

 Lumana

Insights to improving school security

The role of AI-powered video surveillance in education

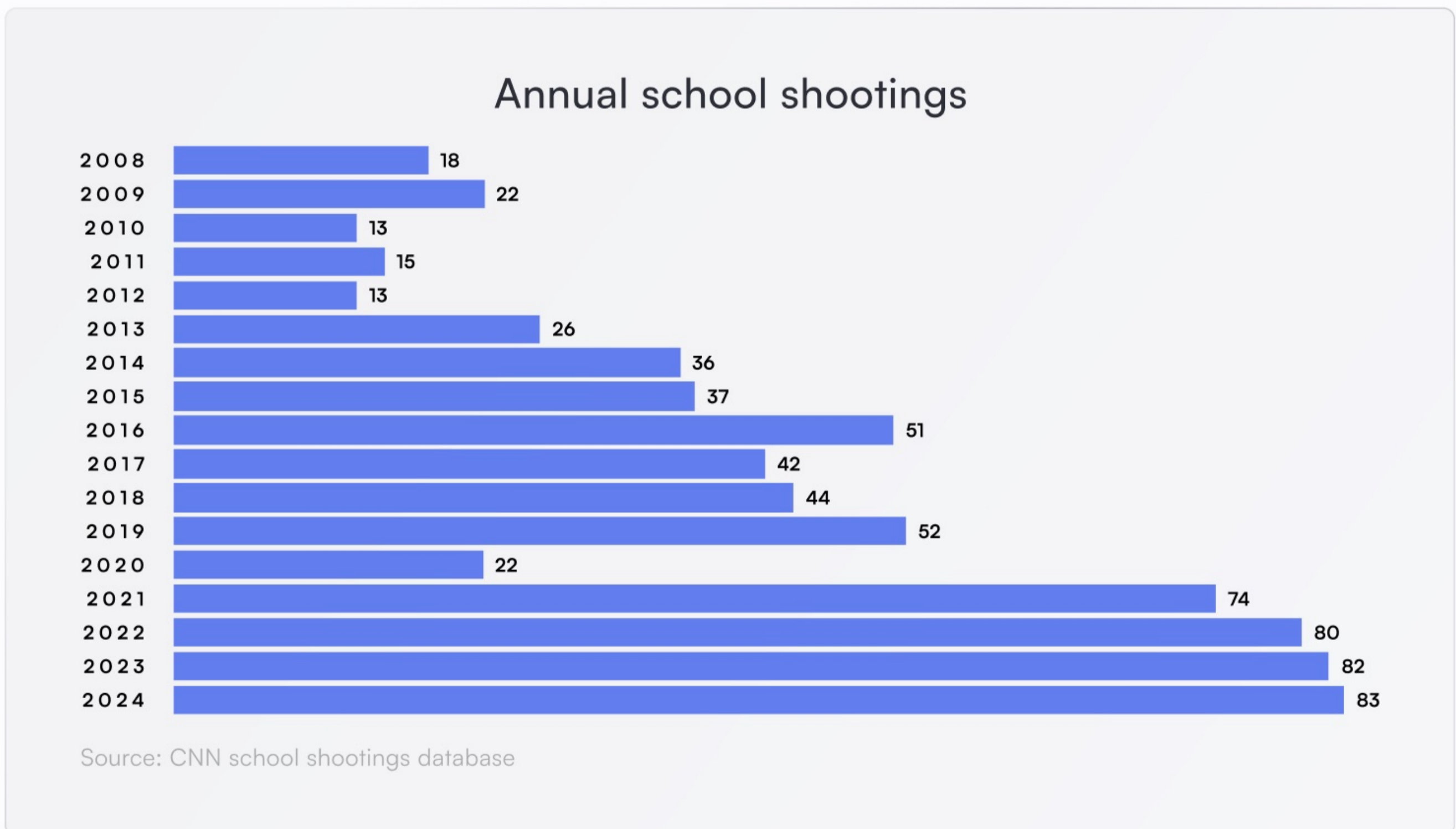


Introduction

School security faces growing challenges amidst escalating safety threats. The sheer volume of violence in educational settings is alarming; the National Center of Education Statistics reported 850,000 violent incidents in public schools during the 2021-22 school year, signaling an urgent need for advanced security solutions. While this period coincided with the return to in-person learning following significant disruptions, the sheer magnitude of these incidents underscores the pervasive nature of threats within schools.

Adding to this already dire situation, the US has witnessed four school shootings in the first 38 days of 2025 alone. Data reveals a staggering **538% increase in school shootings** between 2010 (**13 incidents**) and 2024 (**83 incidents**), demonstrating that even a slight decrease compared to the same period in 2024 does not signify a reduction in danger. These incidents are not merely statistical fluctuations; they are stark reminders of the potential for threats within our schools, demanding immediate and comprehensive action to ensure the safety of students and teachers. The psychological impact of these events, coupled with the ever-present threat of future incidents, creates an environment of fear and anxiety that must be addressed with proactive and effective security measures.

