



**Innovative Solutions for Healthier Environments**







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## Maximizing Comfort with Minimal Effort

When you think of being comfortable, what comes to mind? Whether a physical state of being or an ideal state of mind, the benefits of finding comfort are endless. That's why so many businesses turn to Control Service Company for help achieving their comfort-related goals.

For more than 40 years, we've put the latest technology and resources to work to provide systems and services that deliver maximum comfort in the most efficient and sustainable way. We've designed and installed energy management systems in more than 1,500 buildings for hundreds of

businesses in at least a dozen industry sectors. More importantly, we pride ourselves on developing lasting relationships with each client we serve and making sure their needs continue to be met long after the initial project delivery is complete.

Whether you're looking to eliminate redundancies and streamline resource management, protect critical systems and data, increase energy management efficiencies and cost savings, improve occupational comfort, or a combination of these objectives, Control Service Company can create a solution that's right for you. Let us show you how easy life can be in a comfortable setting.



## How CSC Came to Be

At Control Service Company, we understand that each facility, business and staff is unique. That's why we use our passion for helping people and meeting customer needs to create tailored, innovative building control solutions. From our company's humble beginnings to our current structure and continued growth, we remain steadfast in our commitment to putting clients first and making exceptional service our top priority.

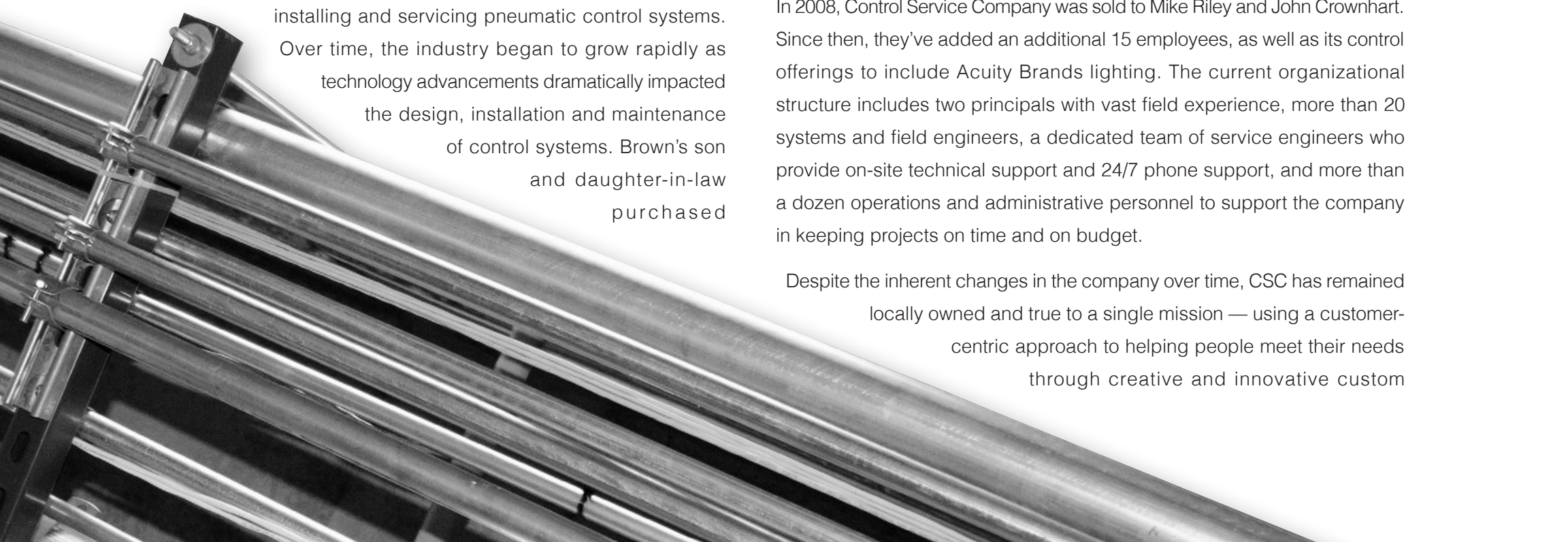
Originally a family-owned and managed business, Control Service Company is no stranger to providing customers with unparalleled service. In fact, it's this core principle combined with industry-leading knowledge and expertise that keeps CSC thriving in the buildings automation systems space, particularly as technology evolves and the demand for energy efficiency grows.

CSC was founded by Bill Brown of Independence, Mo., in 1970. With just four family member employees, the company focused on installing and servicing pneumatic control systems. Over time, the industry began to grow rapidly as technology advancements dramatically impacted the design, installation and maintenance of control systems. Brown's son and daughter-in-law purchased

CSC in 1989. Shortly thereafter, they partnered with Automated Logic, a subsidiary of United Technologies, to become the fifteenth U.S.-authorized distributor of this unique building automation system. Throughout the next 20 years, CSC expanded its workforce from four employees to 40, servicing and installing the Automated Logic product while expanding its market share in the Midwest. Currently, CSC is one of the top 10 Automated Logic distributors in the country, installing and controlling more than \$15 million of work each year.

In 2008, Control Service Company was sold to Mike Riley and John Crownhart. Since then, they've added an additional 15 employees, as well as its control offerings to include Acuity Brands lighting. The current organizational structure includes two principals with vast field experience, more than 20 systems and field engineers, a dedicated team of service engineers who provide on-site technical support and 24/7 phone support, and more than a dozen operations and administrative personnel to support the company in keeping projects on time and on budget.

Despite the inherent changes in the company over time, CSC has remained locally owned and true to a single mission — using a customer-centric approach to helping people meet their needs through creative and innovative custom





solutions. A foundation of integrity, honesty and transparency keeps loyal customers coming back and new companies in expanding markets taking notice. By strengthening its services, CSC continues to work toward making the local community a more sustainable and eco-friendly place to live and work.

Each time a new project is completed, word continues to spread about the vast benefits CSC and the Automated Logic system can offer. With a system built around ease of use, supported by such a reputable parent company and installed by a local company committed to outstanding service, many notable companies throughout the Midwest have taken note. Now it's your turn. Experience the difference CSC can make in achieving your business goals.

## Why Service is Our Middle Name

While many companies refer to the importance of customer service, we go beyond talking the talk: we live our brand, and that's why "Service" is our middle name. At Control Service Company, we work to understand the specific needs of each of our clients and their critical stakeholders, including managers, operators, architects, engineers, energy suppliers and others. Only then are we able to deliver energy-

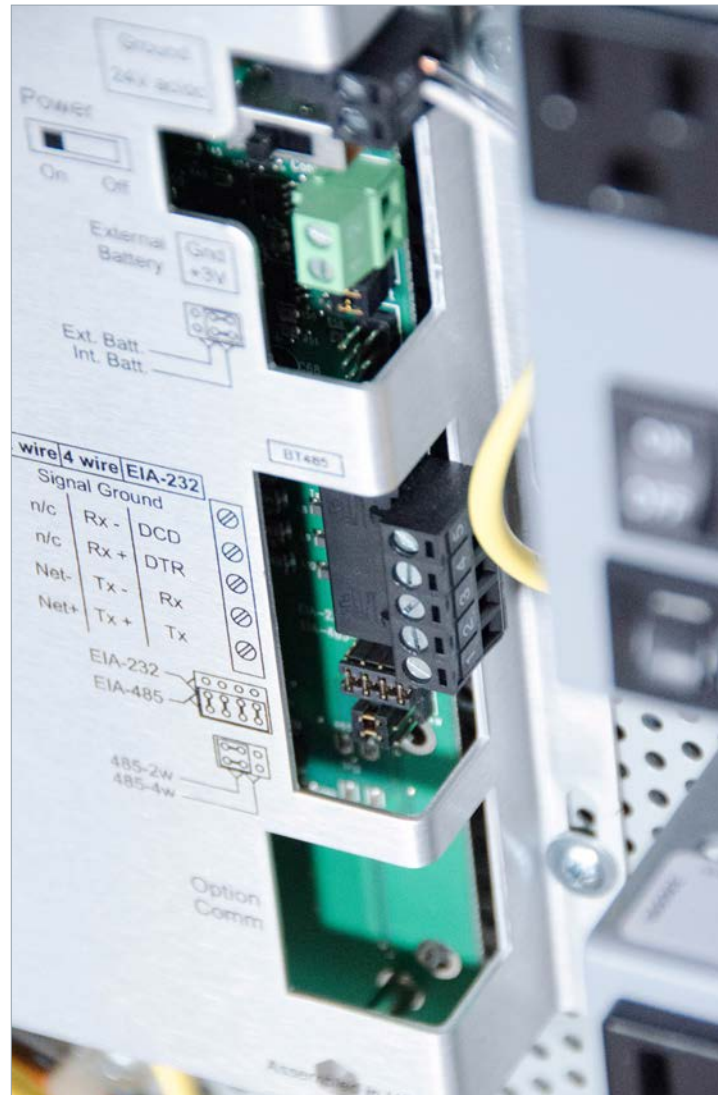
efficient web-based control systems that simplify facilities management and improve customer comfort.

