

Enhancing Safety and Security with Surveillance Solutions for K-12 Education

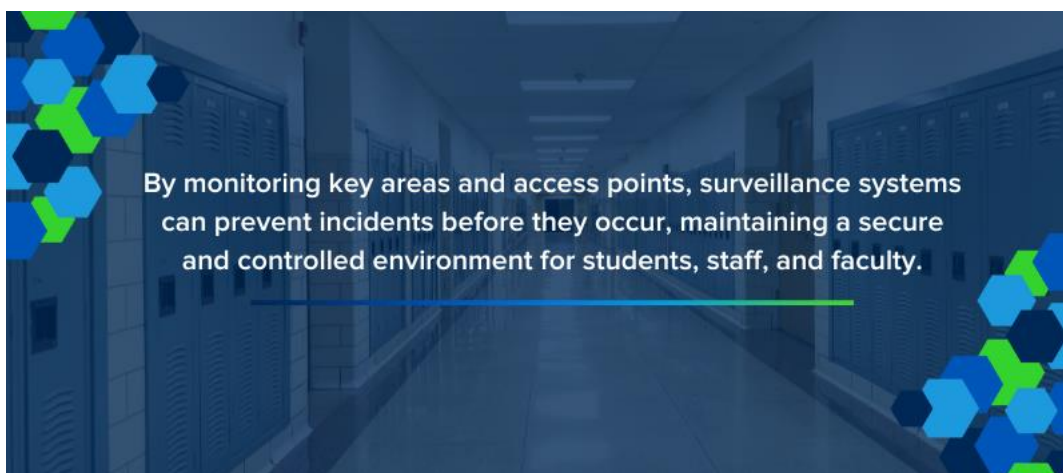
Ensuring a safe and secure learning environment is paramount in K-12 education. With the increasing incidents of bullying, violence, and other security breaches, it is essential to leverage advanced security measures. This comprehensive solution brief combines two key areas of focus—school security cameras and video surveillance and maximizing investments in video surveillance—to provide a holistic approach to K-12 security. By implementing advanced security technologies, leveraging video analytics, and overcoming funding and operational challenges, K-12 schools can create a safe learning environment for students, staff, and faculty.

Importance of Safe and Secure Learning Environments in Schools:

K-12 schools serve as the foundation for students' education and development. It is crucial to provide a safe and secure environment that fosters learning and growth. Safe schools promote student well-being, reduce the risk of violence and bullying, and enhance overall academic performance. Parents, students, and the community expect schools to prioritize safety, making it imperative for educational institutions to implement comprehensive security solutions.

Benefits of Video Surveillance in K-12 Schools:

Video surveillance systems play a crucial role in maintaining a safe and secure learning environment. They offer several benefits that contribute to the overall safety and well-being of students, staff, and faculty. Some of the key benefits include:



Deterrence of crime, bullying, and violence: The presence of security cameras acts as a visible deterrent, discouraging criminal activities, bullying incidents, and acts of violence on school premises. The knowledge that their actions are being monitored helps create a safer environment for everyone.

Improved emergency response and documentation of incidents: Security cameras enhance emergency readiness by increasing visibility and situational awareness. They provide valuable real-time information that enables timely interventions and responses during critical situations. Additionally, video footage serves as crucial documentation for investigations and disciplinary actions, helping maintain accountability.

Enhanced monitoring of hallways, entrances, and school grounds: Video surveillance systems enable comprehensive monitoring of high-traffic areas, including hallways, entrances, and school grounds. This allows school staff to identify and address potential security threats promptly. By actively monitoring these areas, schools can ensure a safer and more secure environment for students and staff.

Support for addressing ongoing bullying issues: Security cameras provide educators with a powerful tool to monitor and address ongoing bullying incidents. By capturing video evidence, security cameras enable the identification of perpetrators, providing tangible evidence for intervention and ensuring student safety and well-being. This proactive approach helps create a nurturing and respectful environment where students can thrive academically and emotionally.

Prevention of vandalism, trespassing, and unauthorized access: Video surveillance systems are effective in deterring acts of vandalism, trespassing, and unauthorized access to school premises. By monitoring key areas and access points, surveillance systems can prevent incidents before they occur, maintaining a secure and controlled environment for students, staff, and faculty.

