

A Holistic Approach to Mass Notification

*The role of visual alerting and smart LED signage in
emergency situations on university campuses*



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Emergency Response Strategy

The principle need at the core of any notification system is to effectively communicate vital information instantly. The severity of this requirement has become more evident in recent years with a rise in campus violence across the country. As a result, higher education and law enforcement communities have united in their commitment to create a more secure environment with the proper notification tools in place should an incident occur.

Emergency response strategies on university campuses are still in the early stages of development. Some of the first methods implemented involved mass notification via sirens, email messages and text messages to cell phones. But this mix contained notable gaps and limitations that do not provide a holistic solution:

- Most cell phone towers are ill-equipped to handle the incoming and outgoing communication traffic often involved with an emergency situation. In some cases, a spike in demand on the wireless communication infrastructure can delay message transmission times from seven minutes to well over 100 minutes.
- There are many locations, especially in the larger buildings on campus, where cell coverage is weak or where the use of cell phones is prohibited. Visual notifications provide clear messages to protect life.
- Studies show that college students often read only those messages sent from close friends. System-generated or emergency messages might be overlooked for hours before being read.
- In the special case of an explosion, subjects within hundreds of feet from the detonation can suffer deafness and be impermeable to audible messaging, therefore relying only on visual cues for evacuation or other special instructions. LED displays have the ability to shine through limited amounts of smoke or dust.
- Clear messages that provide relevant information for specific locations on campus are critical to protecting students and staff as events change during a crisis.

To fill these gaps and move toward a holistic solution, public safety officers in many sectors are implementing visual alerting solutions as part of their communication mix; these solutions are now attracting the attention of the higher education industry as well.

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“Smart LEDs” in Transportation

In Washington, DC. and the surrounding area, tens of thousands of citizens rely on the Metro for a safe, expedited commute to work. Smart LEDs hang in each Metro station, visible from more than 100 feet away, alerting passengers of delays or the status of approaching trains. As a train enters the boarding area, messages flash, accompanied by a strobe effect on the ground and an audible tone to alert even hearing or sight impaired riders that the train has arrived.

On September 11, 2001, as smoke and noxious fumes filled the Metro tunnel from the fires at the Pentagon, the smart LEDs carried a special message to inform passengers and staff of the situation and divert them from harm's way. Both pre-programmed and ad hoc messaging was supported across the networked LEDs and was delivered in real-time to thousands of commuters. In the following days, officials learned that this system of smart LEDs was one of the only passenger notification systems between Washington, D.C. and New York City to be available and useful during the chaos of the day. This system allowed real-time, customized communications to reach passengers and instruct them regarding safe evacuation.

Visual Alerting at Colleges and Universities

Redundancy and reliability are two necessary attributes of a holistic approach to mass notification on college campuses. Best practices indicate that a mixed media approach to emergency communication will garner a higher degree of effective response than a one-dimensional approach. For example, supplementing audio alerts with visual alerts is an important step toward creating a complete program for mass notification.

As the demand for improved preparedness outpaces the funding and grants available for this type of solution, administrators are looking for value-added investments that serve a practical day-to-day purpose in addition to an emergency communication solution. Smart LEDs contain three levels of display priority. On a daily basis, when there is no important message to communicate, the devices default to a synchronized time and date display. Medium priority level messages, such as bus schedule announcements or event reminders override this time and date display when necessary. The highest level of priority overrides all other messaging and prominently displays the emergency notification message. This ultimate functionality may become necessary in the case of severe weather, an intruder on campus, or a number of other unexpected emergency situations.

Smart LEDs are “green” devices, utilizing cutting-edge Power over the Ethernet (PoE) technology to minimize the wattage used to power the display. Therefore, the money saved on operating the system alone becomes substantial over time.

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“We see the Inova OnAlert LEDs as filling a gap in campus emergency communications strategies. They add significant value when located in crowded spaces for instant visual alerting and instruction in an emergency; otherwise, they display time of day and other pertinent school-related messages. These devices play an integral role in keeping students safe, but they have a day job too.”

Conclusion

Best practices in mass notification call for a holistic approach with multiple tiers of communication technologies in an emergency situation. The visual alerts available with a smart LED solution strategically placed in high traffic and gathering areas is a fundamental part of effectively communicating vital information instantly. With the right technology mix, emergency management personnel can save time and save lives while leveraging components of the solution for practical daily use and earning a valuable return on investment.

About Inova Solutions

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