To ensure our customers have access to the resources and information they need when they need it most, we've developed three critical levels of support.

## ENGINEERING SUPPORT

We believe that success begins with being able to effectively recruit, train and retain a highly talented and motivated staff. We employ more than 20 systems and field engineers who are responsible for developing, designing, programming, installing and commissioning custom solutions for our customers. These employees average 13 years of experience in the industry, with several of our engineers having more than two decades of experience.

Our systems engineers are professional engineers who design, program, and code graphics and applications tailored to meet each customer's unique needs. Our field engineers include degreed professionals from various backgrounds and field-tested mechanical union technicians. We utilize this breadth of knowledge and experience to seamlessly marry mechanical system commissioning with the technical aspects of an energy management system, in turn providing







owners with an expert level of confidence that the final system will function as designed.

### FIELD ENGINEERING SUPPORT

Our three field engineering project teams are each led by a dedicated project director who manages project engineers and control technicians. The project director is responsible for the overall coordination and communication for the project/contract, and works with the business development team after the project has been awarded to review project scope and discuss customer expectations. After this handoff, the project director meets with the engineering support team manager to coordinate the project submittal design, sequence code development and graphic design.

Throughout the control design process, the project director and his team coordinate with the engineer of record, mechanical contractor, and general contractor for construction coordination and design review. At the completion and after mechanical, electrical and plumbing (MEP) approval of the control design, the project director is responsible for working with CSC's purchasing coordinators for material and

equipment procurement to ensure timely delivery of materials to the project. In parallel with that effort, the project director works with CSC's installation team manager to coordinate either the CSC installation with in-house staff or subcontract with an electrical subcontractor for the control installation.

### SERVICE & PHONE SUPPORT

Control Service Company has always thrived on helping customers understand their systems, whether working with them on-site or over the phone. At the core of our service team are our service field engineers who provide on-site technical support and 24/7 emergency service as needed. In addition to these efforts, a dedicated phone support technician assists customers at no charge during normal business hours. Initially the service was offered to service contract customers at an hourly rate.

In 2008, we recognized the growing demand for and value of this tailored support, and began offering it as an unlimited free service for our in-warranty





and service contract customers. This provides customers with the freedom to call in for assistance on something as simple as changing a setpoint, asking for help with scheduling, or troubleshooting a mechanical problem. Time and again, customers tell us how invaluable our phone support is to their companies and why it helps differentiate Control Service Company from others in the marketplace.

## Getting Comfortable with Our Products and Services

At Control Service Company, our central focus is to provide the best energy management and lighting control solutions for customers, and we've developed specific energy strategies around these core competencies. The energy management solutions we provide are built from a unique product suite and customer-centric services, including:

- Automated Logic building automation products
- Acuity Brands lighting control solutions
- Lithonia lighting solutions
- NviroED, our proprietary online energy management and sustainability dashboard
- Professional training, both on site and in our office
- Customized service and support plans

Our commitment to innovation ensures our customers benefit from having the most advanced, user-friendly systems deployed in the market. By combining engineering expertise with programming capabilities, we create energy-efficient sequences of operation tailored to each customer's specific facility needs that are flexible and accessible for users of various backgrounds. Once the systems are developed and programmed, our design team produces building floor plan and equipment graphics that simplify the sophistication of programming into digestible yet information-packed screen segments. All of this engineering and support is then tested for functionality in the office prior to being rolled out to the field, where our project engineers implement the solution and ensure the electrical and mechanical systems function flawlessly as one complete building system.

To maximize the value of this powerful innovation, the software interface includes many different feature sets to assist end users in analyzing their systems. With customizable information at their fingertips, users can immediately access the data needed to make timely decisions about their facilities, ultimately adding hours back into their days to focus on other critical responsibilities. Yet our relationship with customers doesn't







end there; we continue to be available to make system and control adjustments as needed, even as customers' needs evolve over time. We also make sure users can easily extract relevant information that supports the need for and initial investment required in purchasing an energy management system, as well as data that details its positive impact on the bottom line.

## Automated Logic

When it comes to ease of operation and innovation, no other company or energy management system product comes close to Control Service Company or Automated Logic. With more than two decades of designing and installing systems built on Automated Logic infrastructure, we can provide quality, convenience and ease of use in one simple package, ultimately putting



control back in the hands of the end user. CSC uses Automated Logic systems to create customized solutions for HVAC, lighting, central plant and critical processes to simultaneously provide the highest level of workplace comfort and essential energy savings.

First, Automated Logic's EIKON® graphical programming tool eliminates line-by-line programming which is still used by many systems today. It elevates the standard for design, performance and reliability for the sequences that matter most. When combined with WebCTRL®, the most technically advanced software interface for streamlining energy management, users can control their facilities effectively, efficiently, and from just about any device or browser.

What's more, Automated Logic and Control Service Company use open, non-proprietary systems and open standards because they're efficient, flexible and cost effective. Automated Logic's native-BACnet® open architecture is compatible with customers' existing IT infrastructure and provides superior flexibility, security and performance to address any size application from a single building site to multi-building campuses in multiple locations.

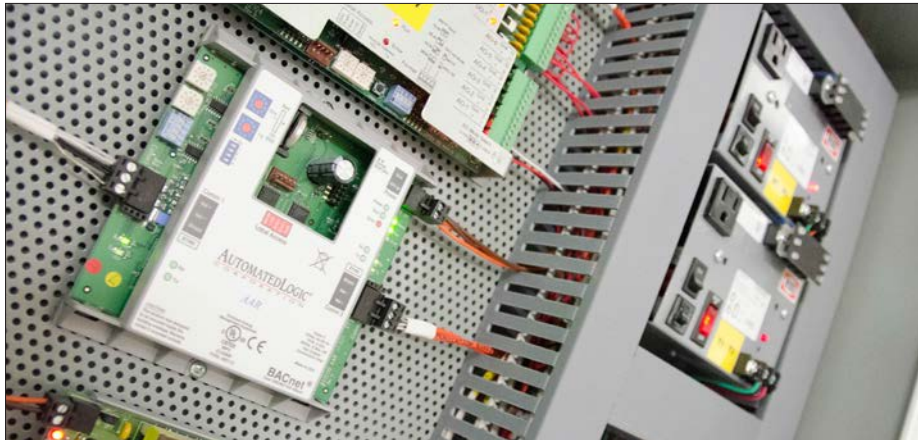
## MAKING THE MOST OF THIS POWERFUL SYSTEM

Automated Logic's systems do everything from measuring occupant comfort to reporting. They can also reduce operating costs, help users maintain a comfortable and productive work environment, and provide data that supports these objectives while indicating how well a given facility is meeting sustainability goals.

Users enjoy the following features to maximize the value of the systems at hand:

- Industry standard-setting graphics and thermal graphic color floor plans
- Powerful, intuitive and easy-to-use programming tools
- Backward compatibility for Legacy Systems with the latest technology for systems migration
- Expandable controllers for up to 220 hard-wired points per controller
- At-a-glance reporting for quick and easy diagnostics
- A green-features dashboard for data on gas, water, solar and other power source usage
- Extremely high reliability
- Scalable, plug-and-play systems for superior flexibility
- Global access to facility information

Ultimately, we work to provide customers with a system and supporting software that provides the ability to balance occupant comfort with the amount of energy required to achieve that goal.



## Acuity Brands Lighting

Fully integrated lighting control systems provide a high degree of flexibility and energy savings. When paired with a quality lighting portfolio known for its reliability and specificity, customers can benefit from technically advanced solutions that are easy to operate and critical in achieving sustainability objectives. That's why Control Service Company is proud to have been selected in 2008 as a Midwest authorized distributor of Lithonia Lighting and Synergy Lighting Controls, both of which live under the Acuity Brands umbrella.

Synergy's industry-leading lighting control system is native BACnet, enabling seamless control between DALI/proprietary lighting controls, non-digital control systems and building automation. It's capable of power dimming, Digital Addressable Lighting Interface (DALI) control, fluorescent dimming and switching integrated into a single system from a single lighting control panel to a multi-building campus network using RS485, fiber optics, Ethernet or the Internet.







Lithonia offers one of the broadest portfolios of tailored lighting solutions in the industry. Luminaires include commercial indoor and outdoor lighting, industrial high bay and special environment lighting, exits and emergency systems, downlighting, and relighting and retrofit products. Depending on a particular facility's needs, we can incorporate fluorescent, HID and LED lighting with controls that adjust automatically to daylight conditions, occupancy and other variables, allowing occupants to save money while increasing productivity in an optimally lit environment.

