

FELCO®

a Motorola Solutions Company

Complete guide to video security



MOTOROLA SOLUTIONS



Introduction to video camera security

In an era where security is paramount for commercial businesses, video camera security systems have never been more critical. They serve as vigilant guardians that deter potential threats, capture evidence and provide peace of mind. The security landscape has also seen significant changes over the years, with high-speed network connections and cloud technology transmitting high-quality video faster than ever.

This guide is your essential resource for understanding the importance of video security and making informed decisions when selecting the right system to safeguard your assets, employees and premises. Pelco's expertise will illuminate your path to a secure and resilient future, from real-life use cases, camera types, scalability, analytics, compliance requirements and more.

Join us in this journey to harness the power of video security and protect what matters most to you and your stakeholders.

Table of Contents

Selecting the right video security system	4
Types of video cameras	5
Camera resolutions and frame rates	10
Placement and installation of cameras	11
Privacy and legal considerations	13
Weatherproof and vandal-resistant camera housing	14
Connectivity considerations and processes	15
Monitoring and access control	16
Smart sensor technology	17
Video analytics and advanced features	18
Compliance and legal considerations	21
Training and education	23
Industry-specific use cases	24
Case studies	26

Benefits of video camera security

Video security plays an indispensable role in commercial settings, serving as a cornerstone for businesses' protection, security and overall well-being. Enterprises commonly seek the following benefits of video camera security:

Theft protection

One of the most evident benefits of video security is deterring theft and unauthorized access. By strategically positioning cameras throughout your premises, you create a watchful eye that discourages potential criminal activity. Should an incident occur, these cameras capture valuable evidence that helps identify culprits and recover stolen property. This not only safeguards your assets but also bolsters your bottom line by reducing losses due to theft..

Improved security

Video security provides real-time monitoring capabilities, empowering security personnel to respond swiftly to suspicious activities or emergencies. Whether an unauthorized intrusion, a safety hazard or a potential threat, security cameras act as an early warning system, allowing for proactive interventions to mitigate risks and protect lives.

Safer workplaces and communities

Video security fosters safer environments, both in and outside the workplace. Employees feel more secure when they know they work in an environment where their safety is prioritized. Furthermore, video security systems extend their protective reach beyond the confines of your business, contributing to the overall safety of the surrounding community.





Selecting the right video security system

Choosing the right video security system is challenging - especially in today's landscape, where video security is more intelligent and effective than ever, with cameras that offer high-tech functionality like motion sensors, advanced analytics, remote viewing and mobile notifications. Before evaluating video security systems, consider what type of cameras you want, what kind of storage you need and the areas that need protection.

Security needs and objectives

Consider the size of your premises, the nature of your operations and any existing security vulnerabilities. This evaluation will guide you in determining the number and types of cameras required and whether additional features like night vision or thermal imaging are necessary.

Scalability and future-proofing

Ensure that the system you choose can accommodate your evolving needs. Scalable solutions allow for easy expansion as your organization grows or security requirements change. Additionally, stay attuned to technological advancements in video security. Modern systems often incorporate advanced analytics and artificial intelligence, enabling features such as facial recognition, license plate recognition and intrusion detection.

Data storage and retention requirements

Determine how long you need to retain video footage for legal and operational purposes. Select a system with adequate storage capacity and the ability to archive data efficiently.

System compatibility

Consider how a video camera security system will work with your existing infrastructure, ease of installation and maintenance, and compliance with industry regulations and data privacy laws.




While no 'one size fits all' solution exists, it's important to know about longer-term trends in [physical security](#) and camera technology and solutions. Pelco's team of experts will tailor a system that aligns precisely with your organization's unique security needs and objectives.

Types of video cameras

Pelco is known for offering the broadest selection of video security cameras designed for commercial and industrial settings. Camera varieties include:





Dome

[Dome security cameras](#) are ideal for areas that require discretion. Their expansive field of view increases situational awareness and allows operators to simultaneously observe activities occurring in multiple areas.

