C a s e   S t u d y

KKKELTRON ®

George Mason University
Campus Fire Protection
Past, Present and Future

Located in Virginia, George Mason University provides a suburban campus environment for its more than 28,000 students, many of whom benefit from the opportunity to research, intern, and work within Washington, D.C.'s business and government communities.

The Challenge

In 152 buildings spread across 900 acres in three counties in Northern Virginia, George Mason University is protected by more than 15 different models of fire alarm control panels (FACPs). Monitoring all these different FACPs across such a large area from one dispatching center presents a unique challenge for GMU. As with most large universities, GMU is a very active and diverse campus that requires the latest technology and adaptive thinking to meet the continuous challenge of protecting students, employees, visitors, and property from fire. In addition to these challenges, GMU requires a system that is robust enough to operate without interruption despite the occasional local or regional infrastructure failure.

GMU previously relied on traditional analog telephone lines to transmit fire alarm signals to the dispatching center, however as technology has evolved, telephone lines became less desirable because of increasing maintenance and reliability issues.

An Evolution

George Mason University has used Keltron products since the early 2000s and the original Keltron alarm receiver substantially modernized how GMU responded to fire alarms. Because of Keltron's systems' familiarity and reliability, the University's life safety team decided to add the Keltron alarm management software system as the user interface for dispatchers and system programmers. The newest initiative was to transition from telephone lines to a signaling system that would improve reliability during severe weather, scheduled maintenance, and other unanticipated telecommunications disruptions. GMU's large and varied geographical area made it difficult to find an off-the-shelf, one-size-fits-all solution to fit all the University's monitoring needs. Once again GMU turned to Keltron.

GMU's Keltron system advantages:

- ▼ Fast, accurate response
- ▼ Remote programming
- ▼ Full redundancy
- ▼ Future expansion
- ▼ Limited reliance on non-emergency infrastructure

The Solution

Keltron's systems' ability to receive signals from existing telephone lines, new active network (mesh) radios, and Ethernet/IP signaling systems enabled GMU to customize an optimal solution for each campus and each building. Keltron's newer signaling systems all integrate with the myriad of campus FACPs, delivering addressable information that enables the dispatcher to pinpoint exactly where the alarm is in the building.

The University requires its system have the flexibility to regularly monitor all campuses from one dispatch location, and also to locally monitor the regional campuses if there is an infrastructure failure between campuses. To do this, the University's two regional campuses each have remote dispatching centers with the ability to monitor their own buildings.

George Mason University

Remote dispatch centers are each equipped with redundant servers and equipment located in separate areas to protect the alarm monitoring system against hardware or software failures. Additional redundancy is inherent in the mesh network created by the Keltron radio transceivers so that the loss of any one transceiver only impacts the building it services and not the entire network.

The Benefits
Fast, Accurate Response
The Keltron alarm monitoring system software enables dispatchers to provide accurate and detailed alarm information to the police dispatcher and first responders. This ensures that the responding emergency services personnel have essential information about the alarm before they arrive on scene. Providing maps and floor plans gives the dispatchers additional building details that are easier shown than described in words. The system's distinctive sounds for alarm, trouble, and supervisory signals ensure that dispatchers, who may monitor several systems, prioritize their attention on the most critical alarm.

Remote Programing and Monitoring
The Keltron system supports remote programming which enables technicians to add or change information or perform maintenance on the system without being inside the dispatch center. This diminishes the impact of regular and emergency programming and maintenance on busy dispatchers. The remote monitoring feature also enables staff in different departments, such as maintenance, customer service, and administrative, to monitor, be aware of and/or respond to campus incidents.

Full redundancy
GMU's system is truly redundant in both software and hardware. For an issue to impact the Keltron system would require multiple system failures. The redundant aspects of the system help to maintain the University's UL listing as a Proprietary Supervising Station.

Limited Reliance on Non-Emergency Infrastructure
GMU's Keltron system has a limited reliance on non-emergency infrastructure. The radio transceivers allow the University to transition from traditional analog telephone lines and other non-emergency equipment that are difficult to maintain and can be compromised in emergency situations.

Future Expansion
The scalability of the Keltron system enables GMU to continue upgrading fire alarm systems without adding additional telecommunications infrastructure. This facilitates the integration of new FACPs into the existing system database and can add new and/or remote buildings as the campus expands.

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> Gregg Black
> Assistant Director of
> Fire Safety
> GMU

Keltron develops and manufactures universally-compatible, UL listed life safety event management systems for campus, multi-building facility and municipal environments. Solutions include Ethernet/IP, active network (mesh) radio, distributed multiplex, digital communicator/receivers, and direct wire signaling systems. For more information visit www.keltroncorp.com or contact us at 781-894-8710. Made in the USA.

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