### PUTTING IT ALL TOGETHER FOR SUCCESS

At the core of our lighting control systems is Synergy's Intelligent Ballast Control module. Digital ballast control systems offer highly configurable capabilities and are therefore ideally matched to



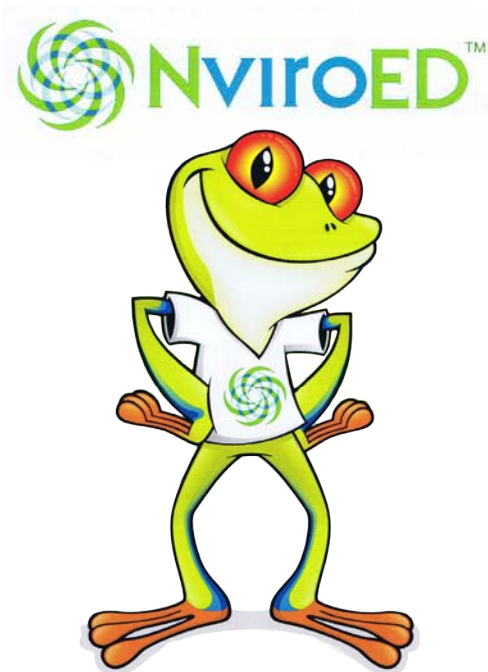
applications requiring a high degree of flexibility and energy savings. Synergy enables specifiers to tie conventional panel-based automatic shutoff and architectural dimming control with digital ballast control in a seamlessly integrated lighting control system that is:

1. **Flexible:** The systems adapt to changing space needs.
2. **Intuitive:** Digital ballast control systems are simple to install and reconfigure.
3. **Affordable:** Basing a lighting system on digital ballasts can be very cost-effective, especially when implementing multiple control strategies via a single wiring bus.
4. **Efficient:** These control systems maximize energy savings because multiple control strategies can be combined economically to enable layers of control zones as small as individual luminaires.
5. **Communicative:** Building operators can collect information from the ballast, such as power and lamp as well as lamp and ballast status, which can be used for energy analysis and maintenance.

Using plug-and-play modules, we can easily customize a system for ideal lighting control. This is true for any combination of load types, including digital control, 0-10V DC dimming, phase-control dimming and switching, and any type of commercial building.

## NviroED

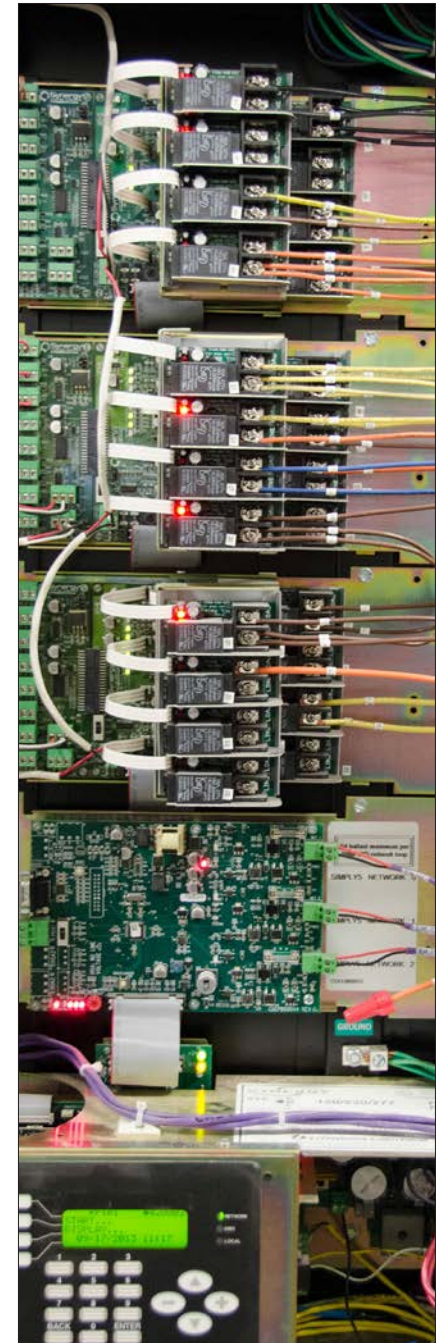
At Control Service Company, we don't simply rely on the expert technology and equipment we're authorized to provide when designing solutions for our customers. We continue to innovate and look for ways to enhance our customers' ability to utilize their energy management system in new, positive, productive ways. That's how our proprietary NviroED online energy management tool was created.



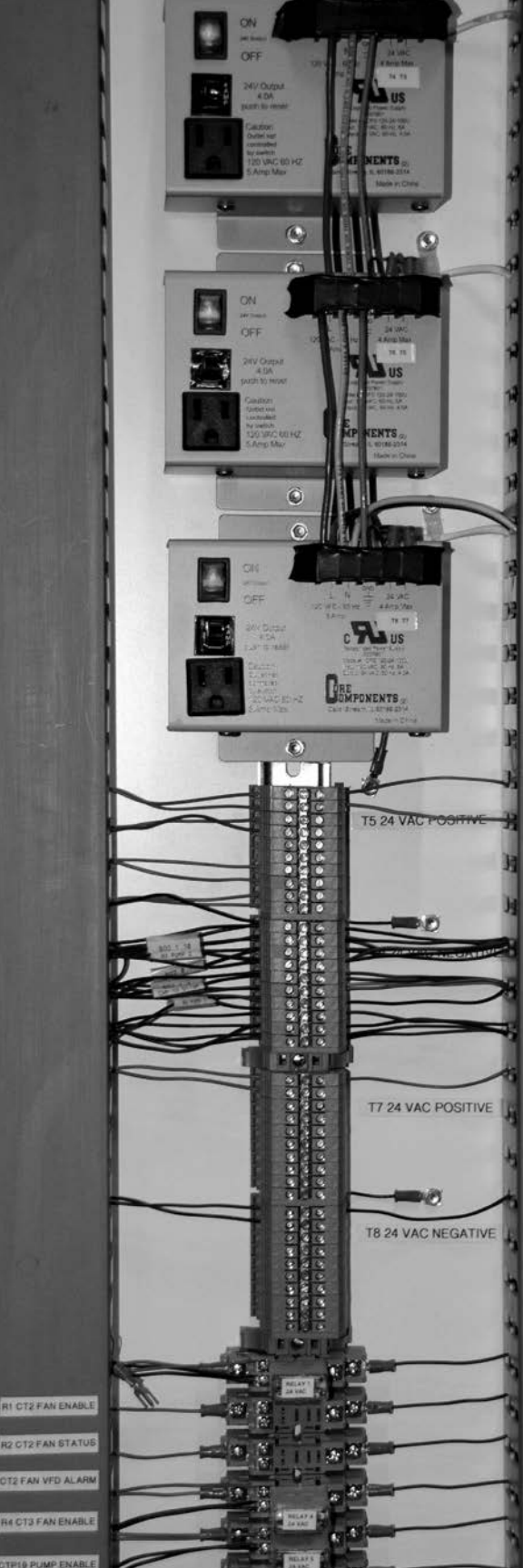
NviroED is an online dashboard developed by Control Service Company to display a specific facility's energy and environmental information and sustainability accomplishments. It connects to Building Energy Management Systems, collects utility usage data and organizes environment-improving initiatives, fostering an encouraging educational experience. As its main objective, NviroED provides education on how to conserve resources and encourages students,

teachers and administrators to be more environmentally conscious. The data can be incorporated into school curriculum so students can relate the lessons to their everyday lives, ideally engaging them in a way that encourages resource conservation and results in lower operating costs.

Initially developed for schools to teach K-12 students about keeping their environment healthy and sustainable, NviroED is scalable for a campus of buildings or for individual facilities. The web-based program highlights educational materials and resources on virtually every environmental topic, from recycling to renewable and non-renewable resources. Sections cover soil, water, air, indoor and outdoor pollution, and many other subjects. NviroED tracks and promotes activities such as "green cleaning," recycling projects, and fuel and water use. It also tracks the "health" of the building with measurements of temperature, humidity and air quality with the Environmental Index gauge. Resource appropriation is clearly identified, and the results of each







energy-saving initiative implemented are transparent.

By finding ways to engage occupants, maximize the value of a customer's energy management system and improve each organization's bottom line, we continue to explore new challenges and stay on the cutting edge of what's next in the industry.

