



The Power of Video Protection in School Security

Technology innovation and a strong manufacturing partner work in harmony to create safer campuses

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Colleges and universities are unique, fluid environments with a wide range of security and safety needs. With campuses open 24/7, it's essential to always have a watchful eye protecting common grounds and potentially vulnerable areas. K-12 has similar challenges and a younger population that needs to be protected, so situational awareness with immediate, real-time alerts is paramount.

Since security personnel budgets are frequently stretched, artificial intelligence (AI)-enabled cameras are being successfully used to alert security teams of unusual behavior proactively. This might include loitering in areas prone to vandalism at certain hours or doors being propped open for extended periods.

It's a tremendous duty that School Resource Officers (SROs) and school administrators carry on their shoulders: ensuring the safety of every person who walks through the doors or steps onto the property. We recognize that administrators are responsible for the physical safety of their students and faculty, but they must also be fiscally responsible for what can be seen as a large investment for their campus.

As a dedicated partner to the education vertical market, i-PRO's goal is to assist schools in identifying any vulnerabilities and developing the best solution for their campuses, often utilizing what they already have.

Building security sets the stage

The goal of modern security systems is to help schools respond better and faster **in the moment** — not just after the fact. Most schools and universities have security cameras in place. But many don't have the resources to monitor those feeds in real time, so video footage is used almost exclusively as a forensic tool for evidence of events that have already happened, or simply as a deterrent measure.

We need to change the thinking that just having cameras passively recording is enough. It isn't. We, as providers and integrators, need school administrators to understand the value and power of video protection and video management systems (VMS) and how to use the latest technology proactively to respond to threats and unsafe situations.

A primary factor in the selection of video protection systems is whether the system is a closed, proprietary solution or based on open protocols. Closed or proprietary systems rely on all components from a single manufacturer, which can make them unwieldy to integrate with other systems and upgrade to

newer technologies. With open platforms, providers can solve problems together and use standard application programming interfaces (APIs) to enable specific integrations.



Aligning security goals with grant assistance

Working with a provider with an **open strategy** enables the active pursuit of technology partnerships and creates a wide ecosystem where innovation can flourish, and schools can easily access advancing technology. Getting to that point can be an expensive proposition and substantial investment for the education market, and that's where ancillary funding comes in. i-PRO works in partnership with other open strategy software and hardware manufacturers so schools can select appropriate technologies, components and devices within budget to extend or upgrade facility security. i-PRO has a [grant support](#) program to facilitate funding, including project consultation, funder research and grants development. Through this program and i-PRO partner [Grants Office](#), users can work with experts to develop funding from the more than 5,000 grant programs available each year, with colleges, universities and K-12 as some of the top recipients.

A school district in western New York needed to upgrade its security solution in its 70 locations. According to the security system engineer who oversees facility security, this included more than 5,000 security cameras that were 10 to 15 years old. The district was able to fund the project with smart bond funding and take a step-by-step approach, first replacing older PTZ cameras. Through several phases, they upgraded 15% and then another 60% of their older cameras with new i-PRO vandal-resistant dome cameras, additional 360-degree fisheye

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cameras, and leveraged multi-sensor cameras in outdoor spaces and common gathering areas. The school district is now able to cover more areas with fewer cameras after modernizing the security infrastructure.

Protection with privacy

Seeing security cameras around campus can be a deterrent to bad actors, but their presence shouldn't overwhelm the environment. It is indeed a balancing act to provide security as unobtrusively as possible while still being targeted and effective. One way i-PRO has approached this is to prioritize making smaller and lighter-weight cameras without sacrificing features or functionality. Schools can deploy these devices in places that would be impossible for traditional versions of the same camera.

One model, for example, looks very similar to a traditional dome camera, but it's actually a five-sensor smart camera with AI-based auto-tracking. Another aspect of creating balance is privacy protection. Security solutions must be designed with privacy in mind and comply with standards and regulations. For example, i-PRO's [Privacy Guard](#) is an AI application that creates a redacted video stream that blurs the face or the body of the individual, with an unmasked version available for viewing by authorized personnel as necessary.

Working together to institute change

When students walk through the doors of school facilities, they deserve to feel protected and safe. This is a critical component of student success. Responsibility for providing this falls wide — from SROs to teachers, staff, administrators



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and law enforcement. It even extends to security system providers and integrators.

It's on "everyone" to promote student safety and security, according to the chief technology officer at a multi-campus school enterprise located in California with some 23,000 students and close to 4,000 employees. High-quality, real-time video now helps the district address key challenges, including fights, altercations and vandalism.

With a school district footprint roughly the size of five Disneyland properties and "bursty" traffic patterns consisting of empty football stadiums at times and thousands of spectators at others during high school game time, they opted for high-resolution i-PRO network cameras and the Video Insight VMS. The centralized solution is housed at a network operations center, with local monitoring capabilities at each school.

The role of analytics

Schools are safer because of physical security systems, but that doesn't mean there isn't room for improvement. The latest analytics yield critical data that lets schools and campuses target challenges and adapt to issues as they arise.

New on-site learning analytics for AI-enabled cameras allow security teams to track and notify operators about unique objects of importance, such as shuttle buses or vehicles with the university logo. Cameras can be trained to identify backpacks, which may not be allowed in certain areas, or integrate with watch lists of specific vehicles or persons not permitted on campus. The latest applications integrate access control and video protection systems to create a more comprehensive awareness of safe student and staff movement. Mass notification systems that send alerts via text and email are also being integrated to inform staff and students of important events that warrant attention.

