



Lighting control upgrade pays big dividends

Automation of lighting on slopes will nearly pay for itself in just one year at New Jersey resort, manager says.

System improves safety and customer satisfaction.

How much can you benefit from automating your lighting and other electronic systems?

The Mountain Creek Ski Resort in Vernon, New Jersey expects to save approximately \$35,000 in energy costs this winter. Given the \$38,000 cost for their new Crestron automation system, that's roughly a single year return on investment.

In addition, according to Dan Murphy, Project Manager for the resort, the new system will save labor, address long-standing

safety concerns and help improve the satisfaction of its customers. "It fits in well with our focus on the guest experience," he explains.

If you haven't thought about an energy management system for your property, maybe it makes sense to do so now.

Mountain-size savings

The new energy systems at Mountain Creek are part of a \$20 million upgrade the resort completed in December, which includes the construction of a 50,000 square foot ski lodge and automated control of the lighting of all of the 16 miles of ski trails on the property.

Part of the savings comes from almost total automation of the lighting, background music, digital signage and distributed



television systems in the new lodge. Bill Schafer, Principal of New York City-based Assurity Design Group, who planned and commissioned the AV and automation systems, explains. “When the manager unlocks the building at 7:30 a.m., just a few lights come on. But more turn on as people come to work in the kitchens, ticket and rental areas.” Background music, seven flat-panel TVs and a digital signage system automatically turn on as guests begin to arrive.

Schafer says Assurity was originally hired to design only the rental video systems, “but once the resort saw what we were doing, they told us we needed to talk to the general contractor about the lighting.” Murphy visited Crestron before starting on the project. “As we talked, we realized we could use their equipment to control everything in the lodge, plus the lighting on the trails on a single system,” he explains.

Systems at a Glance

Because one entire side of the building is glass, engineers at Assurity Design included photo sensors to dim or shut off lighting fixtures, depending on the intensity of the sunlight. The building normally closes at 10 p.m., and the system shuts down the audio and video and switches to a less-intense lighting mode appropriate for the cleaning staff. When they leave, occupancy sensors recognize that no one is in the building and the system turns off the remaining lights.

“The important feature of the system is that it’s hands off,” Schafer adds. “We’ve completely eliminated the need for staff to run around and flip switches. We don’t waste time by taking people away from their work, and we don’t waste energy when they forget to shut things off.”

Savings on the mountain are on a larger scale. The resort has 41 ski trails lit by 2400 high-pressure sodium or metal halide light fixtures on poles. Scattered across the four peaks that make up the resort are ten power distribution shacks – small buildings that house the breaker boxes and control points for the lighting.

“Let’s say it gets dark at 5:00 p.m.,” Schafer explains. “For safety reasons you want the lights turned on at 4:30 p.m. Under the old system, you had to have an employee start at 3:30 on a snowmobile, driving from shack to shack to get the lights turned on in time. That process reversed when the slopes closed at 10:00 p.m.”

“Of course, when they made snow, they needed lights on after 10 p.m. They would leave the whole resort lit overnight, even though they could run the machines only on a few slopes at a time. Then they would send a man out on a snowmobile at 8:00 a.m. It was a huge waste of energy and manpower.”

Today, the lighting is fully automated and turns on and off at once as needed. When crews make snow, they can turn on