Balancing Safety and Education:

With a substantial investment of over \$360 million in physical security equipment in 2020, U.S. schools have demonstrated a strong commitment to enhancing safety measures. The Security Industry Association's (SIA) study, conducted by Omdia in 2020, highlighted that the K-12 sector accounted for around 56% of the total spending of \$716 million in physical security equipment for education. The emphasis on video systems in fortifying security highlights the integral role they play in this endeavor.

Addressing the multifaceted challenges of K-12 security is paramount. Data from a 2021 survey conducted by the National Center for Education Statistics underscores the concerns of both students and school personnel, ranging from shootings and fights to mental health issues. Balancing the need to keep schools open with ensuring safety is a complex task. The strategic deployment of video surveillance, bolstered by flexible video management systems (VMS), offers a compelling solution. By integrating these systems with core safety and security solutions, schools can establish comprehensive surveillance architectures that provide centralized monitoring of various locations, offering real-time insights to security personnel.

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- SIA study conducted by Omdia, 2020



Leveraging video management systems (VMS) district-wide requires careful consideration of scalability and integration capabilities. To maximize effectiveness, VMS platforms should seamlessly integrate with existing systems while remaining cost-efficient. Empowering school resource officers (SROs) and staff with access to live and recorded video footage enhances local incident management. Critical failover features, ensuring uninterrupted video streams even during network instability or power outages, contribute to the system's reliability. Placing cameras strategically across school grounds, from perimeters to interior entry points, further augments security efforts. High-resolution cameras equipped with advanced zoom capabilities and technology like license plate recognition (LPR) can aid in detecting potential threats before they reach school premises, thereby bolstering overall safety.

While security is paramount, it must harmonize with the educational environment. Employing discreet and low-profile cameras, such as fisheye cameras, can provide comprehensive coverage without intruding upon the learning atmosphere. The quality of de-warped footage from these cameras enables swift intervention during incidents.

Beyond physical security, cybersecurity measures are crucial to safeguarding the technology infrastructure of educational institutions. Employing encryption, multi-factor authentication, and firewalls ensures that video surveillance systems remain impervious to unauthorized access or cyberattacks. A holistic approach to security not only creates safer learning environments but also supports the core mission of education. By embracing advanced technologies, schools can strike a balance between security and providing students with a nurturing academic experience.

Maximizing Video Surveillance Investments for K-12 Schools:

To fully maximize the benefits of video surveillance investments, schools can leverage advanced technologies and video analytics. This includes:

Leveraging video data beyond forensic investigations: Video analytics technologies enable schools to extract valuable metadata from video footage. This metadata provides insights into trends, patterns, and anomalies, helping schools proactively address potential security threats.

The role of video content analytics in extracting valuable metadata: Video content analytics powered by Deep Learning and Artificial Intelligence enable schools to automatically analyze video footage, detect specific objects or events, and generate actionable insights. This technology allows for rapid incident investigations and real-time threat detection.

Rapid review for incident investigations with precise search and filter capabilities: Video analytics provide advanced search and filter capabilities, allowing investigators to quickly review relevant footage based on object classification, appearance similarity, and face recognition. This accelerates investigations, reduces review time, and aids in locating missing individuals on campus.

Real-time alerts for enhanced situational awareness: Configuring real-time alerts based on video analytics can significantly enhance situational awareness in K-12 schools. Alerts can be triggered for unexpected lighting changes, people or object counts exceeding predefined thresholds, abnormal dwell durations, facial recognition of specific individuals, and license plate recognition. These real-time alerts enable security officers to respond promptly to anomalies, manage occupancy, prevent violence, and maintain overall school safety.

Trend data visualization for better planning: In addition to incident response, video analytics can provide valuable insights through trend data visualization. By aggregating video analytics data and presenting it in customized reports and visual dashboards, school administrators can make data-driven decisions. They can understand traffic flows, congestion points, and bottlenecks, allowing them to optimize resources, reduce crowding, and create a safer environment for students and staff.

Video analytics for COVID-19 prevention measures: Video analytics can also play a crucial role in monitoring compliance with COVID-19 prevention measures. During the pandemic, schools have faced the challenge of ensuring social distancing and mask-wearing among students and staff. Video surveillance and analytics can aid in this effort by filtering video data to facilitate contact tracing, track interactions, and identify potential exposure. Proximity identification capabilities enable the analysis of distance between individuals, ensuring compliance with social

distancing mandates. Schools can gather anonymous statistical data to assess adherence to safety guidelines and take necessary actions to mitigate the spread of the virus.