Model	Summary	Benefits
<div>Sarix Enhanced 4 Series Dome</div> <div></div>	The Sarix Enhanced 4 Series Dome camera introduces new analytic capabilities and sets an even higher standard for security by simultaneously running multiple analytics. Designed with a built-in microphone, the camera identifies loud noises while recording audio when necessary.	<ul style="list-style-type: none">• Classify and identify people and vehicles• Capture sound with a built-in microphone• High-quality video footage without glare
<div>Sarix Enhanced 4P Series Dome</div> <div></div>	The Sarix Enhanced 4P Series Dome camera extracts more information and in greater detail to optimize threat detection and response efficiency. During a brief power outage or an extended disruption, the camera's ability to switch power sources automatically helps avoid downtime and data loss. The device is also designed without a microphone, helping to protect privacy.	<ul style="list-style-type: none">• Classify and identify people and vehicles• Reliable through network failovers• High-quality video footage without glares• Designed without a microphone for privacy compliance
<div>Sarix Professional 4 Series Dome</div> <div></div>	The Sarix Professional 4 Series Dome camera enhances site security by capturing high-definition activity with sharp details, even in low-light conditions.	<ul style="list-style-type: none">• Detect vehicles and people• Flexible lens options to suit your needs• See in bright and low light• Easy to deploy





Bullet and box

[Bullet and box security cameras](#) provide agility in terms of size and angle. They can also capture images clearly at long distances, making them excellent options for areas such as stairwells and large interior spaces where a visible camera might deter crime. Some bullet cameras come in weatherproof casings, which are ideal for outdoor use, while box cameras are equipped with different lenses for customized fields of view.

Model	Summary	Benefits
Sarix Enhanced 4 Series Bullet 	Set a higher standard for security by running multiple analytics at once with the Sarix Enhanced 4 Series Bullet camera. Like the dome model, this camera has a built-in microphone so you can be fully aware of your surroundings and confidently respond to an event before it unfolds.	<ul style="list-style-type: none">• Classify and identify people and vehicles• Capture sound with a built-in microphone• Clearly see video up to 60 fps
Sarix Enhanced 4P Series Bullet 	Say goodbye to downtime and data loss with the Sarix Enhanced 4P Bullet camera's ability to switch power sources in the event of a failure. Intentionally designed without a microphone, the device optimizes privacy and compliance by excluding audio recording and analysis.	<ul style="list-style-type: none">• Classify and identify people and vehicles• Reliable through network failovers• Uncover tiny details up to 31x away• Designed without a microphone for privacy compliance
Sarix Professional 4 Series Bullet 	Enhance security with the Sarix Professional 4 Series Bullet camera, designed to capture activity in high-definition. The device delivers a clearer understanding of what is happening on-site, helping you make more informed decisions, initiate faster responses and produce necessary evidence.	<ul style="list-style-type: none">• Detect objects with Smart Analytics• Flexible lens options to suit your needs• See in bright and low light• Easy to deploy
Sarix Enhanced 4P Series Box 	Like the dome and bullet models from the camera line, the Sarix Enhanced 4P Series Box delivers new analytic capabilities that improve security by simultaneously running multiple analytics. It's also built without a microphone for additional privacy protection.	<ul style="list-style-type: none">• Classify and identify people and vehicles• Reliable through network failovers• Capture up to 60 fps to see the video clearly• Designed without a microphone for privacy compliance

PTZ




The flexibility in movement in pan, tilt and zoom cameras, or [PTZ security cameras](#), can adjust angles, move and zoom in and out with just a few clicks and cover large areas. They allow personnel to hone in on details to easily identify suspicious behavior and adjust the view, enabling staff to respond to incidents accordingly.