## Professional Training

As another method for ensuring our service is unmatched in the industry, Control Service Company provides customers with flexible training options and various resources that can be instrumental in maximizing the value of their building automation system. We have a dedicated training center at our office in Lee's Summit, Mo., where we teach a core curriculum of courses offered on a weekly basis centered on the Automated Logic WebCTRL software. The courses are offered free of charge to customers during the warranty period of a project. After the warranty period, our

service contract customers continue to have access to all of these courses and may send as many people as needed to take as many courses as they care to attend. Courses include:

- CS001—Getting to Know WebCTRL
- CS002—Expert Scheduling
- CS003—Expert Trending
- CS004—How to Get Alarms to Work for You
- CS005—Reports, Reports, and More Reports
- CS006—Logic
- CS007—Administrators
- CS008—Energy Conservation
- CS009—Program Editing
- CS010—ALC Control Modules
- CS011—What's New WebCTRL 6.0
- CS012—HVAC 101
- CS013—Networking 101
- CS014—ALC Networks
- CS015—BACnet
- CS016—Integration
- CS017—Field Devices

We understand that our customers make a significant investment in an energy management system and believe it is our job to help them understand it and make it easy for them to use. That's why we have a designated training instructor who leads classes in our training facility and also customizes



classes to meet each customer's needs on-site at the customer's facility. Finally, if Web- or video-based classes are a better fit for a particular client's needs, Automated Logic offers a range of web courses for a minimal fee, as well as CD video-based courses and a complete downloadable WebCTRL User Manual at no additional cost.

## Customized Service and Support Plans

To ensure continuous and optimal system performance, we help you work out the elements of a customized support plan. Together, we determine your building priorities and review your critical needs to develop a 24/7 Service Plan for your facility.

Regardless of a customer's specific plan, our service engineers are available 24 hours a day, 7 days a week, 365 days a year. They utilize technology to provide customers with online resources as needed from anywhere in the country. During normal work hours, customers have first-line access to our phone support hotline. Each call is then assigned to a field service engineer who is notified of the service call and will contact the customer to further troubleshoot the emergency or schedule a service visit to resolve the problem. If a work order or service call is necessary after hours, our emergency service attendant will be available via phone and notify our on-call engineer. The on-call engineer returns calls to assist customers remotely or respond to a particular facility in a timely manner.

Many clients within our CSC family have grown with us for more than 15 years, and we strive to continue providing the best service at the best value possible every day. To do so, our open book pricing structure is made available to all customers. By maintaining transparency throughout







the development of each customer's specific service plan, we remain true to our mission as a company: to build lasting relationships through integrity, honesty and a commitment to customer satisfaction.

## Balancing Energy Conservation with Workplace Comfort

Sustainable building operations are a critical part of business management for today's consumers. Although many factors contribute to energy savings, including construction methods, building orientation and others, Control Service Company focuses on systems such as heating, ventilation and air

conditioning (HVAC) and lighting. These systems demand a great deal of energy and can contribute significantly to operating costs. Whether a building is new or undergoing renovation, a well-engineered and strategically designed energy management system can play a key role in achieving ENERGY STAR® and LEED certification while minimizing facility management costs.

Among the components of a smart energy management control system, CSC includes:

### **Power demand forecasting**

CSC's power demand forecast program does for energy management and control what other demand forecasting does for inventory management. It helps predict demand highs and lows so energy managers can control their "inventory" of electrical power budget dollars most efficiently.

Power demand forecasting is not based on single factors, such as outdoor temperature. It can incorporate a number of variables, including activity levels, lighting use and much more.

### **Demand limiting**

Instead of load shedding, our systems use a more sophisticated method to control demand, where setpoints are "fine tuned" to save energy. By limiting the system's peak demand through the use of three demand levels, as the rate of energy use rises, setpoints can be relaxed. Relaxed setpoints then allow for decreased demand for the systems providing cooling or heating resources.

### **Trim-and-respond resetting**

Known generically as demand-based resets, trim-and-respond resets control air and/or fluid temperature and pressure in HVAC systems. Less efficient

systems operate with fixed set-points. For example, a system might have a fixed supply air temperature set-point of 55°F. Its supply pressure set-point might be 1.5"wg. These fixed settings might ensure simplicity and comfort, but they don't realize maximum energy savings.

Variable set-points like those achievable with trim-and-respond resets allow equipment to respond to demand, not only in the mechanical room but also independently in different zones of a building. By responding to demand by zone, the equipment uses energy most efficiently while maintaining an even level of comfort.

### **Start-time optimization**

Different HVAC systems in a building need to start up at different times during the day and night. A start-time optimization program puts off startup until the system is actually needed to preheat or precool a space just before it's occupied. This helps in staggering start-up load spikes and evens out energy consumption.

### **Chiller load optimization**

Optimizing a chiller plant for full and part-load operation has been shown to provide operating savings of 24 percent or more. Optimization of this kind ensures maximum efficiency and, therefore, maximum energy savings.

### **Enthalpy control programming**

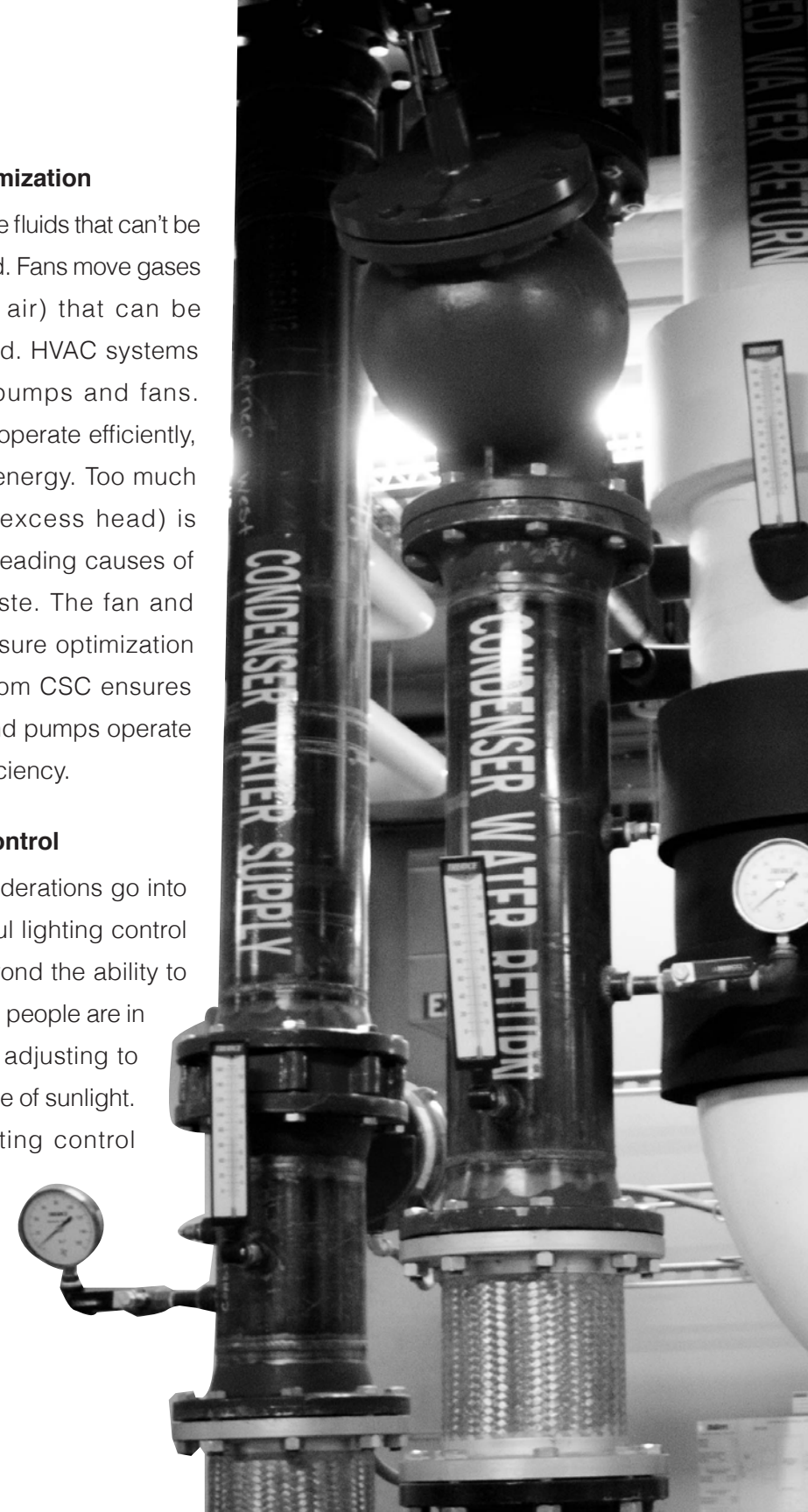
Enthalpy can be roughly defined as heat content. Therefore "air enthalpy" is the heat content of air. Enthalpy control – or free cooling – helps reduce air-conditioning energy use by lowering the indoor air temperature without using the air conditioning. Enthalpy control has its most impressive effects in climates with lower humidity and wider day/night temperature ranges.

