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Christopher Cayten, Chris VanderWeyden & Patricia Lee on
the green roof of their LEED Silver project, 100 Park Avenue

Wireless Energy Management Systems Building Bottom Lines

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It is certainly not news that the current business environment is tough. But, even in the best economic times, this industry is challenged with growing revenues, increasing profit margins and expanding market share. Even when business is booming, competition from new operators in your market makes it difficult to survive...let alone thrive.

Most business owners have heard great advice about working smarter and being more energy efficient. However, few know about the recent advances in wireless network technologies, and how these advances offer significant financial growth for their operation.

What is being heralded as a new class of "drop in" energy management systems (EMS) for businesses with small to mid-size facilities has arrived, made possible by the recent advances in wireless technologies. These affordable, feature-rich wireless EMS products offer real energy savings that enhance profitability and a reduced carbon footprint in line with increasing demand for companies to employ green business practices. What's equally exciting about this technology is its operational simplicity and ease-of-use.

Until now, most businesses with small to mid-size commercial buildings have had no affordable option to implement an energy management system of any notable scale. And ironically, a large portion of this building-size segment uses more energy per square foot than any other commercial space. As you might imagine, HVAC equipment on the roof is the largest source of energy drain for these businesses. And, until recently, there have been no practical energy management solutions to better control these HVAC and other mechanical systems and, therefore, no opportunity for business owners to save money.

So how does wireless technology rectify this situation? In much the same way a wireless network in your home can support multiple devices, like a laptop, desktop, printers and handheld video games, a wireless network system can now be deployed into a commercial building. These wireless networks will support multiple controls for that building's main energy using equipment — HVAC and lighting. The system also allows for real-time wireless monitoring of the total electrical consumption (KwH) for the entire building. More importantly, it takes the entire process straight to the Internet, enabling remote monitoring and

control from a central location.

What make these wireless EMS systems so attractive is their simplicity, effectiveness and affordability. Most HVAC contractors can install these systems in just a half-day or less by replacing the existing thermostats in the building with radio equipped wireless thermostats. A factory accessory will allow wireless control of up to eight other circuits for lights and ventilation. Basically, any equipment that could benefit from having an operation schedule applied can usually be joined to the network. Next, simple current transformer clamps are slipped around the main electrical feed lines to the building, and they are joined to the network. Then, a real-time graphic interface touch panel display is installed on the wall in a manager's office. This panel is actually the new local central control and monitoring point for all HVAC equipment, lighting, refrigeration and other mechanicals. Simply enable the power and Internet connection button on the back of the touch panel, and the building is now saving energy, saving money and controllable remotely via the Web.

In addition, these systems offer users the opportunity to establish a remote "gatekeeper" of each building you upgrade with these wireless EMS products. From setting schedules through the Web interface, to being the contact that receives and responds to any over temperature alarms, to creating monthly comparative energy consumption reports, full control of a business' energy consumption may be managed remotely.

For the throngs of commercial entities with small to mid-size buildings desperate and clamoring to controlling energy costs — the only discretionary expense that can be better optimized for enhanced profitability in this sector — wireless EMS systems offer unprecedented opportunity — a scalable solution that can be affordably deployed.

As the economic picture gets a little brighter, try not to fall back into old habits and complacent business practices that have limited fiscal upside. Continue to look for new strategies and technological opportunities that will help differentiate your business and not only maintain, but increase its profitability.

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