

Theme Park | Central United States

Energy Management Strategies and Results | Case Study



“Even after adding two new facilities and a new roller coaster, our propane and electric bills have still decreased, and we’ve seen reduced maintenance costs as well. The control EnergyCenter gives us saves us a lot of manpower and makes saving energy easy. It’s a great tool to have.”

Facilities Supervisor

LOCATION

Central United States

SPECIFIER

Jackson Systems

PROJECT SPACE

Variety of different buildings across 60 acres, including merchandise areas, food venues, theaters, multipurpose facilities, rides, and restaurants

COMPLETION DATE

Ongoing; began in October 2012 with additions planned

CONTROL STRATEGIES

- Dynamic Scheduling
- Task Tuning
- Context Defined Setbacks
- Demand Response

SYSTEM FEATURES

- Per zone HVAC control
- Per circuit wireless lighting control
- Outlet and load control
- Baseline and event schedules
- Energy monitoring and reporting
- Secure, remote access
- Configurable email alerts
- No annual fees

The Challenge

Theme parks are the places of dreams and wonder, but they can be a nightmare when it comes to managing energy use.

A large theme park in the central United States had a problem. With over 60 acres of land to cover, it took a significant amount of time and manpower to merely turn everything on and off each day, making any type of manual energy savings idea impractical. And with plans to expand the park, energy costs were only going to increase even more.



The theme park facilities personnel knew it was time to install an energy management system, but they also knew they'd have certain constraints. Like most companies, they didn't have the manpower, capability, or money to implement a system that required a lot of infrastructure to be built. They were looking for something that would communicate wirelessly, work with a variety of building types, and easily scale up as the park expanded.

That's where Autani comes in. At the intersection of wireless technology and energy management, Autani's EnergyCenter system provided an easy way for this theme park to get the control they needed as well as the savings they wanted.

The Solution

WIRELESS CONTROL

Autani's EnergyCenter system was deployed across the theme park to control lighting, HVAC, plug loads, and industrial fans. Wirelessly networked and managed, the EnergyCenter system provided for a faster and less expensive installation than wired solutions.

REMOTE ACCESS

The facilities personnel can now remotely manage any connected device on the premises with EnergyCenter's easy-to-use, point-and-click interface. AC techs can use their phones to turn units on/off, turn set points back, and lock/unlock the thermostats. Lighting throughout the park—including large seasonal displays—can be adjusted just as easily. Using EnergyCenter software, changes can be made in a matter of minutes without ever having to physically send out a person or team.

SCALABLE & ADAPTABLE

The theme park spans across 60 acres, with approximately 155 buildings varied in size and purpose including merchandise areas, food venues, theaters, multipurpose facilities, rides, and restaurants, ranging in size from 500 ft² or less to over 27,000 ft². Currently about 60% of the park is online, and the customer plans to incrementally expand their EnergyCenter system to control each building at the park. Autani's scalable, robust wireless system will make this plan easy, enabling networked communication between devices across the entire theme park.



Autani's EnergyCenter system provides the savings and control the theme park needed.

Results

BIG SAVINGS

Even after adding two facilities and a roller coaster, the theme park now uses an average of 100,000-115,000kWh less per month, saving them around \$12,000 per month. Using scheduling features in EnergyCenter, they've also decreased their energy demand, providing for another \$4000-\$5000 in monthly savings. Maintenance costs have decreased, and remote management capabilities save



countless man-hours as personnel no longer have to traverse the entire park multiple times per day to manually make adjustments to devices.

ADVANCED CONTROL

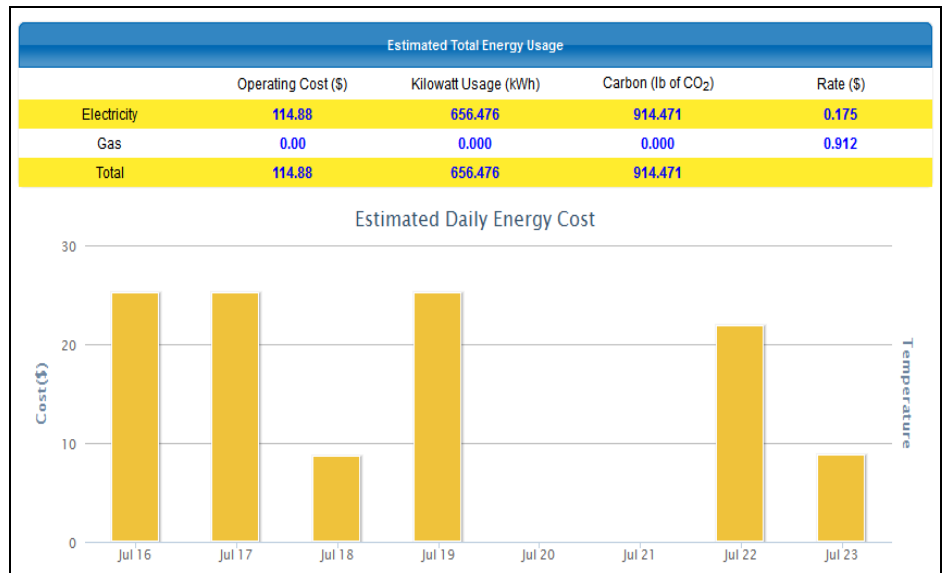
The theme park takes advantage of advanced automation features in EnergyCenter to schedule tube heaters. Now anytime the temp drops below 50 during certain hours, the heaters turn on automatically. The park can also easily shut down buildings that go unused in winter, a capability they didn't have before.

EASY TROUBLESHOOTING

Facilities personnel can see if AC units are functioning based on discharge. They can easily see how long a unit has been running and when to change filters. AC techs can also use the in-duct temperature sensors to quickly diagnose problems with a unit.

COMFORT + SAVINGS

The customer reports great feedback on the industrial fans. Installed in a nearly 30,000 ft² facility, the fans keep air moving to keep occupants comfortable while allowing the AC units to run less frequently. Combined, the six fans installed consume less energy than a small space heater.



EnergyCenter shows savings as it happens with intuitive graphs and reporting features.