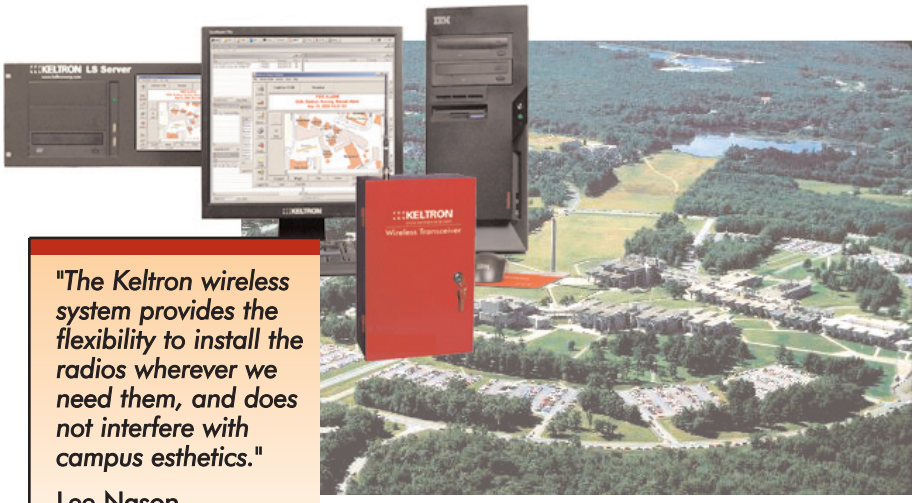
Case Study

KELTRON

University of Massachusetts at Dartmouth



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Lee Nason
Director of Facilities Planning Design & Construction

Overview

The Dartmouth campus of the University of Massachusetts was designed by architect Paul Rudolph. The unique design reflects a combination of esthetics and convenience and features lively, rugged buildings with board-finished concrete structure exposed with infills of glass and fluted block to form building envelopes.

New construction is designed to blend into the campus, maintaining the integrity of Rudolph's vision. Throughout the campus are mechanical and electronic systems that support the people who use the buildings and are designed to avoid interference with the architectural integrity of the campus.

The challenge

The main priority for the UMass Dartmouth Facilities Department is the safety of the university's students and employees. "The motto of the department is 'Don't compromise safety - even minutes of delay can mean disaster'", says Lee Nason, the University's Director of Facilities Planning Design and Construction. It is the responsibility of Nason and her team to ensure facility integrity and occupants' safety and security.

When new dormitories and aggressive University expansion plans required an upgrade of the aging campus fire alarm monitoring system, Nason began to search for a system that would provide three important benefits:

- Fast, accurate alarm information to the on-campus dispatch station
- A way to transmit information without additional campus construction
- Cost-effective use of the existing systems to meet budget constraints

The solution

In conjunction with the engineering firm of Garcia, Galuska, DeSousa, Inc., hired to research and recommend an architecturally-compliant solution, Nason and lead Project Manager, Peter Geldmacher determined that a UL-listed Keltron active network radio system with a Keltron LS 7000 life safety event management head end was the optimal system for UMass Dartmouth.

- The University's existing system used non-code-compliant telephone lines to transmit signals from the fire alarm control panels to the digital alarm communicator receiver. Any new construction would require costly trenching and wiring for private telephone lines to enable the receiver to connect with the control panels. "This would disrupt the 700-acre campus, demolishing the landscaping and potentially disturbing the 30- year-old original buildings" noted Nason, "the Keltron wireless system provides the flexibility to install the radios wherever we need them, and does not interfere with campus esthetics."

"The Keltron LS 7000 gives the dispatcher a wealth of accurate, detailed information with which to guide the first responders."

Peter Geldmacher
Lead Project Manager

- Another key requirement for UMass Dartmouth's new system was to replace the old zone system with a new point-addressable one. The old zone system transmitted only general information and the responders had to check every device in the zone - particularly inefficient in the case of false alarms that are prevalent on college campuses. With point-addressable monitoring, the dispatcher can observe and communicate exactly which device is in alarm and exactly where it is located, saving the fire department substantial time and effort. "The radios instantly transmit point-addressable information from the control panels to the dispatch station," says Geldmacher, "and the Keltron LS 7000 gives the dispatcher a wealth of accurate, detailed information with which to guide the first responders.
- Like most state-funded institutions, UMass Dartmouth is subject to public scrutiny and budget constraints. "Our budget did not allow for an entire overhaul of every device, panel and monitoring system all at one time", said Nason, "the University needed a system to communicate with both existing fire alarm control panels and new ones to enable a phased transition over a period of months and years." The universally compatible Keltron system can interface with most brands of fire alarm control panels and can monitor alarms using any combination of communications infrastructure from direct wire to multiplex, radio and even Ethernet. Further reducing expense, the Keltron radio system would save on both ongoing monthly telephone line charges and the capital expense of installing wires throughout the campus.

In the spring of 2006, UMass Dartmouth purchased a Keltron LS 7000 and active network radio system from Alarm Applications and began installing the radio system in the new dormitories and academic buildings.

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> Lee Nason

Added value and future development

Carbon monoxide monitoring

At the same time UMass Dartmouth was researching a new fire alarm monitoring system, the Massachusetts legislature was about to pass Nicole's Law - all residential buildings with a fuel burning appliances must have carbon monoxide (CO) detectors, and in the case of a campus, they must be monitored. "Our choice was to install individual detectors in at least 1000 rooms with a high cost of installation and maintenance, or to monitor system detectors in the immediate area of the fuel burning appliances using the Keltron system," observed Nason, "using the Keltron system saved UMass Dartmouth about $250,000."

UMass Dartmouth's fire alarm monitoring system will proceed with the existing dorms and then will extend throughout the campus until all buildings tie into the Keltron point addressable radio system, monitored at the campus police department. With student attendance approaching 10,000 and new buildings in their planning stages, Nason expects additional workstations and continuing upgrades in the not-so-distant future.

Keltron develops and manufactures universally-compatible, UL listed life safety event management systems for the municipal and proprietary markets. Solutions include Ethernet signaling systems, active network radio systems, distributed multiplex systems, digital communicator/receiver systems, and direct wire systems. This document is not intended for installation or maintenence purposes. For more information visit www.keltroncorp.com or contact us at 781-894-8710.

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