Model	Summary	Benefits
Spectra Enhanced 8 Series PTZ 	With the Spectra Enhanced 8 Series PTZ, you can seize control of your site's security and put your trust in advanced technology that provides a 360-degree view of your property to simplify your job and help ensure the safety of those you serve.	<ul style="list-style-type: none">• Reduce costs with direct drive technology• See incidents clearly up to 30x away• Classify and identify people and vehicles• Follow objects using auto-tracking• Network protection with FIPS-compliance
Silent Sentinel Aeron 	See further and clearer in any condition with a high-performance camera system that offers precise thermal and visible views.	<ul style="list-style-type: none">• Visual & thermal views in a single device• Ruggedized for tough conditions• Short to mid-range applications• Fast PTZ speeds for better coverage• Various accessories for customization• Easy install with multiple mounting options
Spectra Pro 2 	Protect your facility at a lower cost with an outdoor-ready PTZ camera that offers broad coverage and reliable performance.	<ul style="list-style-type: none">• Analytics to help with decision-making• Cost-effective for everyday security needs• Pendant and in-ceiling models• High-resolution and long-range zoom• Rated from -40° to 50°C (-40° to 122°F)• Vandal-resistant with an IK10 rating
Ulisse Enhanced 2 Series PTZ 	The Ulisse Enhanced 2 Series PTZ is built to withstand most outdoor environments while maintaining continuous clear, high-resolution live and recorded video. Its flexible illumination options provide outstanding image clarity in any lighting condition, delivering exceptional forensic detail and powerful deterrent capabilities.	<ul style="list-style-type: none">• Heavy-duty housing• Long-range IR illumination• Flexible mounting options• Rated from -40° to 65°C (-40° to 149°F)• Wiper and sun shield for added protection



Panoramic

[Panoramic security cameras](#) provide wide area coverage to detect the activity of people, vehicles and even wildlife. With 360-degree coverage from a single vantage point, the panoramic camera experience provides total situational awareness with fewer cameras.

Model	Summary	Benefits
Sarix Multi Enhanced 	<p>The Pelco Sarix Multi Enhanced camera delivers multi-directional coverage from a single vantage point, offering security teams exceptional situational awareness of wide areas using fewer cameras. This analytics-enabled camera helps to reduce blind spots and can take on the most difficult lighting conditions across vast areas while providing high-quality, panoramic views.</p>	<ul style="list-style-type: none"> • Multi-directional coverage from a single vantage point • Reduce deployment and maintenance costs • Smart Analytics • Flexible lens options for custom coverage • Integrates with your ONVIF-conformant VMS
Sarix Multi Pro 	<p>Providing multi-directional coverage, flexible mounting options and up to 32 MP resolution, the Sarix Multi Pro camera allows you to achieve total coverage of up to 360-degree field of view from a single vantage point.</p>	<ul style="list-style-type: none"> • Flexible design to cover large areas • Built with analytics to help classify and track objects. • Easy to deploy • See in bright and low light • Rain, snow and vandal-resistant • Integrates with your ONVIF-conformant VMS
Fisheye 	<p>The Pelco Fisheye Camera features built-in AI-powered Smart Analytics which detect critical events and help increase security teams' productivity by expediting real-time responses and forensic investigations. This panoramic camera is a cost-effective and easy-to-install device that provides 360-degree views of large areas from a single vantage point, bringing superior situational awareness free from blind spots.</p>	<ul style="list-style-type: none"> • Built-in microphone for audio detection • Detect objects with Smart Analytics • Resist damage from water, dust or impact • Easy-to-install and low-profile design • Integrates with your ONVIF conformant VMS

Specialty

[Specialty cameras](#) are purpose-built to improve security operations for specific applications, including in difficult weather and lighting conditions. From ruggedized camera housings and low-light capabilities to extreme operational temperatures, these devices provide reliable video for oil and gas sites, ports and more.