### **HVAC optimization**

Pumps move fluids that can't be compressed. Fans move gases (including air) that can be compressed. HVAC systems use both pumps and fans. When they operate efficiently, they save energy. Too much pressure (excess head) is one of the leading causes of energy waste. The fan and pump pressure optimization program from CSC ensures that fans and pumps operate at peak efficiency.

### **Lighting control**

Many considerations go into a successful lighting control system beyond the ability to sense when people are in a space or adjusting to the presence of sunlight. CSC's lighting control







program takes these other factors into account and integrates lighting control with a full energy management system. The lighting control program offers maximum expandability and maximum energy savings. It is also customizable and provides a choice of controls for the greatest possible flexibility.

### **EnergyReports™**

EnergyReports (ER) leverages WebCTRL's extensive trending capabilities to generate operating data, either in graphic or spreadsheet format, for tracking and analyzing building performance. ER includes a variety of benchmarks, annotations and powerful charting tools that empower users to gain insight into their building's true energy usage.

### **Environmental Index™**

WebCTRL's Environmental Index (EI) provides a simple solution for balancing energy efficiency with comfort. EI provides a quantitative means of measuring and displaying when ideal environmental conditions are met. It also serves as an easy-to-read gauge that illustrates how often the occupants of the building are comfortable and, when used in conjunction with EnergyReports, tells the entire story of the building.

Using the strategies and product features described here within the context of the energy management system as a whole, CSC can create the ideal solution to meet your unique needs. Whether you need a solution that takes care of a single building, a campus or multiple locations, we'll determine the optimal way for you to use technology to save energy, ensure comfort and promote healthier environments.

## **Introducing Our Extended CSC Family**

Given that we've been working with companies to optimize their energy management without sacrificing worker productivity for more than four decades, Control Service Company boasts a client list that spans numerous industries in the following core market sectors:

- Critical Environments
- Data Centers
- Higher Education/K-12 Schools
- Healthcare
- Government
- Commercial/Industrial Office Space



Whether you’re looking to design, install, and manage a system in a building yet to be built or retrofitted in a live facility to work cohesively with existing systems, we can help. We also possess vast experience working with companies who have implemented systems that handle multiple facilities and even extended campuses across the region. With more than 14.3 million square feet of facility space that we’ve fitted with Automated Logic technology, we’re confident we have the breadth of knowledge,

experience and commitment our customers are looking for in a buildings automation partner.

But don’t take our word for it. Take a look at a small sample of the Kansas City businesses who’ve put their trust in Control Service Company and see for yourself why we continue to stand head-and-shoulders above our competition.

Arrowhead Stadium	FBI	Shawnee Mission Health
Bank of America	Fort Leavenworth	Sprint
Blue Cross & Blue Shield of Kansas City	Garmin	St. Mary’s Medical Center
Briarcliff	John Deere	The Nelson-Atkins Museum of Art
Burr Computer Environments, Inc.	Kansas City Missouri Public Schools	TransAmerica
Cerner	KCP&L	US Bank
Ceva	LabOne	Verizon
Douglas County Government	Lee’s Summit School District	Zona Rosa
EPA Science and Technology Center	Rockhurst University	
	Russell Stovers	

For a few in-depth experiences our customers were happy to share, ask to see our case studies. Or, for a more comprehensive list of clients, visit us on the web at [www.controlservice.com](http://www.controlservice.com).



## Discover the Difference in Your Facility

The evolution of technology is changing the way we manage energy usage and our ability to maintain a consistent level of comfort in any space. If your facility could benefit from the power of Automated Logic combined with round-the-clock service and support, turn to Control Service Company for help. No project is too large and no detail too small for our team of dedicated engineers and professionals. Our customers have shared their success stories; now's the time for you to create one of your own.

For more information or to set up a meeting with one of our Business Development Managers, contact us today. We look forward to tailoring a solution that fits your company's buildings automation goals and objectives.

**816.600.5800 | [www.controlservice.com](http://www.controlservice.com)**





# BLUE K



 Control  
 Service  
 Company Inc.



# **Innovative Solutions for Healthier Environments**

**Control Service Company, Inc.**

3350 NE Ralph Powell Road • Lee's Summit, MO 64064 • main 816.600.5800 • fax 816.600.5899

534 S. Kansas Avenue, Suite 820 • Topeka, KS 66603 • main 913.800.0920

[www.controlservice.com](http://www.controlservice.com)



# BLUE KC



For a company committed to preserving the private healthcare market and helping organizations increase patient care, Blue Cross and Blue Shield of Kansas City found itself wanting to improve the comfort of its own facilities. After several unsuccessful years of trying to make the existing HVAC and building control system work, the company issued an RFP to find a smarter solution. Control Service Company came back with a comprehensive response that couldn't be overlooked. Using Automated Logic technology at the project's core, Blue KC would be able to ensure a more pleasant, comfortable environment for employees at all levels while benefiting from significant ongoing energy savings.



## INITIATION

CSC's estimator and project manager worked together to prepare a plan that would encompass overhauling the entire HVAC system of both Blue KC's main corporate building as well as the company's data center. The proposed work would be completed in phases on a three- to five-year timeline. Most importantly, by implementing a comprehensive energy management system, the client would be able to monitor both locations in a more cost-effective, efficient way. CSC's project manager partnered with Don Layne, Blue KC's lead operating engineer on the project, to complete an energy analysis on every piece of equipment affected by the system to validate a simple payback in 2.3 to 2.5 years.

## IMPLEMENTATION


After presenting recommendations to Blue KC's executive team, CSC was given the go-ahead to proceed with the full scope of the project.

Work on the data center began in August 2012, with the corporate headquarters to immediately follow. Nearing completion of the build, CSC delivered training that would allow the client's engineers to log in, familiarize themselves with how to access critical information, and manage day-to-day interactions seamlessly. This once three- to five-year project was then completed on budget in roughly five months to rave reviews of all involved. The new system allowed the client to give control back to its associates, removing lockbox covers off the temperature controls. Best of all, the client has seen a dramatic 40% savings on its winter energy bills while its employees thrive in an optimal environment.

**"The Control Service Company team was comprised of good, knowledgeable professionals who were always willing and available to**

**make adjustments throughout the life of the project. Not only are they more responsive than our former controls contractor, they have a better understanding of facilities operations in general and how their services impact other aspects of a client's business. They are always cognizant of finding times to shut our system down to make changes without interrupting workflow and have a way to login remotely so we can problem-solve together."**

— Don Layne  
Operating Engineer



# THE NELSON-ATKINS MUSEUM OF ART

With more than 33,500 pieces of art to protect and display, as well as plans for the Bloch Building expansion well underway, The Nelson-Atkins Museum of Art faced an uphill battle in working around an older, less efficient control systems product that was poorly supported by its current provider. The museum hired a new director of operations to join the project who recognized an immediate need to re-evaluate the proposed plan. Familiar with Control Service Company's reputation for quality, consistency and cost-effectiveness, he sought a bid from CSC that came in hundreds of thousands of dollars less and would provide capacity to run the old and the new buildings seamlessly.



## INITIATION

After issuing a cease and desist order to the former control provider, the museum and CSC project teams met with the construction contractors to develop a strategy for taking on the balance of the work left on the central plant while using what they could from the former control systems provider. CSC used its knowledge and expertise to tackle outstanding equipment and infrastructure issues while meeting every established schedule. Throughout the completion of the existing museum building and the development of the new addition, one of CSC's two principals worked closely with his team to adjust everything from shade mechanisms and lighting design to storm sewer surcharges, integrating every aspect of controls into the Automated Logic product to benefit the end user.

## IMPLEMENTATION

Work on the central plant began in early 2002 and was completed by the spring of 2003. The

new Bloch Building opened on schedule in June 2007 to roaring applause from the local, national and international communities alike. Given the museum's extensive collection of Asian art, CSC changed the control sequence and air handling system for the Chinese scrolls exhibit, providing humidity control that didn't deviate 0.5% with the temperature control just as tight. Before all was said and done, this type of attention to detail was given to all galleries in the Bloch Building, and the main building's controls were as close to this benchmark as possible. Using the Automated Logic Environmental Index tool, the museum's operations team was able to begin backing down fan speeds, slowing motor loads, and dropping the return and supply fans while maintaining environments flawlessly. Ultimately, the museum saved more than \$100,000 in energy costs in the first year after implementation and even more in labor savings because the systems were constantly talking with the operations team.