With schools facing threats like trespassing, theft, drug use, weapons, and violence, outdated video surveillance systems demand technological upgrades and thoughtful implementation.





Is traditional video security still effective?

Many schools rely on conventional closed-circuit television (CCTV) systems for security. These systems typically record footage that can be reviewed after an incident. While providing basic surveillance functionality, traditional video security systems lack critical features that can significantly impact the outcomes of campus security threats. Conventional systems are also reactive rather than proactive in threat management. Administrators can waste valuable resources searching through footage, while the system lacks the features and real-time response to address security threats adequately.

As of 2021–22, **93% of public schools reported using security cameras to monitor their premises**¹. However, without AI integration, these systems provide limited proactive capabilities.

¹ National Center for Education Statistics

Traditional video security

- ✗ Reactive security monitoring
- ✗ Limited threat detection capabilities
- ✗ High false alarms
- ✗ Slow incident response
- ✗ Manual, time-consuming investigations
- ✗ Lack of behavioral analysis
- ✗ Scalability challenges
- ✗ No data insights, only records footage

AI video security

- ✓ Automated monitoring with computer vision
- ✓ Threat detection and advanced alert capability
- ✓ Continuous learning for low false alarms
- ✓ Real-time alerts and automated response
- ✓ Fast investigations based on specific attributes
- ✓ Granular alerts based on activity and behavior
- ✓ Centralized management, infinite scalability
- ✓ Turn video footage into actionable insights



Preventing incidents and escalation

To understand the vast difference between traditional and AI security systems, let's look at the timeline for incident detection. Consider the following example:

Someone reports vandalism at the school. The administration checks the camera footage. In the recording, the perpetrator appears, looks straight at the camera, then proceeds to spray paint campus property. Why didn't the security camera deter the individual from vandalism?

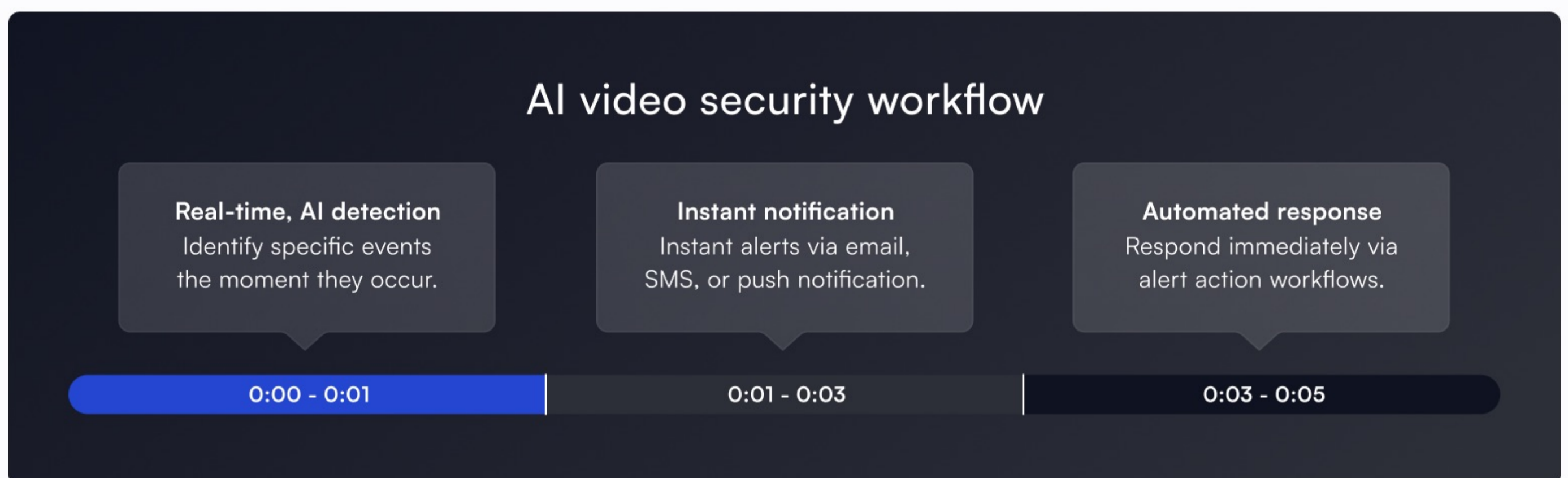
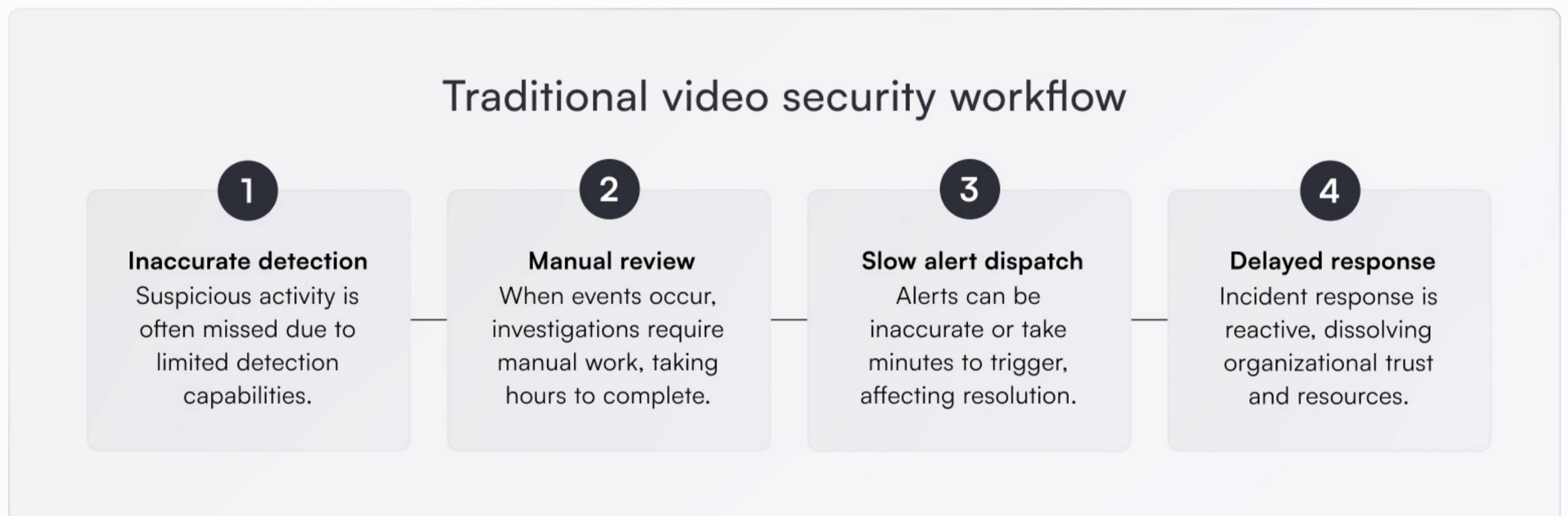
Perpetrators are often emboldened to commit crimes under traditional surveillance because they know that by the time someone reviews the footage, they'll be gone. And with no way to personally identify the perpetrator, the school is the only one accountable for damages.

