

# case study



## Energy Management Helps Support University's Vision.

Since the 1960s, Butler University's relationship with Honeywell has grown from temperature controls to sophisticated campus-wide energy management programs that have delivered millions of dollars in savings. The close collaboration between the organizations is helping create facilities and infrastructure that can meet the university's needs for many years to come.

## Honeywell

# Planning for the Future

As one of the Midwest's leading private liberal arts schools, Butler University's strong tradition of academic excellence dates back to 1855. Today, the university occupies 20 buildings on a 290-acre campus and provides more than 4,500 undergraduate students and faculty a world-class learning environment.

In 1995, an audit of the school's infrastructure — such as boilers, steam traps and converters — revealed equipment nearing the end of its useful life. 1960s-era chillers, outdated light bulbs and other infrastructure issues had the potential to give the school recurring problems.

"Future cost avoidance was our driving concern," said Mike Gardner, Butler's vice president for operations. "These looming equipment and maintenance expenses weren't 'ifs,' they were 'whens.'"

## Defining a Strategy

Convincing the Board of Trustees to grant approval for the necessary upgrades would be a complicated task given the financial investment required. To assist in conducting the facilities audit and developing a proposal for the Board, Gardner sought the help of energy management experts at Honeywell. The choice was based on a relationship with the company that began in the late 1960s when Butler hired Honeywell to install temperature control systems.

After identifying several areas for improvement, Gardner and Honeywell built a plan for a comprehensive energy conservation and facilities renewal program. The energy savings from the \$11-million, 10-year program would enable Butler to fund several infrastructure

upgrades and implement a new energy management system. Plus, the savings were guaranteed through a performance contract with Honeywell so the work would not impact operating budgets.

The Board approved the plan, and work began in the fall of 1995 to replace the university's pneumatic building controls with a Honeywell energy management system that gave Gardner's team integrated, pinpoint control of campus facilities for increased cost savings.

Honeywell also centralized the university's chilled water plant, which improved chilled water service to multiple buildings. In addition, the program included a campus-wide lighting retrofit, along with a number of HVAC improvements in the school library. And Honeywell installed capacitors to correct the power factor of the university's electrical substation, improving electrical efficiency and lowering the school's utility bill.

"Since project completion, the university has saved more than \$200,000 annually in energy and maintenance costs," Gardner said.

## Feeling the Heat

In 2003, Gardner again tapped Honeywell to address issues with the university's heating plant.

Butler relied on three steam boilers — small, medium and large — to heat the campus at different times throughout the year. When the smallest boiler stopped working and the mid-sized boiler developed cracks, the university had to employ the large boiler year-round to bear the brunt of the load.

Without a backup, buildings would have no heat if the large boiler failed.

At the time, Butler had two years left on its original performance contract. The university decided to roll the remaining payments into a new \$4.3-million, eight-year agreement. Honeywell decentralized much of the university's heating plant and installed 18 energy efficient, modular hot water boilers across campus to heat individual buildings during the fall and spring months when running the large boiler isn't cost effective.

"Since installing the high-efficiency boilers, we've cut our fall and spring natural gas consumption by 35 percent," Gardner said. "Over the course of the 8-year contract, that's more than 3.1 million therms saved or \$2.5 million in utility costs."

Under the latest contract, Honeywell also staffs a full-time service technician on campus, helping Gardner manage the high-level energy management and temperature control requirements of the university. Butler also entered into a MiniRetrofit™ Service contract with Honeywell to tackle smaller projects that arise between broad energy management programs.

In the coming years, Butler aims to expand the scope of the upgrades by installing more high-efficiency boilers in several buildings currently serviced by the existing, older boiler.

"We want to bring all facilities online as part of our overall energy management system," Gardner said. "Our team is responsible for 1.9 million square feet of space, and it takes a well-thought-out plan and dedicated team to make sure it's running as efficiently as possible."

## Honeywell Building Solutions

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