VERDANT
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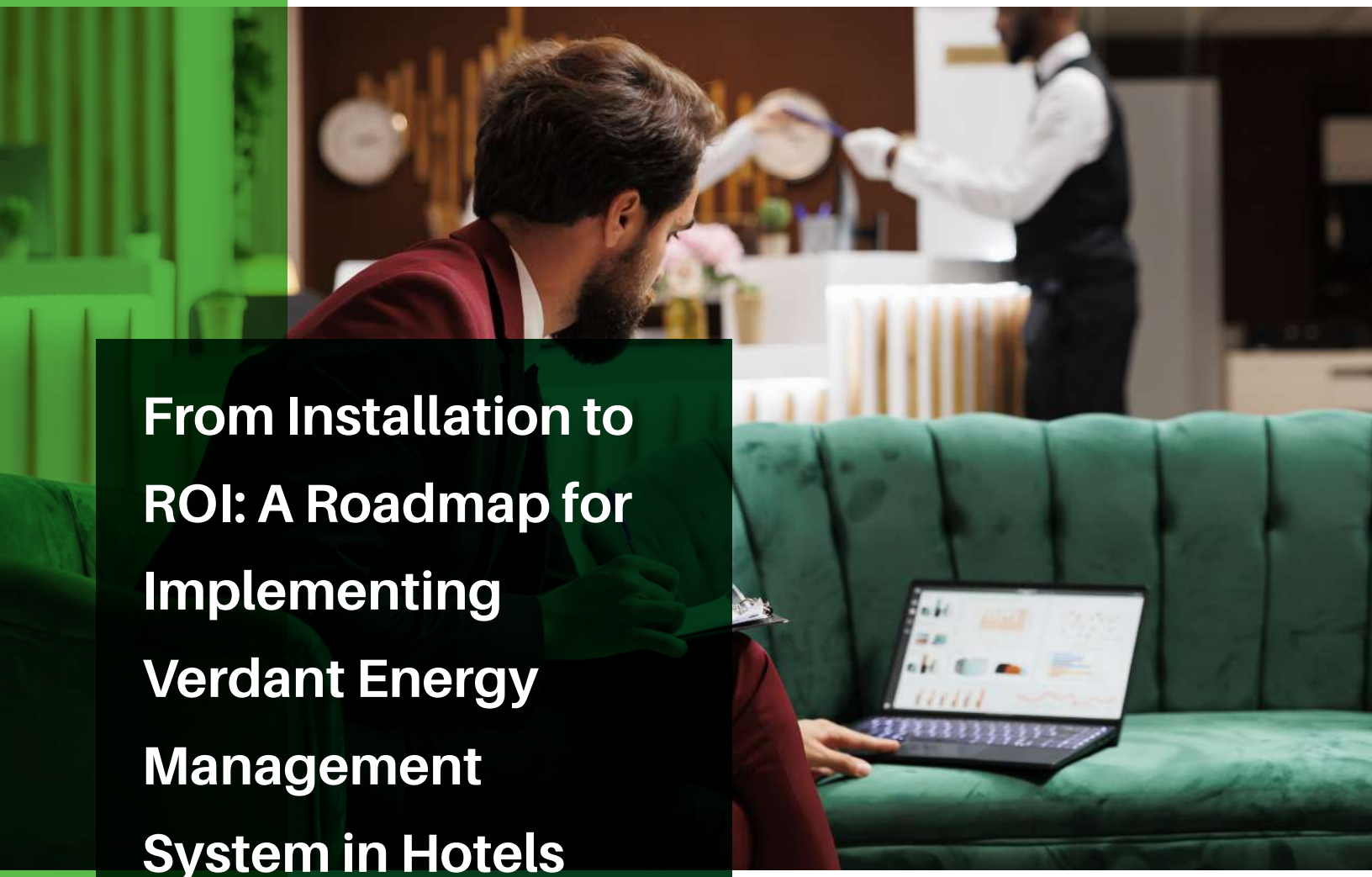
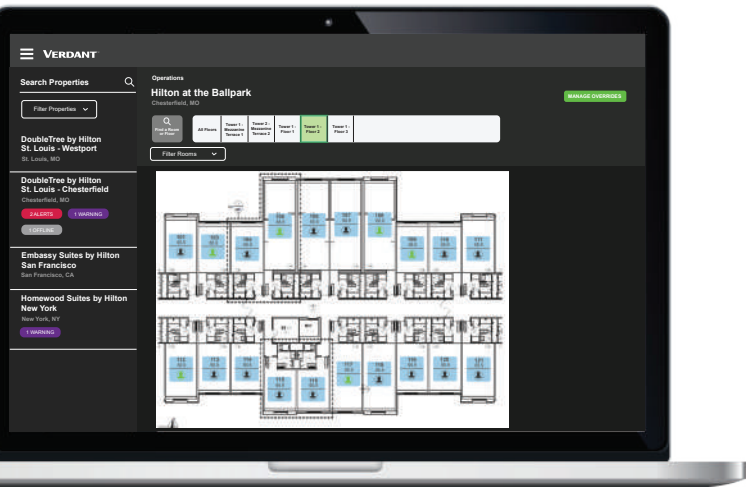