**“John Crownhart was incredibly responsive and produced outstanding work, and his entire team exhibited just as much confidence and professionalism. I really didn’t think the museum would be able to save that much energy, but once we began using the environmental index tool effectively, we saw some incredible results. Ultimately, the art was the customer and the right control systems are critical for preserving it. For me personally, I was so impressed with Control Service Company I took a job there!”**

— Stan Chandler,  
Former Director of Operations for  
The Nelson-Atkins Museum of Art



Even for a company committed to innovation and process efficiency, the vital task of keeping people well is at the heart of the Cerner mission and brand. In order to stay true to this overarching goal, the company recognizes that it starts with optimizing comfort for employees driving the organization forward. With facilities across the Kansas City metro, Cerner has worked with various controls providers and experienced various outcomes. That's why when it came time to plan for systems in a facility that hadn't yet been built, the facilities managers and engineers knew who to call. By combining Automated Logic-based controls with Synergy lighting solutions, Control Service Company could implement reliable systems to establish an optimal environment for keeping Cerner on the cutting edge.



## INITIATION

With more than 1 million square feet of prior usage in data centers and employee campus buildings alike, Cerner was committed to the Automated Logic product based on its ability to create consistency and adhere to company priorities. Beyond that, CSC brought to the table a general understanding of how Cerner functions and an ability to meet given objectives efficiently and cost-effectively. CSC's principals began working closely with other contractors on the project to develop standard sequences that would ensure stability of all systems and reliability in the results they would produce. The CSC team then served as a professional liaison for helping the engineer of record on the project understand these sequences and assume complete control moving forward.

## IMPLEMENTATION

Having previously worked on a Cerner conversion, the CSC team came prepared

with a flexible approach to adjusting plans and designs as the build progressed. With time built in for owner-adjusted modifications, the build was completed on schedule, allowing Cerner to take over the facility in the spring of 2014. Operators and programmers created one central system to filter in all critical controls — including complete mechanical and electrical systems — that could function seamlessly in a unique work environment while maintaining optimal comfort for occupants. Most importantly, the new highly customized, associate-focused building would provide Cerner with another way to take care of its most valuable asset: its employees.

**“The guys at Control Service Company are there for us any time we need them, no matter the issue. In addition to that, what you see is what you get. Once we sit down and explain**

**our needs, they come up with a tailored solution to meet those needs every time.”**

— Kevin Countryman,  
Senior Facility Manager

**“By working with Control Service Company, our call-back and service costs have dropped dramatically. We don't see their team often because we don't need to. When we do have issues, they don't remain a problem long with CSC on the job.”**

— Frank Bartkowski,  
Chief Engineer



# LEE'S SUMMIT SCHOOLS

For many businesses, the evolution of mechanical systems and digital controls continues to make operating and managing one facility challenging. Yet for Lee's Summit School District, standardizing systems and controls meant tackling more than two dozen facilities, including implementation in new builds and retrofitting existing spaces. With such a big task at hand, the district sent out an RFP to evaluate its options, hoping to determine how to move forward in the most cost-effective, efficient way. Control Service Company presented a proposal unmatched in both pricing and service to the school board for the district's first bond project, and the relationship has only continued to blossom since.



## INITIATION

With a desire to marry student and faculty comfort with significant energy savings for the district, CSC's project team worked very closely with the school district to obtain a \$2.5 million MDNR loan for securing the energy project. Using the Automated Logic product, CSC provided the facility management team with a way to implement controls and feedback loops to schedule equipment more effectively. Tired of performing reactive maintenance and struggling to extract data from their previous buildings automation system, users could now anticipate problems and address them before faculty and staff were impacted. Key initiatives included monitoring carbon dioxide levels for a more consistent fresh air flow and adjusting fan speeds to produce conditioned air more efficiently.

## IMPLEMENTATION

After successfully completing the first project, the district commissioned CSC to

implement systems in more than 30 facilities, including a \$3.2 million project to retrofit 19 buildings (eight of which were completed in the summer of 2013 alone). CSC provided a breakdown of all labor hours and materials on a confidential basis to ensure the financial side of the contracts were managed just as seamlessly as the projects themselves. Due to the systems' user-intuitive nature, individual school building principals can now access a level of control to more efficiently monitor their facility and mitigate personnel issues. In addition to the projected \$288,000 annual energy savings benefit, annual operational savings of \$20,000 and improved personal comfort, the district can access a unique platform developed exclusively by CSC for potential integration into its K-12 curriculum: NviroED. This online dashboard engages students, helping them understand how their actions can impact energy savings and ultimately lower district energy costs even further.

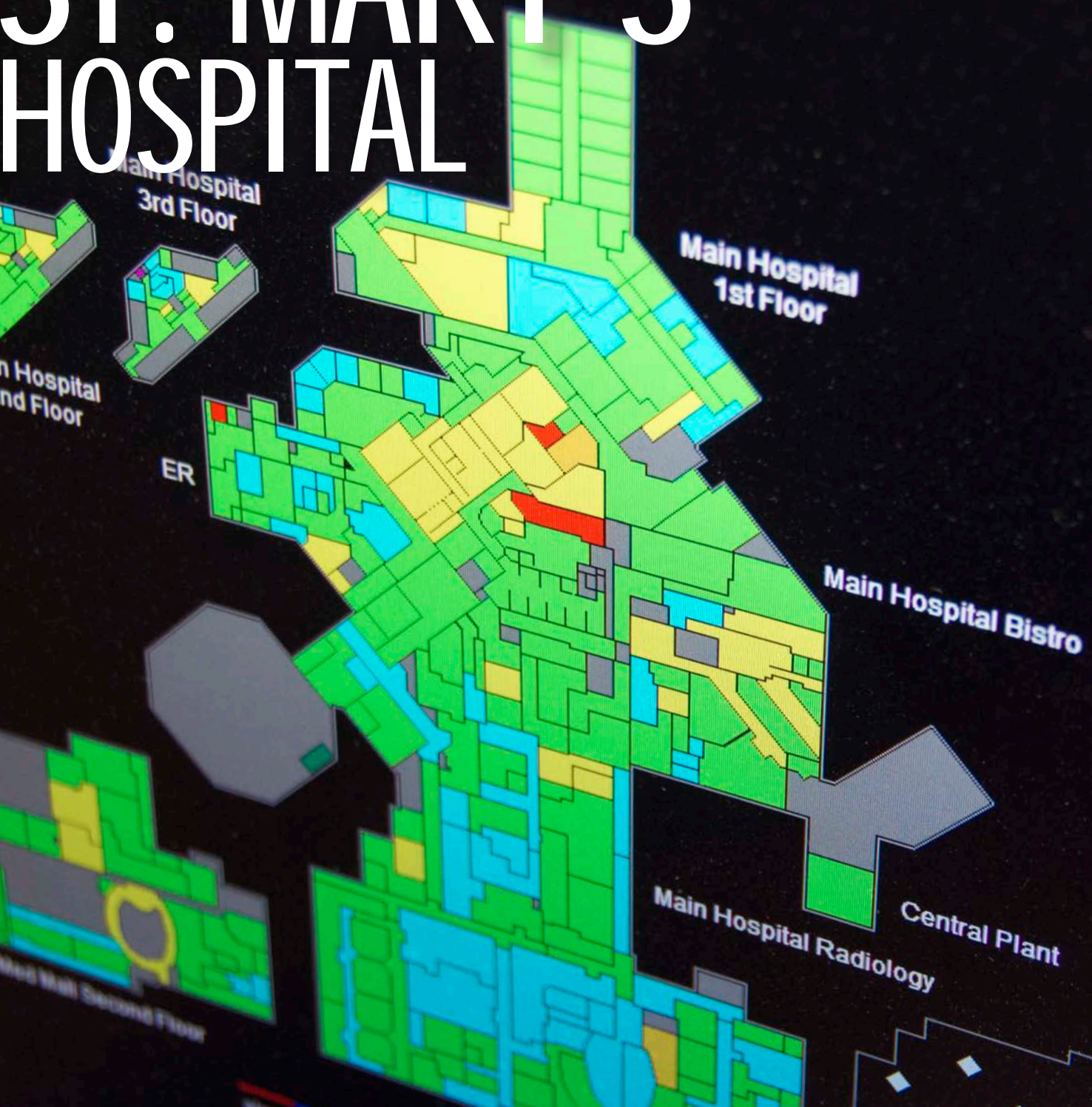
**"We selected CSC for two primary reasons: We liked the Automated Logic product, and CSC came across as a company that really cared about its customers. Their customer service has consistently been a top priority, which has been the most refreshing part of this process. Even with several other vendors and companies involved, CSC has always remained at the center of the problem-solving effort."**

— Kyle Gorrell,  
Director of Facilities

**"Service after the sale is what truly makes CSC stand out from their competitors. By working with them, we're given the freedom to be as autonomous as we want to be in house, yet we have the confidence and comfort of knowing they're always there if we need them."**

— Bruce Gibson,  
VAC Controls Supervisor

# ST. MARY'S HOSPITAL



When faced with the difficult job of managing patient comfort while keeping operations costs down in a facility of considerable size, St. Mary's Medical Center knew it would be a challenge to find an energy management system that would meet its unique goals. For years the center had operated on pneumatic controls, which made it difficult to diagnose system issues and caused a drain on facility management resources. To avoid disrupting productivity in the main hospital, St. Mary's selected Control Service Company to install Automated Logic in a new medical mall being built in 1999. Once installed and live, the system's ease of use, accessibility and cost efficiencies began to reflect positively on the bottom line. The center then knew it was time to begin implementing the digital system throughout the main hospital to maximize its value long term.