Model	Summary	Benefits
ExSite Enhanced 2 Series 	<p>The ExSite Enhanced series are explosion-proof cameras with multiple global certifications. Designed with AISI 316L stainless steel, these cameras offer maximum resistance in hazardous and corrosive environments, such as industrial and marine industries. Available in PTZ (with or without IR), fixed, thermal, compact and bispectral.</p>	<ul style="list-style-type: none"> • Global explosion-proof certifications • Weather resistant to harsh conditions • Wide temperature range • High-resolution, long-range zoom • Smart Analytics and Elevate-enabled
ExSite Pro Series 	<p>These explosion-proof cameras offer a lower price for hazardous sites with a limited budget. Available in bullet, PTZ (with or without IR).</p>	<ul style="list-style-type: none"> • Global explosion-proof certifications • Weather resistant - from windblown dust to rain and snow • Wide temperature range • High-resolution, long-range zoom • Smart Analytics and Elevate-enabled
Esprit Enhanced and Compact Series 	<p>The Esprit Enhanced and Compact series are hardened, mission-critical cameras that can withstand extreme environmental factors. Built for operations that have rigorous operational requirements, these cameras are ideal for monitoring cities, ports, industrial plants and enterprise facilities. Available in PTZ, with or without IR, and bispectral PTZ.</p>	<ul style="list-style-type: none"> • High-resolution, long-range zoom • Weather resistant - from windblown dust to rain and snow • Impact resistant • Wide temperature range • Easy installation with its compact design and multiple mounting options • Optional IR illuminator • Smart Analytics (Esprit Compact) • Pelco Enhanced Analytics (Esprit Enhanced)
Esprit Anti-Corrosion Series 	<p>The Esprit Anti-Corrosion series is made of stainless steel to offer maximum resistance in corrosive environments, such as offshore/onshore marine, ports and roadways. Available in fixed, PTZ and bispectral PTZ.</p>	<ul style="list-style-type: none"> • Rugged construction for maximum corrosion resistance • Weather resistant - from windblown dust to rain and snow • Wide temperature range • High resolution, long-range zoom, SureVision technology • Lloyd's Register Type Approval • Smart Analytics
Sarix Thermal Enhanced 4 series 	<p>The Sarix Thermal Enhanced 4 Series enables sites to identify threats beyond what is visible to the human eye. Using radiometric thermal imaging, this camera measures temperature fluctuations to help identify and prevent hazardous situations, such as overheating.</p>	<ul style="list-style-type: none"> • Radiometric capabilities • QVGA and VGA lens options • Water and impact-resistant • Smart Analytics

Camera resolutions and frame rates

When selecting camera resolutions and frame rates, it's essential to assess your specific security needs, available storage and network capacity. Consider the following to ensure both effective video security and cost efficiency for your business:

Resolution

Resolution determines the level of detail a camera can capture, with higher resolutions providing clearer images. For businesses, it's essential to strike the right balance between resolution and cost, as high-resolution cameras can be more expensive and generate larger data files.

Consider the specific areas you need to observe and the level of detail required. For example, entrances and exits benefit from high resolutions to capture facial features, while larger open areas require broader coverage at a slightly lower resolution.

Frame rate

Frame rate relates to the number of individual frames or images captured per second. A higher frame rate ensures smoother video playback but can also increase storage and bandwidth demands. For most commercial security applications, 15 to 30 frames per second (fps) is sufficient for capturing incidents and observing events. However, higher frame rates may be necessary in critical scenarios, such as casinos or high-security facilities, where every detail matters.





Placement and installation of cameras

Installing video security cameras is another important part of ensuring better security in your facilities. Most businesses consider the following:

- All entrances and exits.
- Cashier cages and counting rooms to ensure staff and customer safety.
- High-value storage areas, such as safes and vaults, protect valuable assets from bad actors.
- Parking lots and surrounding areas to detect potential criminal activities and give customers and/or residents peace of mind.
- Restricted access areas, such as employee-only areas, to keep staff safe and deter unauthorized visitors from entering.
- Elevators and stairwells to quickly identify suspicious or abnormal activity.
- Hallways and corridors to provide a secure environment for employees, customers or residents.
- Any other areas where valuable assets are present or where illegal activities are likely to occur, such as a security room with servers or storage space.
- For an added layer of protection, the perimeter of the building must also have its own set of security cameras.

Achieving optimal coverage

Strategically positioned video security cameras enable security teams to observe vulnerable areas, analyze and record video footage and detect suspicious activity. The cameras should be positioned to provide the widest possible coverage of vulnerable areas with the fewest cameras.

A commercial video security system should also capture clear images in all light conditions. Clear images are essential, not just to detect activity but to capture evidence in the event of an incident. Perimeter security cameras are available in a wide range of resolutions, including the latest 7K, 30-megapixel models capable of capturing the highest levels of detail.

To overcome the challenges of poor visibility and low-light conditions, thermal cameras can provide clear images, even in complete darkness.



Scalability and future expansion

When investing in video security systems, it's important to understand scalability and future expansion limitations. For example, adding more cameras or upgrading to a more powerful system. Products may also be discontinued (especially when working with other manufacturers), making it imperative to ensure the equipment you purchase today will still be available to add to the system a few years down the road.

Pelco specializes in open-platform, ONVIF conformant cameras that work with many systems – freeing you from video software lock-in and providing unlimited scaling capability.



