

PROTECTING SCHOOL CHILDREN IN MARTINSVILLE VIRGINIA

Gunshot detection technology helps slash response time for emergency responders

Case Study



Honeywell

SECURITY PLATFORM CREATES IMPROVED SITUATIONAL AWARENESS

Nestled against the southernmost border of Virginia, the city of Martinsville serves 2,000 students in five schools from pre-K to 12th grade. School administrators are serious about taking a proactive approach to protecting those young people. In case of the rare possibility of an active shooter situation, they recognize the importance of being informed, equipped, and having a plan in place before an emergency occurs.

BACKGROUND

The first facet of the safety plan is ALICE (Alert, Lockdown, Inform, Counter, Evacuate) active shooter response training. ALICE empowers faculty and teachers to make decisions on how to react should an attack occur. In schools across the country, students are receiving guidance on when – and how – to run, hide or fight. The training, developed by Navigate360, operates on the premise that if we can get students out safely, we will; if the danger is close we lock down and hide; but if an intruder actually comes in, the children are taught to fight for their lives. In the past when an armed intruder came in and alarms went off, teachers might be aware that a shooter was in a building somewhere, but they didn't know where. Without all the information they needed, they weren't sure which part of the ALICE protocol – whether to run, hide or fight – they needed to take.

In order to supplement their ALICE training, T. J. Slaughter, Director of School Safety and Emergency Management for Martinsville County Schools, reached out to Virginia-based EMI Security for recommendations on equipment that would give teachers the information they need to make the safest decisions for their students in an emergency.

SOLUTION

Family-owned EMI Security is headed by the husband and wife team of Dwayne and Alecia Wright, and as a result of his background as a former law enforcement officer, Dwayne has a soft spot for protecting children. "We have a lot of school customers," he said. "We believe it's important to equip teachers and faculty to be prepared for active shooter events." Wright recommended that Martinsville install EAGL systems at each of its campuses to operate in conjunction with access control and video surveillance so teachers and school officials would be better empowered to make life-saving decisions.

EAGL, which stands for Emergency Automatic Gunshot Lockdown, is a gunshot detection system. When shots are fired, wireless sensors placed in unobtrusive locations throughout the building analyze seismic wave forms and energy levels of the blast to identify exactly the type of weapon – and ammunition – being used.

Importantly, the response happens immediately and automatically.

Once the EAGL sensors determine a threat they activate security cameras in the area and superimpose those pictures onto a Google Earth image of the school grounds, which can also be drilled down into an actual floorplan of the building. A call is dispatched to 911 which contains critical details of the situation, letting first responders know exactly what's happening: where the shooters are and what type of weapon they're wielding – and tracking their movements throughout the campus.

In addition to being tied to the 911 center, the sensors are connected to the building's public address and mass notification systems and support unlimited email and text capabilities. The open architecture of the EAGL system allows it to be integrated with any security system, including pulling live video from any IP security camera on site. Within seconds of the first shot, those images are sent to each teacher's mobile device allowing them to act quickly and decisively. At the same time, notifications go out to parents off campus, keeping them apprised of the situation as it unfolds. The sensors in the Martinsville schools are integrated into the Honeywell WIN-PAK access control system, which enables lockdown protocol to be instituted automatically, effectively locking or unlocking doors directly from a dispatch location.

So how does it work?

Instead of listening for the "bang" like typical sensors, the EAGL system is finely calibrated to read the energy expended when shots are fired. Audio-based systems that listen for the bang can create false positives by something as

innocuous as a door slamming or a heavy item being dropped on an uncarpeted floor. To reduce false positives, the frequency of the sensors must be adjusted, which can limit what the sensor can discern – including the sounds emitted from some commonly used weapons. EAGL sensors help reduce false positives and provide a comprehensive level of gunshot detection by reading the energy produced from a gunshot instead of the sound.

Knowing that every second counts when lives are at stake, Martinsville has provided local law enforcement with access control cards and credentials which can provide them with access to each school through controlled entry and exit points not only during a normal school day but also during a lockdown event if necessary. This reduces the response time for law enforcement to enter a building without the need for mechanical breaching in most cases. EAGL can initiate a lockdown in four seconds, provide an auto dial to emergency responders in four seconds or less and send a text notification to an assigned group and law enforcement in seven seconds.

The school system has also implemented multiple Honeywell MAXPRO NVRs and approximately 300 High Definition IP cameras to provide a centrally managed video surveillance system driven by Honeywell VMS for its five school campuses and the central office facility that can be accessed remotely.

If needed, instant remote access can be used by law enforcement and school administration to determine the exact nature of events and provide them with a real-time situational report allowing them to respond appropriately. This integration of technologies can reduce the delay factor of human reaction and intervention and summons law enforcement officers to campus faster. "In the event of an active shooter," continued Wright, "every second of time saved may also directly correspond to a life spared."



For more information

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