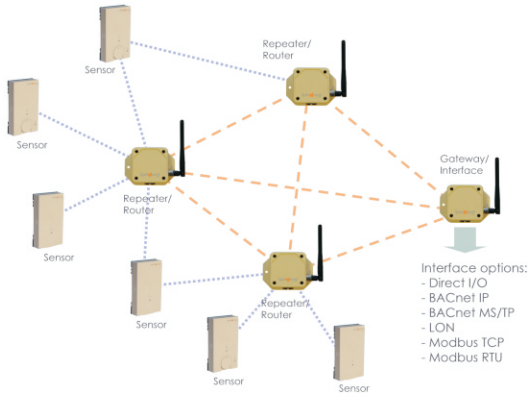
Continuous Monitoring to Ensure ROI of Energy Retrofit Projects: A good portion of energy retrofit projects either never achieve the projected pay-backs or fail to sustain initial savings due to ineffective means of continually monitoring and verifying energy savings. As buildings drift to lower performance levels over time, continuous performance monitoring and tuning is required to protect your investment.

With Spinwave wireless mesh sensor networks it's easy to continuously monitor the performance of your energy retrofit project to ensure the desired return on investment and keep your building at peak performance.

The Bottom Line

Spinwave's wireless mesh sensor networks offer a cost-effective, non-intrusive means of installing the required sensors and obtaining the necessary building performance data in order to get your energy retrofit project off the ground.

Spinwave's wireless mesh sensor networks play a key role in your overall efforts to turn a poorly controlled environment into a high performing facility - quickly, easily and cost-effectively - and, in the process, deliver a multitude of benefits to both owners and occupants. The commercial real estate market will experience increases in occupancy rate, tenant retention, tenant satisfaction, asset value and shareholder value. Corporate and government owned buildings will experience reduced operating costs, improved employee relations, public relations benefits and increased shareholder or stakeholder value.



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