## INITIATION

CSC's engineers worked closely with St. Mary's facility manager to start retrofitting designated hospital systems and controls with current technology. To increase cost savings, St. Mary's facility manager was able to pull wires and mount modules in-house instead of outsourcing, performing a great deal of the controls installation himself. At the same time, the hospital could rely on CSC's resources to handle the system design, order the necessary parts and develop appropriate programming. To ensure the hospital is consistently operating within certain regulations, the Automated Logic system could provide data confirming that operating rooms are in a positive pressure state. CSC also tweaked both the trending and reporting features inherent in the product to meet St. Mary's needs while maintaining seamless integration in the facility's operations schedule.

## IMPLEMENTATION

As the new systems and controls went live, patient complaints dropped rapidly due to the ability to control temperature and ventilation in ways that weren't available with the pneumatic controls. Most of the maintenance staff attended CSC's training program once the implementation and start-up took place to help them become more aware of how the products work. Consequently, the time spent troubleshooting issues plummeted, allowing the facility management team's time and resources to be allocated elsewhere to increase labor productivity. After more than a decade of implementing systems and controls upgrades as the center's budget allowed, St. Mary's updated its operating suite, one of the largest energy hogs in the facility. Between recalibrating airflows for the mixing boxes and taking control of temperature and ventilation issues, energy usage declined dramatically. In 2013, St. Mary's became the first hospital in the area to receive Energy Star certification.

**"CSC has a phenomenal phone support system, and 90% of the time the engineer can fix the problem before he hangs up the phone. Plus, I can log into the system remotely, which saves both time and resources on service calls, and typically resolve any issue within 15 to 20 minutes. Between the energy savings we've achieved and increased patient satisfaction due to facility comfort, it's a real win-win. I don't see how we could have achieved our Energy Star rating without such an efficient system and such effective support."**

— Stacy Siebert,  
Facilities Manager



Automation, efficiency and improved productivity are at the heart of business decisions for just about every company. Yet for companies whose successes are built around research and development, these objectives are even more critical. When Ceva found itself struggling to achieve temperature control and consistency with little support from its controls provider, key decision makers knew it was time to look elsewhere for a cost-effective and reliable solution. With a combination of work retrofitting live spaces and designing systems for buildings yet to be built, it was determined that Control Service Company had the right combination of products and services the veterinary biological provider would need to achieve a variety of short- and long-term goals.



## INITIATION

After Ceva's existing control system provider failed to clarify cost discrepancies between its bid and CSC's, Ceva's Director of Facilities, Mark Potts, determined the right thing for Ceva's bottom line was to proceed with CSC's implementation of the Automated Logic product in one live building and one new building soon to be built. CSC's engineers understood that Ceva was concerned with uncontrolled temperature variations that were driving up costs. Therefore, the team spent time developing a smarter system that would produce better results for a fraction of existing HVAC-related expenses. Additionally, Ceva wanted the system to more successfully manage associate comfort for its employees without having to sacrifice the efficiencies of its laboratory areas.

## IMPLEMENTATION

The initial project kicked off in June 2012, with a one-year timeframe for completion. CSC implemented the new Automated Logic system to rave reviews due to its ease of use and minimal set-up time after installation. Previously, required offsite training offered at a premium price was the only recourse for learning how to modify systems and sequences. Now, CSC trains Ceva's facilities team in a fraction of the time without any offsite travel or additional expense. With on-demand reporting immediately accessible and help just a phone call away, any issues that arise are both few and far between, and generally are resolved before associates know they even exist. As the relationship between Ceva and CSC continues to grow, HVAC and process controls continue to be implemented in a growing number of facilities across the Ceva campus. Ultimately, users can minimize temperature variations to less than half of one degree, resulting in decreased energy costs.

**"I know I'm not Control Service Company's biggest customer, but they always treat me like I am their number one customer. Because Stan was a facilities manager, he understands my challenges and speaks my language. CSC has provided outstanding customer service and technology that eliminates my headaches while improving efficiency and Ceva's bottom line."**

— Mark Potts,  
Director of Facilities

# DOUGLAS COUNTY GOVERNMENT



Given the dramatic temperature highs and lows of Midwestern weather, working in an office environment in Douglas County, Kansas, without proper controls proved downright miserable for employees. The main government facility featured a control system that simply turned off the air handlers for 15 minutes out of every hour, making it impossible to manage temperature consistencies. To retrofit a better solution that would help decrease energy usage, minimize operations time and increase comfort level for occupants, the maintenance director reached out to Control Service Company for help. More than a decade later, the partnership between the Douglas County Government and CSC continues to flourish.



## INITIATION

With a goal of decreasing the county's energy consumption by 30%, CSC went to work integrating Automated Logic into parts of the Douglas County Judicial and Law Enforcement Center. The project team digitized variable air volume boxes stored in the duct work while making it possible to evaluate air handlers, chillers and office space temperatures with ease. Because the maintenance team established that the building would go into night setback after 5 p.m., they quickly recognized that the exterior office temperature consistencies were more difficult to maintain because of energy loss through the windows. With a simple programming adjustment, these offices were put on a different temperature control schedule to ensure occupant comfort at all times of day.

## IMPLEMENTATION

One year after the system was implemented, the county decreased its peak demand

dramatically and saved \$55,000 in energy costs, putting the project on track to provide a complete return on investment in just 3.2 years. The maintenance director then decided to build on this success by suggesting to county commissioners that digital controls be installed in the Douglas County Courthouse. Once the project was approved, CSC began removing all pneumatic controls and replacing them with more efficient digital controls. The boiler was replaced by one that is 99.6% efficient and variable frequency drives were installed on air handlers enabling a "soft start" in the process of maintaining the proper amount of air flow. Additionally, both the Douglas County Jail and Douglas County Youth Services facilities have been fitted with Automated Logic. The energy savings from all these projects is currently being reinvested by the county's Sustainability Department to educate individuals about how to be more energy conscious and to fund future energy saving projects.

**"The Automated Logic product is phenomenal and very user-friendly. Plus, CSC's customer service is excellent. From personalized on-site training to 24/7 phone support, I know that if I have a problem or can't figure something out, CSC can help me identify the issue almost immediately and fix it in minutes. It's really nice to be able to respond to temperature control inquiries from anywhere and make adjustments without having to travel from building to building."**

— Bill Bell,  
Maintenance Director



# BCEI

Behind every successful company are lasting partnerships with other great companies. For Burr Computer Environments, Inc. (BCEI), delivering industry-leading solutions related to the planning, design and construction of Information Technology (IT) facilities requires critical front-end analysis, strict oversight, and a team that knows how to deliver on time and on budget. One key aspect of each data center project includes the ability to create temperature consistencies using reliable, accessible control systems. For nearly a decade, BCEI has partnered with Control Service Company to ensure seamless integration of the Automated Logic product into critical environments for Fortune 500 companies and local tech businesses alike.



## INITIATION

In June 2005, BCEI and CSC connected on a data center project for one of Kansas City's largest healthcare innovation companies. With CSC under contract for global controls replacement and BCEI under contract to build an expansion of the existing facility, the two quickly realized that they could combine their knowledge of existing issues and future needs to deliver an exceptional outcome for the client. The two companies began to approach their newfound partnership with a design-build methodology to bring concept to reality much quicker than if they attacked the project on separate terms. Once the first successful project was under their belts, CSC and BCEI began to consult with one another to roll the design-build aspect of controls into various projects initiated by each company.