Traditional

This common scenario highlights a significant flaw in traditional CCTV systems: guards can't monitor every location simultaneously. They're also vulnerable to error, fatigue, and distraction. For many schools, footage is only checked after an incident is reported. In these situations, a standard security system can only record incidents, not prevent them.

Artificial intelligence

On the other hand, AI surveillance offers real-time detection of various triggers (objects, actions, people, and more), allowing security teams to act immediately. In the previous example, an alert could notify security immediately when a camera detected a trespassing event, prompting an immediate response via lights, recorded warnings, or manual intervention. This technology can save significant costs by minimizing damage or deterring vandalism and theft.



In cases where deterrence fails, like some student altercations, AI live alerts can trigger alarms or notify nearby staff to intervene and prevent escalation. Some educational AI solutions, [like Lumana](#), can recognize over a hundred triggers, helping to avoid expensive damage and unnecessary harm.



Emergency response and communication

Unfortunately, not all threats can be deterred. When a suspicious person, a known criminal, or a weapon is spotted on campus, reaction time and live communication become critical.

■ Traditional

Standard surveillance relies on human detection and manual phone communication with responders, creating critical delays in escalation and response at a time when every second counts.

✦ Artificial intelligence

In contrast, AI systems can instantly recognize threats and alert staff (even via smartphone). AI systems facilitate one-button contact and live footage sharing with emergency responders. This allows staff to report emergencies faster and more thoroughly than traditional systems. In worst-case scenarios, these necessary features can directly save lives.

Threat detection and response with AI-powered systems



Detect

AI continuously monitors, allowing organizations to detect threats as soon as they appear.



Alert

Real-time notifications are sent to security staff in <1 second for immediate incident response.



Respond

Automated actions trigger to deter threats while first responders are on route.



Investigate

Users can quickly find, save, and share footage to assist first responders or create incident reports.



Peace of mind

Safety is essential for maintaining the trust of faculty, students, and parents. Depending on their functionality, video systems can inspire different levels of trust. To feel truly safe, people want to know that precautions are in place to protect them at all times.

Traditional

Individuals know that traditional security cameras often serve only to record crime, not prevent it. Unless 24/7 monitoring is guaranteed and communicated, people may not feel safe, even with the presence of cameras. Continuous human surveillance is often impractical for school campuses, limiting and undermining community peace of mind.