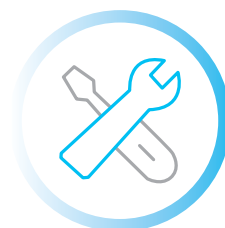
Always up to date



Cyber secure



Infinite scaling



Instant deployment

Privacy concerns and legal considerations

Addressing privacy and legal considerations is paramount when deploying security cameras at your business. Striking a balance between security and individual privacy is essential to maintain trust with employees, customers and the public while complying with applicable laws and regulations.

Proactively addressing privacy concerns and diligently adhering to legal considerations can foster a sense of security without compromising individual rights. A well-executed approach to video security enhances safety and demonstrates your commitment to responsible data handling and ethical practices, which can enhance your organization's reputation and credibility.

Transparency and notice

Be transparent about the presence of security cameras. Clearly post signs indicating observed areas, ensuring that individuals are aware of being recorded. Providing notice helps set expectations and informs visitors and employees about your commitment to security.

Employee privacy

When installing cameras in the workplace, respect employee privacy rights. Avoid positioning cameras in areas like restrooms or breakrooms. Communicate the purpose of video security to employees and obtain their consent if local laws or employment contracts require it.

Data protection regulations

Comply with data protection regulations, such as the General Data Protection Regulation (GDPR) or similar laws in other regions. Implement security measures to safeguard recorded data, restrict access to authorized personnel and establish data retention policies.

Access control

Ensure that only authorized personnel can access recorded footage by implementing strict access controls to prevent misuse of video data and regularly audit who reviews the footage.

Data retention

Establish clear guidelines for how long video footage will be retained. Laws may dictate specific retention periods for different types of businesses and situations. Follow these guidelines rigorously to avoid legal complications.

Consult legal experts

Engage legal counsel or data protection experts who are well-versed in local and international privacy laws.

Regular auditing and training

Conduct regular audits of your video security system and educate staff on privacy policies and best practices. This ensures that your organization remains in alignment with evolving privacy regulations.

Redaction and blurring

Implement technology that allows for redaction or blurring of faces or sensitive information in recorded footage when sharing it for legal or public safety purposes.

Consent and public spaces

Consent requirements may differ for public spaces. Work with legal experts to understand the nuances of video security in areas accessible to the public.

Regularly update policies

Stay informed about changes in privacy laws and adapt your policies and practices accordingly. Regularly update your security camera system to incorporate new features that enhance privacy and compliance.



Weatherproof and vandal-resistant camera housing

Weatherproof and vandal-resistant camera housings are designed to offer increased protection against vandalism and the elements indoors and outdoors.

Vandal-resistant cameras

The best vandal-resistant cameras withstand direct blows to their housings and lens covers without breaking and interrupting the video.

Keep people safe

Bullying and violent acts occur far too frequently in schools and other locations. Individuals who know there will be video proof of their crimes will think twice before harming others.

Reduce crime

Criminals want to disable security cameras to hide their identities and criminal activity. When their attempts to damage or destroy security cameras fail, crime in the area is reduced.

Protect high-risk areas

For areas where people and property are at high risk, ensuring video security is uninterrupted can save lives. When an attempt is made to obscure the camera's view, like spray painting, covering or moving the camera, the camera tamper detection analytics send an alarm to security personnel.

Weatherproof cameras

Investing in quality cameras built to withstand extreme weather means less repair and replacement costs. Pelco has over six decades of experience building quality cameras that withstand the harshest elements to keep our communities safe.

Mitigate risk

With weatherproof video security cameras in place, continuous video data helps reduce and solve crimes, which ultimately lowers your risk posture and fosters safety.

Combat extreme temperatures

Our extreme weather cameras are built to survive not only precipitation but direct hose-downs without damage, including comprehensive operating temperature ranges up to -60°C to 60°C (-74°F - 140°F).

Withstand the elements

Features like low light, motion detection and anti-fog lenses enhance the ability to provide clear, reliable video. Cameras come with fortified mounts that provide reliable protection against strong wind gusts and are also designed to withstand ingress of moisture and rain.

Challenging lighting

It is impossible to control lighting in all situations. Whether your organization is dealing with extreme lighting outdoors or dim lighting indoors, having security cameras that adapt to challenging lighting conditions keeps people and property safe.

