Salvatores Grand Hotel

Buffalo, NY

Press event when Salvatores Hotel was awarded its utility rebate check

Automated HVAC & Lighting Energy Savings in Guestrooms

- ♦ 86 Rooms
- ♦ 7-minute Guestroom Retrofits
  - ◊ Wireless technology enabled retrofits to be completed between guest stays - no room closures
- ♦ Wireless, Self-powered Technology
  - ◊ Occupancy detected by self-powered hotel keycard switch
- ♦ 5-star Guest Experience
  - ◊ ZENO's InnPoint™ gateway platform provides front desk control of guestrooms to heighten guest comfort

50%
Utility Rebate

1.57 yr.
Payback Period

$8,088
Annual Energy Savings

Refer to the next page for the numbers behind payback & ROI projections

ZENO CONTROLS

verve living systems

Salvatores GRAND HOTEL

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Wireless Retrofit Cuts Needless Utility Spending

Salvatores Grand Hotel maintains its 5-star guest experience while employing self-powered, wireless controls to reduce HVAC & lighting energy spending
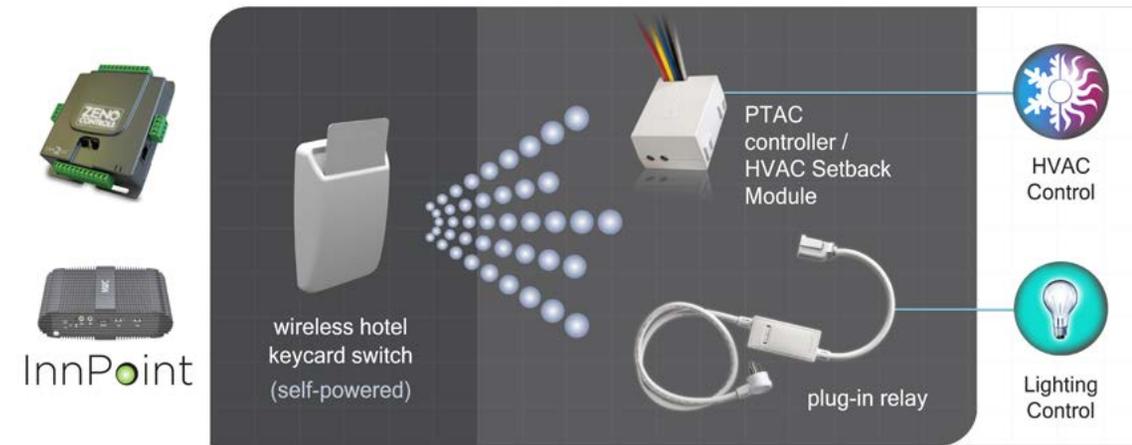
Occupancy Detection

Each in-room network is centered around a self-powered, wireless keycard switch. The occupancy status of each guest room is determined by the state of the keycard - when the keycard is out of the keycard holder, the system treats the room as unoccupied. The keycard switch controls the HVAC PTAC unit directly and one bedside lighting lamp.

Wireless Communications

Wireless communications between controls are based on the EnOcean Wireless Standard. By employing EnOcean energy harvesting and wireless technologies, the Verve Keycard Switch powers itself using the motion of the keycard going in or out of its holder - no batteries or line-power needed.

The in-room control system heats, cools and lights the rooms according to guest preferences; and turns off lights and sets back room temperatures when sold or unsold rooms are left vacant. The in-room wireless packages are tied together centrally by ZENO's gateway platform which consists of gateway products and software.

Sequence of Events

♦ When each guest enters the room, they insert the keycard into the keycard holder.

◊ This triggers the transmission of a radio signal to the thermostat and in-line relays - alerting the HVAC & lighting systems that they should operate according to guest preferences.

♦ Upon leaving, guests retrieve their keycard from the keycard holder.

◊ This triggers the transmission of a radio signal to the thermostat and plug-in lighting relay - this time causing the system to operate in its energy-saving "unoccupied" mode.

♦ Gateways and Front-desk Software Control -

◊ In-room control systems are networked together through ZENO's InnPoint Gateway Platform. This enables remote control of guestroom HVAC and lighting utilities via the cloud or front desk.

System Diagram - as installed at Salvatores Grand Hotel

InnPoint

wireless hotel keycard switch (self-powered)

PTAC controller / HVAC Setback Module

HVAC Control

plug-in relay

Lighting Control

Payback & ROI Analysis

one of the guestrooms inside Salvatores Grand Hotel

Cost of powering one guestroom
(USA average, w/out automation controls)

Baseline: Annual power usage / Room [1]	2,850 kWh
Cost of electricity (peak, per kWh)	$0.15
Yearly energy savings potential / room	$427.50

Compare "with" versus "w/out" automated HVAC & lighting control

22% LESS

*Utility Spending
w/ automated control*

Automated Energy Savings

Energy savings potential / Room	$427.50
Occupancy-driven energy savings	22%
Annual energy savings / Room / Yr.	$94.05

Projected energy savings are based on the ROI impact variable values specific to this site location (HVAC system type, local climate, cost of electricity & occupancy rate)

1 ACEEE (American Council for an Energy-Efficient Economy) "Emerging Energy Saving Practices"

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