Artificial intelligence

Video AI enables 24/7 monitoring across all critical areas—classrooms, hallways, playgrounds—far beyond human capabilities. It can monitor for suspicious activity, trigger alerts, and notify response teams, even in the middle of the night. Communicating these capabilities reassures the community that emergency assistance is always available.





Ease of setup and use

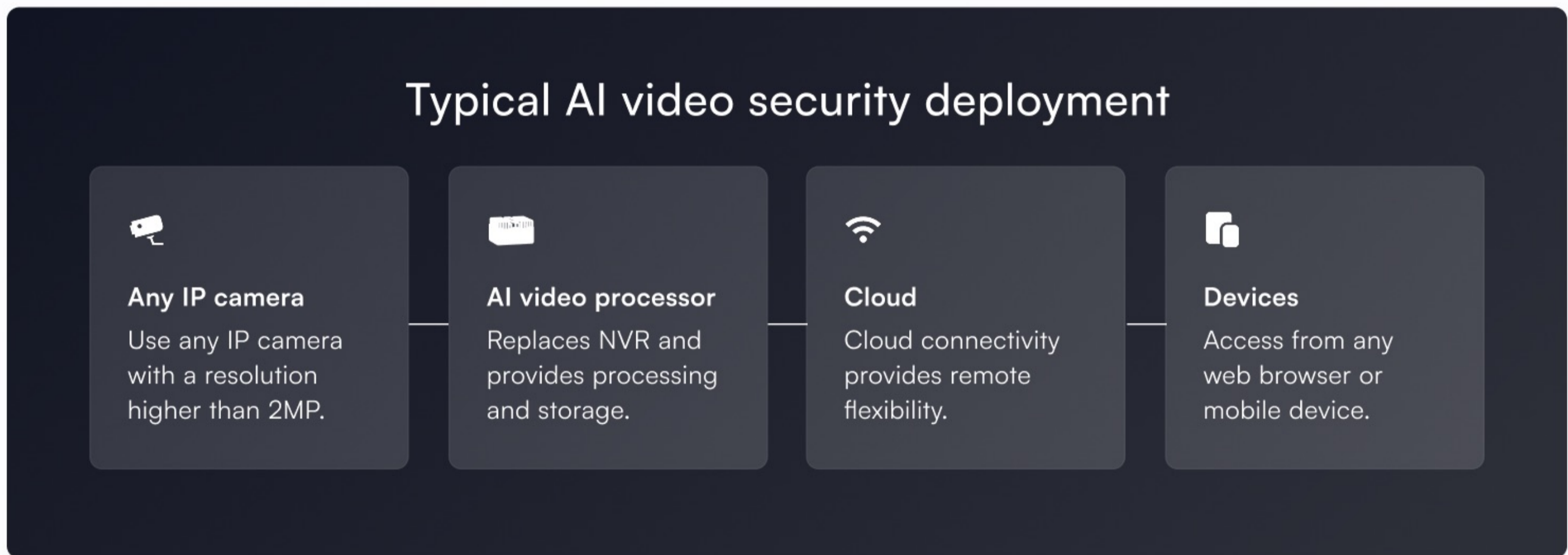
Security systems often come with hidden costs. If a system is technically complex or lacks an intuitive interface, it can incur costs in employee training and overtime. An effective video security system should simplify processes, not complicate them.

■ Traditional

Standard systems require installing and maintaining a traditional network video recorder (NVR) or digital video recorder (DVR). These systems require regular manual updates and hardware repairs, and often fail within a few years of installation. Searching for footage can be tedious, typically involving manual fast-forwarding and rewinding to find the proper evidence.

✦ Artificial intelligence

AI security systems are easy to install, even with pre-existing camera setups. Hybrid-cloud solutions, which utilize cloud processing and on-site GPUs, are user-friendly and update automatically.





Conclusion

AI can transform school security by enabling real-time threat detection, faster emergency responses, and providing advanced, user-friendly features. These systems provide immediate assistance during incidents rather than merely recording them. That extra layer of protection can make all the difference to the school community's peace of mind. As AI technology evolves, schools adopting these systems early can significantly improve campus safety.

To take your video surveillance to a new level, assess your needs and research vendors. [This free expert guide](#) helps you ask the right questions and organize findings, making collaboration with other decision-makers easy.

Background

For more information, visit <https://www.lumana.ai/>.

Today's physical security systems are fragmented and reactive. We're challenging this paradigm by combining modern video security management with proactive AI that delivers near-human-like perception to help teams see critical events, understand the full context of any situation, and respond with unparalleled speed and precision.

Lumana is on a mission to empower organizations by unlocking the value of their visual data to enhance security and safety, streamline operations, and enable immediate response when it matters most.

This whitepaper is informational only and should not be used as a specific plan for your school.