## IMPLEMENTATION

With thorough upfront planning, consistent follow-up, quick response times and a fallback

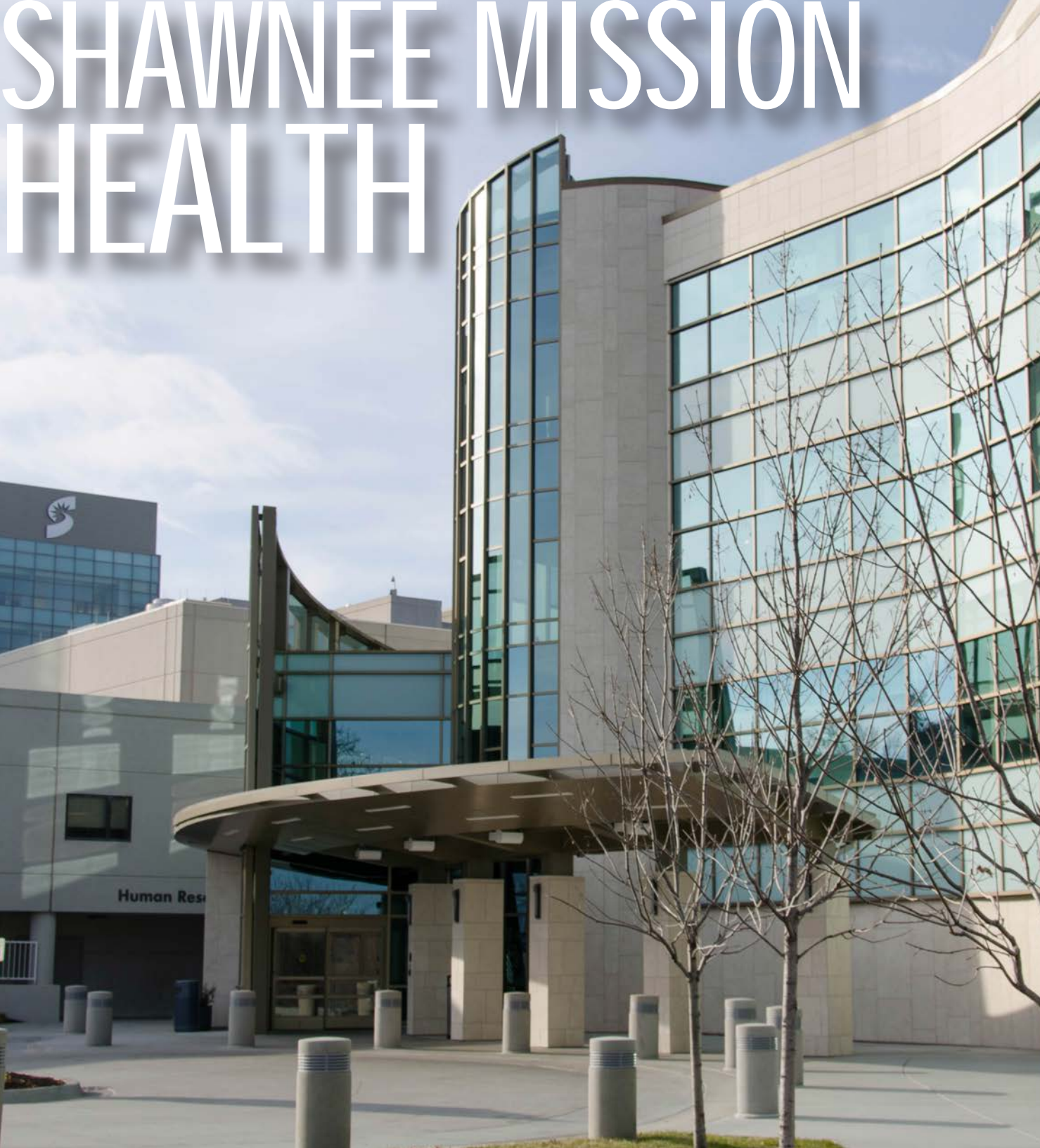
plan always in place, CSC has become one of BCEI's most trusted resources for help in delivering exceptional data center facilities that allow clients to minimize risk and meet their operational goals. To date, CSC and BCEI have successfully worked together on more than 20 projects of varying difficulty and complexity, and have delivered on deadlines as tight as a few weeks or as extensive as 20 months. BCEI credits much of the project success to CSC's comprehensive submittal process, which they have deemed the best they've seen across the country. It's become one they continue to use as a model for other companies on projects outside of CSC's territory. From developing the engineering concept and gathering pricing to designing each system and installing the controls, CSC provides the kind of service and support BCEI and its clients can count on every time.

**"In the development of critical facilities, there is so much more**

**to consider than just price when it comes to implementing control systems. Sometimes, we pay more for Control Service Company and the Automated Logic product, but it's because they are both second-to-none when it comes to reliability. In working with CSC, our clients can be confident the products and processes in place will keep their most precious data and resources protected."**

— Tim Frank,  
Principal & Primary Mechanical Engineer

# SHAWNEE MISSION HEALTH



For many healthcare-related businesses, it can be difficult to find trusted vendors cognizant of the importance of meeting patient needs and maintaining their comfort. It can be even more challenging to rely on sole-source procurement from one of these vendors while ensuring competitive pricing remains without sacrificing quality or service. For Shawnee Mission Health, those are concerns that have never had to be addressed. Control Service Company has proven to be a cost-conscious, efficient vendor dedicated to customer service throughout the history of a relationship that dates back more than a decade. Today, the two continue working together as the hospital adds space, opens new facilities and takes advantage of an expanding feature set available through Automated Logic.



## INITIATION

Shawnee Mission Health initially selected CSC to implement a better solution to retrofit its old HVAC system. Hoping to increase productivity and efficiencies while decreasing energy usage, the center presented its challenges to CSC and the company's engineers went to work solving problems and proceeding with a supervised install. The hospital was impressed with CSC's commitment to understanding the center's needs, finding workable solutions to meet them, and maintaining competitive pricing over time as the relationship grew. As the benefits of working with CSC and using the Automated Logic product increased, the center chose to install the product in all new projects while retrofitting the highest revenue-producing areas first, including the surgery unit, the ICU and other spaces where consistency is critical.

## IMPLEMENTATION

Over time, CSC has converted all air handlers and updated all boiler rooms throughout the

Shawnee Mission Medical Center. The hospital has been able to more aggressively monitor incoming electrical feed for peak demand and now has the ability to shed load in all new construction projects that have been completed. The center has been able to adjust its temperature controls, backing off on HVAC usage without sacrificing patient and employee comfort. CSC's work has even expanding into lighting solutions, including signage, parking garages and outdoor outlets for holiday lighting, which can be monitored seamlessly. As the hospital continually looks for ways to maintain funding based on energy management initiatives, Automated Logic's convenience and ease of use combined with CSC's demonstrated commitment to service are constantly cited as reasons to sustain its sole source contract with CSC for years and projects to come.

**"Our relationship with CSC has been extremely beneficial for Shawnee Mission Medical Center. From**

**what I hear from my peers, it's a continual struggle with other control companies. With CSC, we don't have issues. We have a consistent cost basis and they always show up when we call. There's no other control company I would recommend."**

— Bruce Murphy,  
Administrative Director of Facilities and Construction

**"CSC offers tremendous customer training support. They aren't trying to hide anything or worried about proprietary information. They sincerely want customers to learn about the [Automated Logic] product to expand their knowledge and encourage users to find other ways to maximize its value."**

— Dave Mattson,  
Energy Management Coordinator



# ROCKHURST UNIVERSITY

With more than 700,000 square feet of space in more than a dozen facilities, maintaining temperature consistencies while being energy- and cost-conscious would prove a challenge for any organization or institution. For Rockhurst University, this reality became an opportunity for implementing smart technology to achieve improved operational objectives. After placing meters in every building to identify significant energy loss and evaluating complaints from students, faculty and staff, the facilities team knew that it was time to start replacing analog controls with digital ones. By partnering with Control Service Company, the university could use Automated Logic to seamlessly integrate with other protocol and maintain occupant comfort with ease.



## INITIATION

Initially, Rockhurst struggled specifically with its science center, a sizable facility that includes lecture rooms, labs and faculty offices for various departments. After bringing in Control Service Company for the retrofit, project managers discovered blown fuses, defective reheat coils, high humidity levels and constant volume air handling that was making it more expensive to operate the science center than all other campus buildings combined. Control Service Company went to work replacing or reactivating defective parts and designing a solution using WebCTRL's BACnet to interface with Tekaire fume hoods in the labs. By reducing heating and cooling requirements and adding occupancy sensors for lighting and temperature setbacks, the university began saving \$4,000 per month in energy usage while nearly eliminating occupant complaints.

## IMPLEMENTATION

With such a huge success under their belts, Rockhurst and CSC's partnership began to grow as other projects came to light. To date, some of the campus facilities have been completely converted to digital controls, some have been partially updated and some remain on the rolling three-year list of projects to be addressed. In the past three years alone, the university has been able to decrease its utility costs from \$2.25 per square foot to \$1.70 per square foot and drop its kilowatt-hour usage by 15%, beating benchmarks at many similarly sized institutions. CSC has helped Rockhurst work through any programming hiccups and ensure that reporting across the network is continually working properly by conducting technology reviews on a regular basis. The two companies have also started integrating lighting solutions in specific facilities, such as residence halls, to maximize energy savings while keeping students, faculty and staff comfortable.

**"The graphic front of WebCTRL has made response times much quicker. It seems like such a simple thing, yet no one else is doing it. It's red, yellow or green; it's so easy to get it and then drill down into complicated detail as needed to resolve issues. Plus, I can access the information from anywhere and make adjustments. We're a huge proponent of both Automated Logic and Control Service Company."**

— Matt Heinrich,  
Associate VP for Facilities & Technology