From Installation to ROI: A Roadmap for Implementing Verdant Energy Management System in Hotels



Overview

For hotel operators, expenditures come in many forms, but not all costs are created equal. From operating costs to infrastructure upgrades, some costs are unavoidable while others are negotiable. Any upfront cost that reduces a hotel's overhead, however, is an investment in the value of that property, and no investment reduces a hotel's operating costs more quickly than Verdant's energy management system.

From smart thermostats and occupancy sensors to our powerful energy management app, Verdant's suite of energy management tools are easy to install and produce significant ROI for hotel properties of all sizes in all climates.

The Challenge

It's the responsibility of hotel managers to ensure a certain level of guest experience while maintaining profitability. That guest experience is largely dictated by the services and amenities they offer guests.

Providing those amenities, however, comes with various costs, and one overhead cost that's universal to providing any service or amenity is energy consumption. Whether it's keeping the lights on, adjusting climate settings, or running any number of appliances and devices required to provide guest services, energy costs are at the core of any hotel's operation.

Balancing Energy Efficiency with Guest Comfort

Guest comfort is at the forefront of any hotel manager's mandate, and can present a significant obstacle to energy efficiency. Guests expect optimal temperatures in both the common areas and their own room throughout their stay.

This could often lead to wasteful energy consumption whenever guests are not in their rooms. Verdant's smart thermostats help hotel operators manage fluctuating energy needs, striking the perfect balance between guest comfort and profitability.

Integration with Existing Infrastructure

Pre-existing infrastructure is a significant obstacle to energy efficiency. From outdated HVAC and lighting systems to obsolete construction materials, implementing energy management technology in an operating hotel requires careful planning, tailored solutions, and minimal disruption to guest experiences and daily operations.

Upfront Investment

There are costs associated with upgrading any infrastructure. In the case of energy management, however, that cost is more of an investment than an expense. The energy cost savings that result from installing smart thermostats more than offsets the upfront costs, and can even increase a hotel's property value. and Verdant's smart thermostats have some of the fastest payback periods in the industry – i.e. in as little as 12-18 months.

The Solution: Verdant's Energy Management Solutions

Verdant's energy management system networks with our smart thermostats and occupancy sensors to collect and analyze data on peak demand loads, historical thermodynamics, and local weather conditions to adjust energy consumption in real-time.
Featuring advanced integrations, remote monitoring, and unmatched compatibility with HVAC systems, Verdant thermostats not only improve guest comfort and profitability, but are also easy to install.

Network Installation (Wired Smart Thermostat)

Before enabling networking capabilities of the VX Smart Thermostat ensure the Online Connection Kit is connected to the internet. Begin by verifying that the Online Connection Kit is receiving an IP address from a DHCP server. It is recommended to avoid using a public IP address to enhance security.

If the system requires bypassing a login or splash page to access the internet, ensure the MAC address of the Online Connection Kit is properly whitelisted. The MAC address can be found on the white sticker located on the bottom of the device.

If the Online Connection Kit is operating behind a firewall, specific outbound ports must be enabled to allow proper communication. Ensure that outbound ports 22, 80, and 443 are open for the device. Importantly, no inbound ports are necessary for the Online Connection Kit unless specific options are explicitly requested.