Connectivity considerations and processes

From selecting the right network infrastructure to ensuring seamless integration with existing systems, connectivity is the vital thread that weaves together the components of a video security system.

Connectivity ensures that cameras transmit high-quality footage in real time to central monitoring stations or the cloud, facilitating remote access and analytics. Moreover, it allows for scalability, enabling the addition of more cameras and devices as security needs evolve.

Wired vs. wireless camera systems

Wi-Fi and wireless security cameras offer significant benefits regarding deployment and overall flexibility. The following breakdown provides an insight into the pros, cons and differences between Wi-Fi security cameras, wireless security cameras and traditional wired security cameras.

Wireless security cameras

Wireless security cameras are a modern and versatile approach to video security that relies on wireless technology, such as Wi-Fi or cellular networks, to transmit video data to a central recording system or the cloud.

- **Flexibility:** Wireless connectivity provides flexibility in camera placement, as they can be installed virtually anywhere within the range of the network signal.
- **Streamlined installation:** Wireless security cameras are ideal for businesses seeking a streamlined installation process without extensive cabling.
- **Remote friendly:** Wireless cameras are particularly valuable for remote or temporary video security, allowing for quick setup and relocation.
- **Convenience:** Wireless cameras often offer convenient features like mobile app access and notifications, making them a popular choice for businesses looking to maintain real-time visibility and control over their security, even off-site.

Wired security cameras

Unlike their wireless counterparts, wired security cameras rely on physical cables for data transmission and power supply. These cameras are connected directly to a network video recorder (NVR) or a central monitoring system through Ethernet or coaxial cables.

- **Reliability and stability:** Wired security cameras ensure uninterrupted video feed, making them an excellent choice for businesses with critical security needs. They are commonly used in scenarios where a consistent and robust connection is essential, such as large-scale installations or areas with potential signal interference.
- **Simple installation:** Wired cameras often support Power over Ethernet (PoE), simplifying installation by providing data and power through a single cable.
- **Durability:** Wired cameras are known for their durability and are suitable for long-term video security solutions where consistent performance is a top priority.

The best camera for any application will be the one that fits your use case and requirements. A wireless video security camera is ideal for temporary deployments, whereas a wired security camera is better for commercial enterprises that require reliable continuous recording.



Monitoring and access control

Centralized vs. decentralized monitoring

When considering the implementation of a commercial video security system, businesses often face the decision of whether to opt for a centralized or decentralized approach. Both options have their advantages and disadvantages and the choice between centralized and decentralized video security systems depends on the specific needs and priorities of each commercial setting.

Centralized Monitoring: A centralized video security system involves collecting and processing video data from multiple locations in a single control center. Centralized systems offer easier management, cost-effectiveness, and consistent standards but may be susceptible to single points of failure and potential privacy concerns.