A common misconception among school administrators is that the mere presence of cameras equates to proactive security. Beyond simply installing cameras, setting up and utilizing them effectively is equally important, as they must be an integrated part of an overall incident response plan. Without real-time alerts and analytics, cameras serve more as a mild psychological deterrent than a functional one.

By implementing AI-based video cameras that can detect people and vehicles with analytics that instantly trigger alerts when anomalies and events of interest occur, schools can adopt a more proactive security stance. Many schools

have restricted areas where students should not be at certain hours. AI-based cameras effectively extend the reach of school security, making staff aware of events that might require intervention.

Audio adds another layer

Sound is also an important characteristic that AI-based cameras can interpret. Glass breaking, gunshots and yells can all be detected with modern AI-based cameras. Even in places where cameras are absent, such as a bathroom, a sensor can detect excessive volume levels or shouting that might require intervention.

Adding AI to non-AI cameras

i-PRO's [X Series](#) is the industry's first AI on-site learning camera that can also add AI to non-AI cameras. With AI on-site learning, staff can teach the camera about specific objects they wish to track or count, or use with a variety of analytics. With support for up to nine simultaneous AI applications, it is the most powerful AI-enabled camera to date. Users can program the camera to track and count buses or vehicles dropping students off, providing metrics and data about operational efficiency and bottlenecks that could result in security breaches, extending the reach of surveillance while optimizing analytics on site.

Another unique aspect of the X Series camera line is its ability to significantly enhance traditional non-AI cameras with AI capabilities, making them smarter and more efficient. The Ambarella CV52 AI System on Chip (SoC) used in the X Series is so powerful that a single camera can simultaneously process three additional streams of video from non-AI cameras (even from different manufacturers) as well as its own stream. This results in four total video streams with AI metadata extracted from each of them. The camera could simultaneously run the i-PRO AI Privacy Guard application that protects privacy by obscuring faces of students and staff.

Access control integration

A critical aspect of proactive school security is the integration of video protection with access control. The most advanced installations of campus security systems incorporate access control and video security systems to create a more

comprehensive awareness of safe student and staff movement. This allows for the monitoring of who is entering and exiting the building in real time and ensures that only authorized individuals gain entry, while unauthorized access attempts trigger an alert and highlight the area for review. Tailgating, where an unauthorized person follows an authorized person into a secure area, is a common security breach. Video protection can identify such events, even if the access control system has been properly used by the initial entrant. Integration also translates to ease of use for staff as opposed to trying to navigate disparate systems and separate interfaces.

Video protection is just one of the components needed to achieve a secure environment. Another main element of any safety roadmap should be an access control system that enables its users to quickly and efficiently set schedules, manage users, produce reports and lock down the entire site in the event of an emergency.

[MonitorCast](#) is a networked, enterprise-grade access control application integrated with [Video Insight](#) to provide a seamless, unified security solution that allows security officials to enhance situational awareness and quickly respond to incidents. It allows users to control and manage the solution via an internet connection and is available with no recurring or licensing fees. A simple dashboard displays door alarms on the facility maps, and users can configure alarms visually using the map-based VI Monitor client access control interface. MonitorCast integrates with [Mercury](#)'s open-architecture access control hardware.



Transportation rounds out a holistic solution

Transporting students safely is part of a comprehensive security system. i-PRO's school transportation security allows users to manage and maintain mobile vehicles or bus fleets. At the

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core of this solution is the VI video management system, which includes vehicle tracking through GPS map overlays, live and recorded playback and WiFi video offloading. Other features include trigger-based recording and bookmarking, real-time monitoring, and fleet location search. Even better, as part of the VI VMS, no license fees are required.

Body-worn cameras on campus

Integrating body-worn cameras (BWCs) into K-12 and educational environments offers significant potential for enhancing safety and accountability, particularly when aligned with existing security systems. School Resource Officers (SROs) often rely on standard equipment issued by local law enforcement, which is typically managed separately from school security cameras. However, districts with their own law enforcement teams, or those looking to expand their technology suite, are ideal candidates for adopting BWCs. An upcoming integration will enable live streaming and monitoring of BWCs directly within i-PRO's Video Insight VMS. Beyond SROs, BWCs can be valuable for other staff, such as hallway monitors, bus drivers, and coaches, offering a first-person perspective that complements traditional security cameras and supports a holistic approach to campus safety.

Cybersecurity and reliability

Cybersecurity is top of mind for all end users and industry initiatives are gathering steam. School security users want to know the origins of their equipment and the certifications and standards they meet. Designed and manufactured in Japan, i-PRO AI-enabled cameras are National Defense Authorization Act (NDAA), Trade Agreement Act (TAA) and Federal Information Processing Standard (FIPS) 140-2 Level 3 compliant, providing bullet-proof cybersecurity.

Reliability and longevity are critical to school users as they invest in security solutions. i-PRO cameras are covered by the [Endurance](#) seven-year warranty, which exceeds the technology refresh cycle of many campuses, effectively providing a lifetime warranty for most deployments. No other security camera manufacturer offers this type of extended warranty, which helps school users avoid unplanned replacement of cameras that may not be within the budget.

Protecting our greatest asset, our children, is a fundamental goal at i-PRO. We are focused on lending our expertise to the school security market to take the stress and burden off the shoulders of security administrators. We work in partnership with the school market to ensure their video protection solutions are up to date and ready to protect, no matter the challenge.

For more information, [contact](#) i-PRO.

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