Wired Smart Thermostat Installation

Our smart thermostats can be installed seamlessly in your hotel, delivering significant energy savings. Begin by selecting an appropriate location for the thermostat and ensure the occupancy sensor faces the bed area or the primary space where guests will spend most of their time.

Avoid placing the smart thermostat near windows, doors, or exterior walls to prevent drafts and inaccurate temperature readings. Similarly, steer clear of large metal surfaces or structures, air ducts, and supply vents, as they may interfere with the smart thermostat's functionality.

For installation, if the wall is uneven, use a wall plate to provide a stable surface and position the thermostat over the previous thermostat's hole or desired spot, and mark the drilling points for two mounting screws. Drill two 3/16-inch holes, insert wall anchors, and securely attach the smart thermostat using screws.

Wired Smart Thermostat Configuration

Configuring your smart thermostat is just as straightforward as installing it. During installation training, your Verdant support agent will provide essential details, including the Mesh ID, room number, time, and equipment code.

Begin by powering on the smart thermostat and HVAC unit. Next, set the Mesh ID, enter the room number, and input the equipment code before configuring your energy-saving settings.

Finish by setting the smart thermostat clock and enabling or disabling the scheduler. To save settings and exit the configuration menu at any time, press the **SYSTEM MODE** button. For more information on smart thermostat configuration, consult our Wired Smart Thermostat Installation Guide.

Network Installation (Wireless Smart Thermostat)

Before installing our VX4 Wireless Smart Thermostat, ensure the Online Connection Kit is properly connected to the internet and is communicating properly with the cloud service. Next, start by attaching the **antenna** to the **wireless receiver** and securing the receiver to the wall using double-sided adhesive tape.

Once complete, connect the receiver to the **server** using the supplied **USB cable.** For optimal signal transmission, ensure the antenna is oriented toward the nearest room with an installed smart thermostat. Next, establish a network connection by connecting the server to the **LAN port** using the **RJ-45 cable.**

Finally, plug the **server** into a power outlet with the supplied **power cord.** Once connected, the system will begin communicating with installed thermostats in sometime, enabling real-time monitoring and remote energy management. If you are having trouble connecting to the network, consult our Wireless Smart Thermostat Installation Guide or contact support at 1-877-318-1823.

HVAC Controller Installation

The HVAC Controller enables seamless wireless thermostat control for most HVAC units. This smart controller features relay 24VAC outputs (J3), analog 0–10VDC outputs (J6), and digital data (RS485) outputs (J4), ensuring compatibility with a wide range of smart HVAC systems.

To begin installation, power off the HVAC unit and mount the HVAC Controller inside, ensuring it is positioned securely to prevent it from falling into the condensation pan. Use plastic cable ties or 3M Command Tape for added stability.

Next, connect the supplied wire harness from the HVAC Controller to the HVAC unit. If required, set the HVAC system to External Thermostat (Class 2) mode by following the manufacturer's guidelines. Finally, position the controller's antenna so that it faces the smart thermostat, ensuring it is free from metal enclosures or obstructions.

Wireless Smart Thermostat Installation

Begin by selecting an appropriate location for your wireless smart thermostat—ideally, on an interior wall where the occupancy sensor can face the bed or primary living area. Avoid placement near windows, doors, supply vents, or metal structures, as these can interfere with accurate temperature and occupancy readings.

If a previous thermostat was in place, use a wall plate to cover the hole and mark two locations for drilling. For new installations, position the smart thermostat on the selected wall, mark the mounting holes, and drill two 3/16" holes.

Insert wall anchors and secure the thermostat using two screws, without overtightening, especially on uneven surfaces. Once mounted, insert two AA alkaline batteries to power the smart thermostat. Alternatively, it can be connected to a 12VDC or 24VAC power source.