Video analytics in education can be used to:

- Improve flow of bus traffic
- Deter and identify acts of bullying
- Monitor crowds at large events
- Identify illicit or suspicious behavior
- Secure students and faculty on campus

Business Opportunities in K-12 Security Integration:

While the K-12 security market presents challenges for security integrators, strategic planning, and a focus on delivering value can help overcome these hurdles and maximize business opportunities. One of the major challenges is funding constraints. Integrators can assist schools in exploring additional funding options such as security grants, helping bridge the gap between budget constraints and security needs.

Another critical factor in the K-12 market is identifying the decision-makers responsible for authorizing purchases and system oversight. By clarifying responsibilities and ensuring clear communication, integrators can gain buy-in from all parties involved, including principals, superintendents, school safety officers, or school boards. This alignment is crucial to the successful implementation of comprehensive security solutions.

To maximize margins, integrators can create tight specifications during the bid process. By defining clear requirements and facilitating an apples-to-apples comparison among bidders, the chances of awarding projects to less-qualified integrators are reduced. Additionally, providing free services and education to school districts helps elevate their understanding of security needs, building trust and generating potential business opportunities in the future.

Proving the value and return on investment (ROI) of security systems to K-12 administrators is essential. Integrators can educate administrators about the benefits of security solutions through demonstrations, lunch-and-learns, and ROI projections. By creating a baseline of current operations and comparing it to projected savings from recommended improvement measures, integrators can effectively convey the need for change and garner support for security initiatives.

BCD Solutions for Innovative Video Surveillance:

BCD's validated analytics solutions bring a new dimension to video surveillance, bolstered by their collaboration with Milestone Systems. This collaboration has yielded innovative video data infrastructure solutions tailored to meet the unique demands of various industries. A standout offering in their portfolio is the Milestone Video Accelerator (MVA), a GPU-based appliance validated by Milestone for high-intensity video data applications and H.265 compression. This solution is especially well-suited for SLED (state, local government, and education) applications, making it an ideal fit for the complex security needs of K-12 schools. The MVA leverages the power of NVIDIA-based GPU resources in conjunction with Milestone's exclusive hardware acceleration engine for video decoding, particularly for motion detection. This intelligent system dynamically offloads CPU load during video motion events, leading to enhanced overall performance on the recording server.



BCD's commitment to comprehensive security solutions goes beyond hardware and software collaborations. They also offer Harmonize Bridge, a potent cloud integration that equips users with hybrid data storage solutions for their security systems. This integration addresses the growing trend of cloud data archive solutions, which enhance video management, accessibility, and safety. In the realm of K-12 education, where safety is paramount, this integration can play a vital role in streamlining data management.

By incorporating BCD's validated analytics solutions and leveraging the capabilities of the Milestone Video Accelerator, K-12 education institutions can effortlessly implement advanced surveillance measures, especially with cameras utilizing H.265. Moreover, with the introduction of Harmonize Bridge, these institutions gain access to a versatile solution that combines on-premises and cloud storage options. This cloud integration allows for secure storage of surveillance footage in remote servers, granting users access to their camera feeds from anywhere at any time. This is especially critical for educational institutions, enabling remote monitoring and rapid response in case of any security incidents.

Through this comprehensive approach, BCD equips K-12 education institutions with the tools they need to create safer learning environments. By harnessing AI-driven video analytics, the dynamic capabilities of the Milestone Video Accelerator, and the cloud-integrated storage solutions of Harmonize Bridge, these institutions can ensure optimal security, real-time monitoring, and a safe atmosphere conducive to learning.

Purpose-built for School Security

- Hybrid cloud-ready
- Built-in disaster recovery
- Systems designed for AI
- Remote system health monitoring



Enhancing K-12 School Security Through Video Surveillance and Analytics:

By empowering educational facilities with secure and robust video surveillance as well as maximizing investments, K-12 institutions can implement comprehensive security solutions that create a safe learning environment. School security cameras act as a visible deterrent, monitor and address bullying incidents, enhance safety and emergency response, and provide valuable evidence for investigations. Maximizing investments in video surveillance through video analytics enables rapid incident investigations, real-time alerts for enhanced situational awareness, and trend data visualization for better planning. Overcoming funding challenges, understanding decision-making processes, and providing value-driven services are key strategies for integrators to succeed in the K-12 security market. Together, we can ensure the safety and well-being of students, staff, and faculty in K-12 education.