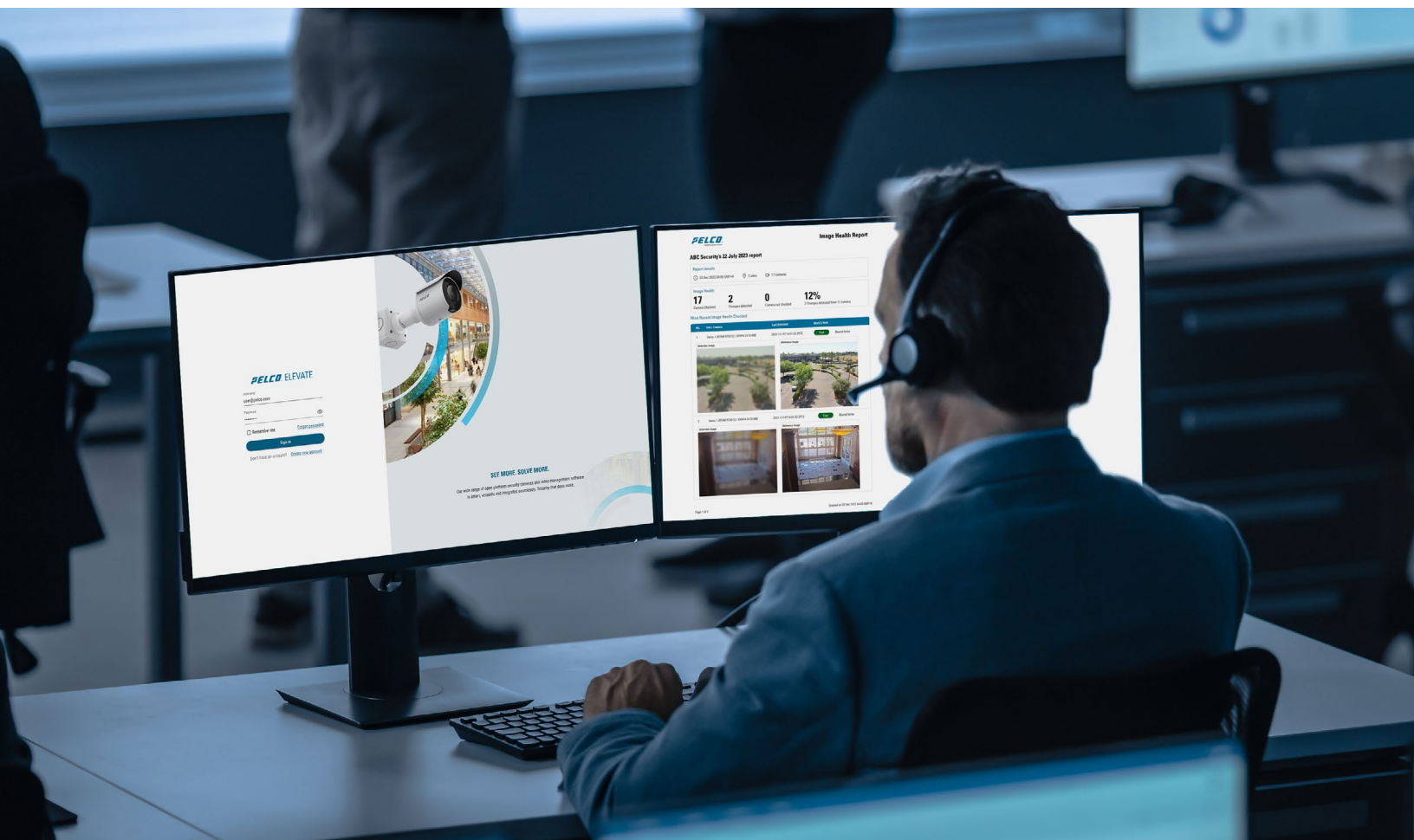
Decentralized Monitoring: A decentralized video security system distributes the infrastructure across multiple locations, with each location having its own setup. Decentralized systems provide redundancy, localized monitoring and enhanced privacy but can be costly to implement and maintain.

Remote viewing and mobile apps

Video security management systems allow security professionals to easily see what they need to see when they want to see it through cloud-based software and mobile applications.

User authentication and access levels

User access levels range from the Administrator group to the Restricted group. Directors of security can establish access controls in areas like entrances and exits to address unauthorized entry and other physical security breaches.





Smart sensor technology

Smart sensing technologies can dramatically improve physical security. Areas where visual and audio recording is not permitted due to privacy concerns pose a unique security challenge as they are often targeted to engage in prohibited or unsafe activities. What makes these devices ideal for privacy-concern areas, such as restrooms, is they do not record any video or audio making them a perfect addition to any video security system.

Smart sensors feature low-power mobile microprocessors that provide safety and security monitoring and detection by incorporating artificial intelligence, biometric readers, threat detection software, motion sensors and other digital security measures. For areas where cameras aren't allowed, these sensors provide the next best thing—accurately detecting potential risks that can prevent problems from escalating.

Sensors, like the all-in-one [HALO Smart Sensor](#), are essential physical security devices that detect environmental changes and alert security teams to threats, such as smoking, break-ins and harmful chemicals and particulates. When integrated with a video security system, operators can take advantage of enhanced situational awareness and real-time alerts to tackle onsite health and safety events efficiently.

For example, when an anomaly, such as a loud noise, unusual motion or smoke, is detected, the sensor will notify the operator. Additionally, the operator can be presented with live video from the security cameras nearest to the sensor alarm for greater visibility of the incident and to support the response. These real-time alerts, informed decision-making and fast responses help tackle the threat and restore safety.