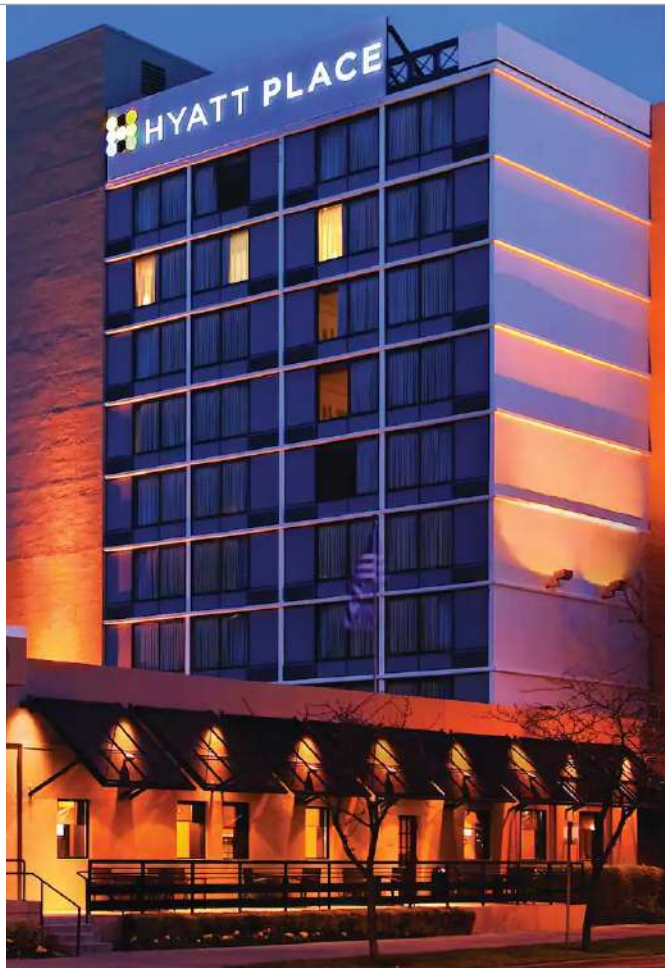
Wireless Smart Thermostat Configuration

Before configuring your Wireless Smart Thermostat, ensure you have the necessary installation details provided during training, including the Mesh ID, room number, time, and equipment code. If installing a VRF system like Daikin, Toshiba, Midea, Ephoca, etc., or a Friedrich VRP/fresh air PTAC unit, insert one jumper into function selection pins 2 and 3, and another into pins 5 and 6 at J5 on the control card. For units like LG or Mitsubishi, insert the jumpers into pins 1 and 2, and 4 and 5 on the control card.

Begin by removing the thermostat faceplate and inserting two AA batteries. Follow the setup prompts to pair the thermostat with the HVAC controller, enter the Mesh ID, room number, and equipment code. Next, configure energy-saving settings, set the thermostat clock, and enable or disable the scheduler as needed. Be sure to consult our Smart Thermostat Installation guide for more information on thermostat configuration.

Success Story: BRE Hotels and Resorts

Learn how Verdant's energy management solutions and our smart thermostats helped the BRE Hotels and Resorts significantly reduce HVAC runtimes, streamline energy consumption, and increase property resale value.



About BRE Hotels and Resorts

BRE Hotels and Resorts, a subsidiary of the Blackstone Group, the largest private equity firm in the world and a former majority shareholder of Hilton Hotels, has nearly 150 hotels in its US portfolio. When acquiring hotels, their main point of focus is on value-added solutions that enhance the guest experience and reduce their carbon footprint while increasing asset value.

The **Hyatt Place Hotel** in downtown San Jose, California was identified by BRE Hotels and Resorts as one that could benefit from energy rebates and incentive programs offered by utility companies throughout the US and turned to Verdant's energy management solutions, including our very own Energy Management System and smart thermostats.

Challenge

On average, hotel guest rooms are vacant over 60% of the time, even when rented, leading to significant energy wastage from heating and cooling empty spaces. This inefficiency not only inflates energy costs, but also unnecessarily strains the hotel's central HVAC system.

As a result, BRE Hotels and Resorts required an energy management system that could (1) dynamically adjust to occupancy and guest behaviour, and (2) streamline energy consumption without compromising guest satisfaction and their overall experience.

Solution: Commercial-Grade Technology

BRE Hotels and Resorts ultimately selected Verdant's energy management system and our smart thermostats to streamline energy consumption, reduce operational costs, and maximize energy savings.