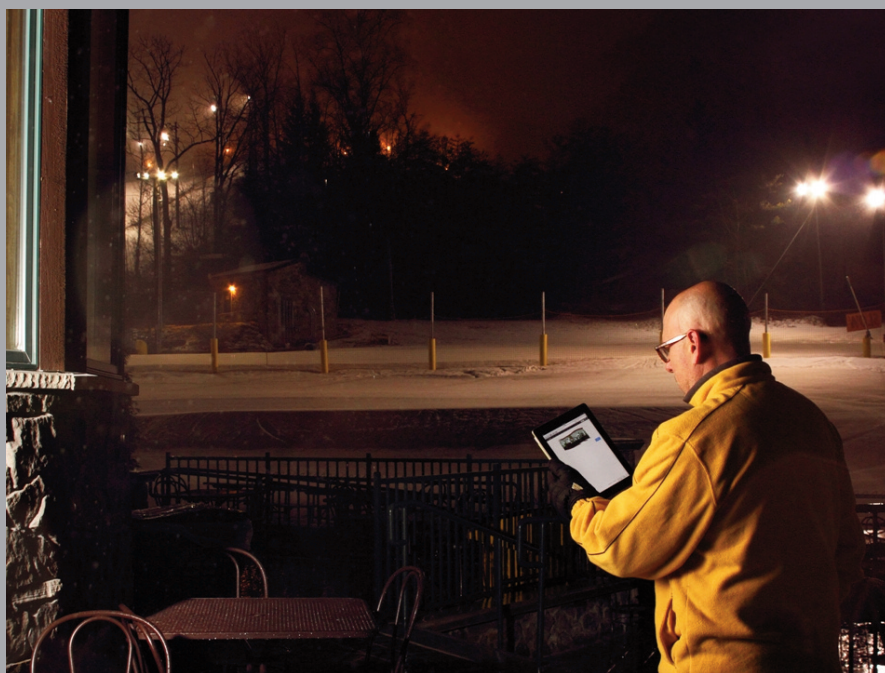
just the lights they need using a control app loaded onto their smart phones.

“Improving safety was an important goal as well,” Murphy explains. “There’s no longer any question whether the lights will turn on as scheduled. The new system is very reliable.”

“We also added a service mode,” Schafer says. To change a lamp under the old system, a maintenance worker would have to drive a snowmobile to a power shack, turn off a section of lights, drive up to change the lamp, then go back to turn the power on again to test the system. There was always a risk of someone restoring the power while he was at work. “Now he can power down the lights from the fixture using his iPhone® which locks everyone else out. It saves a large amount of time and the risk of injury.”

Automated customer training

In addition to the lighting systems, Assurity Design Group planned and commissioned two unique video rooms for the ski rental business.



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Only an hour away from New York City, Mountain Creek hosts thousands skiers and snowboarders each day. “One of the complaints we always had,” says Murphy, “is that rentals took too long. So as we planned the new facility, we decided to change the whole process, giving visitors a shorter wait time.”

Now when first-time renters come to the resort, staff usher them in groups of up to 30 into one of two small theaters. There they watch a brief video with an introduction to the resort, safety and courtesy tips and an explanation of the rental process. From there, they go to a kiosk where they enter their name, height, weight and shoe size, then swipe their credit card.

“As soon as they press enter,” Murphy explains, “someone starts building their skis. After they check out, they walk out onto the snow, where one of our employees meets them with their equipment and helps them put it on.”

The theaters are fully automated. The lights dim, the instructional video plays, and then the lights turn on again. “We included occupancy sensors in the video rooms as well,” Schafer adds. “If it’s a slow day and they’re using only one room, the system will shut down the second room.”

A single integrated control system

Assurity Design Group designed an audio and video distribution system for the lodge, with 12 different zones of audio, 75 speakers and 15 HDTV monitors, used for TV viewing and digital signage. JMT Media Group of Little Falls, New Jersey installed the audio and video system.

San-tec Electric of North Bergen installed the lighting hardware, and ADG/Energetic Logic programmed the new automation system and commissioned it, once it was installed.

With the Crestron system in place, managers can make changes to the lighting, audio or video schedules at the same time from either of two eight-inch touch-sensitive LCD displays located at the employee entrances. Because Crestron includes an astronomical clock in all of their processors, they can set the lighting on the slopes to turn on at a set number of minutes before sunset, yet time its shut-down, and time the systems in the lodge to the resort’s operating hours.

In addition, staff can use touch screens in the restaurants to adjust volumes or change TV channels, or they can use their iPhone or iPad® to do the same as they walk around the facility.

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The use of the Crestron controls, according to Schafer, not only made operations easier than using separate systems, “but it turns out we were able to do it much more economically than with separate vendors.”

Murphy says he is excited about the new capabilities of the resort’s systems. “We’ve always done things the way everybody else did them, but in this case that didn’t make sense.”

Lower costs – safer systems – happier clients. That’s a win-win-win.

ADG will be returning to Mountain Creek in the fall to add Crestron Fusion EM™ Energy Management Software to track the facility’s carbon footprint and easily analyze energy consumption.

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