

case study



Dressing up the dorms: University of Maine caters to students' individual needs while saving money.

At the University of Maine, one of the key challenges to maintaining comfort in the dorms has been room temperature. Buildings are divided into zones and many rooms overheat during the winter. The university recently partnered with Honeywell to upgrade the HVAC system in one residence hall, giving each student control over the

temperatures in their individual rooms. The solution has cut down on service calls and energy dollars while giving students a more comfortable living environment.

Honeywell

Throwing Money Out the Window

It's a pretty common sight around college campuses in cold-weather states: The snow and temperature are falling. The icicles are forming. Students shiver and shuffle to class in layers of clothing.

And the dormitory windows are wide open.

"That's wasting a lot of energy and money," said Joe Caron, the associate director of Property Management for Student Auxiliary Services (SAS) at the University of Maine.

At the University of Maine, located in Orono, overheating occurs because campus dormitories are divided into zones. Each zone consists of as many as 25 rooms — and a single sensor in a designated room dictates the temperature for the entire zone. But not every room is the same temperature and many end up too stifling. This is especially true on the upper floors, which gain heat from below and never adjust. The result: open windows, wasted energy and high utility bills for the university.

In 2004, the university contracted with Honeywell to upgrade the existing heating system in Stodder Hall, a nearly 40-year-old building with about 140 rooms located on the southwest side of campus.

"We wanted to have it more like a hotel, where people can control their environment," said Gordon Nelson, the university's director of Property Management. "The main goal was to allow students to maintain their own comfort."

INDIVIDUAL CONTROL, CENTRAL MONITORING

As part of the contract, the university changed out all of the steam traps in Stodder Hall and Honeywell replaced the radiator valves in each room. Technicians then installed individual heating controls in all of the rooms, which allow the students to control their own temperatures instead of relying on the zone system.

Honeywell also tied the controls together through its Enterprise Buildings Integrator™ (EBI) building management system. With EBI, Caron and other facility managers can monitor the temperatures and controls of each room from their computer screens. EBI also allows staff to control the temperatures themselves, which is essential during holiday breaks when the students are gone.

In addition to the heating system, Honeywell tied the building's electric, steam and water meters into EBI. This allows university personnel to monitor spikes in energy consumption. Consequently, they can detect and pinpoint problems quicker, cutting down on wasted energy even more.

"We knew Honeywell would provide a seamless transition," Caron said. "We already had Honeywell equipment in our buildings, so we felt very comfortable going with them for this project."

CLOSING WINDOWS OPENS SAVINGS

In the past, when students would call to complain about their room temperatures, SAS would contact — and pay — an outside technician to go to the room and investigate. With EBI, Caron can diagnose most problems from his office. The solution sometimes is as simple as telling a student over the phone how to operate his or her controls. As a result, the university spends less on maintenance and students are pleased with the quick response.

During the spring of 2005 — shortly after the Honeywell-led improvements — Stodder Hall residents made only two service calls total. In comparison, other dorms make about 10 to 20 calls per semester.

Because students no longer leave windows ajar to cool their rooms, less energy is wasted and utility bills have gone down. In fact, the school is forecast to save at least 1,600 gallons of oil over the course of the school year.

Nelson, the university's director of Property Management, hopes similar HVAC upgrades to the other dorms will yield the same results. The University of Maine is moving ahead with plans to upgrade six dormitories in the next two years. And the long-term goal is to have all 19 campus dorms retrofitted with individual thermostats.

Soon, the only time students will open a window during the winter will be to bring in some frigid air to stop the sweating during finals week.

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