Verdant's smart thermostats were retrofitted seamlessly across the BRE portfolio of properties, delivering optimal climate control based on real-time occupancy patterns, data analytics, and advanced automation technology. Consequently, BRE Hotels and Resorts saw a swift return on their investment, including significantly reduced electricity costs and HVAC runtime.

"Verdant is extremely good at identifying utility rebate opportunities and bringing those to our attention. We've been able to take advantage of some exceptional rebates where the cost of the system was either heavily reduced or required no out-of-pocket capital investment. They've made it really turnkey for us."

— Tiffany Evans, Head of Energy Management at BRE Hotels and Resorts

How it Works

Trusted by over 9,000 hotels, multifamily buildings, senior living communities, and student housing properties, Verdant's energy management system is designed to deliver significant energy savings while maintaining guest comfort. Our smart thermostats use advanced occupancy sensors and patented technology to minimize HVAC runtimes, ensuring optimal and reliable climate control across your hotel.

Verdant streamlines hotel energy management, collecting real-time data from sensors, and other sources to monitor energy consumption trends. This data is analyzed to uncover inefficiencies and waste, enabling hotel operators to implement energy-saving strategies like automation, scheduling, and load balancing.

Results

Verdant's Energy Management system achieved a remarkable reduction of 48% runtime of the Hyatt Place's HVAC units. This translated to an average reduction of $9,319 on both electric and natural gas bills, and an outstanding $94,913 in 12-month cumulative savings.

Additionally, Verdant's Energy Management System resulted in 43,609 kWH in average monthly energy savings with an added resale value of $1,233,871. Verdant ultimately delivered significant energy savings on multiple fronts, while satisfying the comfort standards of the Hyatt Place's guests.

Significant Long-Term Savings

When planning a capital expenditure, one of the key considerations is, "how long will it take to recoup this investment?" The Hyatt Place hotel achieved an exceptionally swift return on investment with Verdant's energy management system, realizing a payback period of just **10 months.**

This rapid ROI was made possible by substantial energy savings, reduced HVAC runtimes, and significantly lower utility bills, showcasing the immediate financial benefits of Verdant's energy management system

Significant Long-Term Savings

The Hyatt Place hotel achieved significant long-term savings with Verdant's energy management system, averaging **$9,319** in monthly energy cost reductions. Over 12 months, cumulative savings reached **$94,913**, accompanied by an impressive **43,609 kWh** in average monthly energy savings. These significant energy savings ultimately ensured BRE Hotels and Resorts saw a quicker return on their investment and sustained energy efficiency.

Increased Resale Value

Verdant's Energy Management System not only lowered operational expenses but also significantly enhanced the asset's portfolio value by **$1,233,871.** This substantial increase highlights the long-term financial impact of implementing an energy management system, helping the property qualify for energy rebates and financial incentive programs offered by utility companies in the US.

HVAC Runtime Reduction

Verdant's energy management system delivered an impressive **48% reduction in HVAC runtimes** at the Hyatt Place San Jose. Verdant ultimately increased energy efficiency, reduced HVAC system wear, and significantly lowered utility costs by optimizing climate control based on real-time occupancy data — without compromising guest comfort or satisfaction.

48%

Runtime reduction over a 12-month period

$94,913

Cumulative savings over a 12-month period

Getting Started with Verdant

Ready to enhance energy efficiency and reduce costs in your hotel? Join the industry-leading partners who trust our energy management solutions for exceptional long-term savings. Learn how you can reduce HVAC runtimes by 45% on average with Verdant's plug & play, award-winning energy management system and book your web demo today!

Book a Web Demo

verdant.copeland.com/book-a-web-demo

Optimal Savings

Optimizes settings in real-time, ensuring you get the maximum energy savings possible.

Compatibility

Verdant thermostats are compatible with most PTACS, VTACS, split units and fan coil systems.

Self-Installs

Your staff can self-install each smart thermostat in less than 10 minutes.

Quick Payback

Cuts room HVAC runtimes by 45% on average* and typically pays for itself in 12-18 months.

Fully Automated

Automates guestroom HVAC energy management at your property, without any involvement from your staff.

[1]Actual savings may vary according to utility cost, climate, available rebates, and other variables **Entreprise Value Multiples by Sector http://pages.stern.nyu.edu/~adamodar/New_Home_Page/datafile/vebitda.html

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