



Wabash College

A lesson in increasing profitability with wireless

Answers for infrastructure.

SIEMENS

Installing an FLN with minimal disruption to the structure and occupants

Founded In 1832, Wabash College is a private, independent, four-year liberal arts college for men, located in Crawfordsville, Indiana. The 60-acre wooded campus contains 25 buildings predominantly of Georgian architecture. The college is a longtime, valued Siemens customer. Almost all campus buildings have a combination of Siemens pneumatic and electronic controls.

Historic Center Hall, so named for its location on campus, was built in 1857 and continues today to be central to the life of the campus. This 23,774 sq. ft building houses the offices of the President, Deans and Registrar, Off Campus study, as well as the business offices and the academic departments of English, religion, and philosophy.

Client Objectives:

During the summer of 2008, the occupants in Center Hall were experiencing uncomfortable humidity levels, curling papers that were causing jams in copier

machines, and temperatures that affected productivity. Siemens was asked to help address these temperature and humidity issues while updating the building's 2-pipe, hot water, and chilled water loop systems. Retrofitting Center Hall had to meet the following criteria:

- Maintain the integrity and aesthetics of this 150-year-old building
- Provide more comfort for occupants through better humidity and temperature control
- Minimize disruptions so the building could remain occupied while work was being completed

The Siemens Wireless Solution:

Preserving the historic charm and beauty of Center Hall was of utmost importance for this customer. Therefore, installing surface raceways or channeling for conventional wiring was not an option. Wireless room sensors were the perfect solution. Wireless sensors were quickly put into place, significantly minimizing disruptions and

impact on the customer. Today, Center Hall enjoys the flexibility of wireless sensors that are positioned in the most optimal location within a room.

Wireless is also a solution to the problem of obstructions or architectural details associated with historical buildings. Siemens wireless mesh technology maintains network integrity through multiple redundant paths of communication. If one path is disrupted the network locates an alternative path—ensuring that the communication link remains uncompromised.

Staged Project Execution Generates Cost Savings:

To save on local contractor rates and minimize office disruptions, the Siemens team pre-installed and tested controllers in a service garage on campus. This allowed the electrical installer to assemble and perform testing during the day, keeping premium evening contractor rates to a minimum.



Product Details:

To address temperature and humidity issues and update older equipment, 66 fan coil units were installed and an existing 2-pipe system was upgraded to a 4-pipe system. The hot water system was updated and automated with a new exchanger, pumps to convert steam to hot water, and a chilled water loop system with a decoupling valve and new chilled water pumps.

The operations team also used a TXL, Wireless Transceiver Tool, with a remote mount antenna on a fan coil unit to test signal strength and network interference before installing and implementing on all 66 fan coil units. Testing in this manner allowed for proof of the mesh network signal strength from unit to unit. Any dead spot issue was resolved simply with a repeater.

Additional cost savings were realized by building the fan coil units in the service bay area and speeding up the installation process. The Siemens team utilized a “blaster” tool that was preset with initial values for start-up, eliminating manual entry into each unit and reducing specialist labor by eliminating the need to visit each box for configuration.

Client Results:

Today, Center Hall is operating much more efficiently and productively. Facility engineers now gather data on comfort levels and review controllers automatically,

providing them with better visibility and improved control.

Realizing savings while implementing better technology displays for alumni, donors, prospective students, and the community the fiscal responsibility and astuteness of the administration. This provides Wabash College with a competitive advantage and can help them increase marketability and profitability.

Wireless technology has been a much-anticipated trend in our industry and remains consistent with our customer focus: more options, flexibility, and easier installations. The Siemens wireless solution was installed in the most important building

on campus and it was a success. Siemens solid relationship allowed them to take a collaborative role with the consulting engineer, project manager and college personnel to determine and implement the best solution.

The robust results of this wireless FLN installation helped Siemens achieve high grades. Wireless proved to work flawlessly, allowing for efficiency updates while maintaining the showcase aesthetics of the building. Most importantly, the customer remained happy with the manner in which the work was done and the quality of the product, further solidifying the Siemens advantage over competitors.

“Using the wireless Siemens control product was key to this installation because it helped avoid a lot of the work normally associated with retrofitting HVAC controls. By working in the evenings, the contractor was able to complete the project with very little interruption to the day-to-day functions of our building. Today, the quality of the air in Center Hall is much improved.”

-Larry Griffith, Chief Financial Officer and Treasurer, Wabash College

The following field and panel-mounted devices were installed:

SYSTEM ARCHITECTURE

Field Mounted Devices

- 3 WFLN Field Panel Transceivers
- 3 Wireless FLN Direct Mount Antenna

Panel Mounted Devices

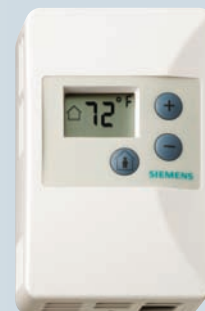
- 1 Power MEC FLN
- 1 Analog Point Expansion, 8 AI
- 1 PXC Enclosure
- MEC Service Box
- Control Panel Enclosure Assembly



FAN COIL UNITS

Field Mounted Devices

- 56 Spring Return Actuators
- 66 Wireless FLN Transceivers
- 66 Wireless FLN Remote Mount Antenna
- 66 Relative Humidity Duct Sensors
- 56 Electric Low Temperature Detection Thermostats
- 66 TEC Unit Vents
- 66 Wireless Room Temperature Sensors
- 66 Rigid Averaging Sensors
- 66 Flexible Averaging Sensors





Recycled

Supporting responsible
use of forest resources

Cert no. SW-COC-001613

www.fsc.org

© 1996 Forest Stewardship Council

Siemens Industry, Inc.
Building Technologies Division
1000 Deerfield Parkway
Buffalo Grove, IL 60089-4513
USA
Tel. 847-215-1000

Siemens Building Technologies, Ltd.
2 Kenview Boulevard
Brampton, Ontario L6T 5E4
Canada
Tel. 905-799-6649

The information in this document contains general descriptions of technical options available, which are not always present in individual cases. The required features should be specified in each individual case at the time of purchase.

© Siemens Industry, Inc. 2010 144-114P10