These devices and systems are effective for schools and other markets, such as healthcare facilities, hospitality, commercial buildings, apartment complexes, assisted living, manufacturing and more. For organizations who are looking for solutions to improve the health and safety of their workers, the [HALO Smart Sensor](#) easily integrates with existing security systems, reducing costs and resources, while providing a layer of security where cameras cannot be installed.

Video analytics and advanced features

[Video analytics](#) for security systems transform cameras into intelligent sensors that go beyond passive observance. This technology leverages artificial intelligence and machine learning algorithms to analyze video footage in real time, allowing for proactive threat detection and automated responses.

The more information you have about your sites, the better you can protect them. With constant information coming in, our suite of video analytics technologies helps you detect and prioritize what is happening on your site (including people and vehicles) so you can prevent critical incidents from occurring and take action.

Advanced video analytics

With features like [ONVIF conformant](#), motion detection, facial recognition, license plate recognition, thermal imaging and alerts, Pelco video camera security and advanced analytics help you gain the most from your system.

ONVIF conformant: ONVIF stands for Open Network Video Interface Forum. Pelco products are ONVIF Profile S, G, T and M conformant, making it possible for multiple devices to work together.

Object and motion detection: Classify objects beyond people and vehicles, including motorcycles and bicycles. Plus, receive alerts for events caused by people or vehicles with reduced false alarms.

Thermal imaging: Pelco's state-of-the-art thermal imaging technology is ideal for situational awareness and threat detection for perimeter security and high-value asset monitoring.

Integrations

We partner with [best-of-breed solutions](#) to integrate with all your security systems, enabling you to increase efficiency and streamline operations. All Pelco cameras are built on an open platform and are ONVIF-conformant meaning you can seamlessly integrate them with any third-party VMS, including Milestone, Genetec and more. As a result, you don't need to "rip and replace" your existing security systems, helping you save time and money while future-proofing your overall security infrastructure.



Product name	Summary	Benefits
Smart Analytics 	<p>Smart Analytics provides the most advanced analytic technologies that deliver higher accuracy, detection and classification of people and vehicles.</p>	<ul style="list-style-type: none"> Configured with the Camera Configuration Tool (CCT) that enables the tracking and classification of over 50 objects Capable of classifying both moving and stationary objects Manage queue length and receive alerts on crowd flow <p>Additional features offered on select cameras:</p> <ul style="list-style-type: none"> Privacy masking: Blur out specific areas to maintain a high degree of privacy Facet metadata: Use physical characteristics, such as color, to help quickly identify individuals or vehicles Crowd thresholds: Know if too many people have gathered in a specific area in a short period of time Crawling detection: Identify individuals crawling Vehicle subclasses: Create rules based on vehicle type Audio analytics: Detect loud and unusual noises
Calipsa 	<p>Calipsa is a cloud-based video analytics platform that enables businesses to optimize their security system with AI-powered analytics for real-time and forensic analysis.</p>	<ul style="list-style-type: none"> Detect provides cloud-based intelligence for all cameras without purchasing additional hardware. Detect Pro includes Camera Health, which reduces maintenance costs and removes the need to manually check the cameras' status. Protect includes additional analytic capabilities such as detecting loitering, count-based alerts, and crowd forming - all within a defined region of interest. Investigate turns your video analytics solution into a powerful cloud-based forensic analysis search tool.
Pelco Elevate 	<p>Pelco's direct camera-to-cloud technology combines edge and cloud AI with Pelco cameras to expand their capabilities.</p>	<ul style="list-style-type: none"> Experience exceptional performance and detection accuracy Maximize productivity and efficiency Secure cloud-based machine learning technology, no additional server hardware is required ONVIF conformant events work with the leading ONVIF conformant video management systems to inform operators of image health change detections and the camera's cloud connection status Image health: Streamline camera view assessments and eliminate manual checks by automatically being notified when your camera's view has changed Unified Site Management: Easily scale security systems by connecting multiple sites to a single account and organize your cameras and sites hierarchically Automatic firmware updates: Eliminate the need for manual firmware updates, saving time and money, and help ensure a high level of cyber security with your cameras running the latest firmware Visible firearm detection (VFD)*: Proactively mitigate gun violence. VFD uses cloud-based AI to quickly detect handheld firearms from entering the scene PPE*: Detect in real-time whether your workers are wearing the right equipment on site, such as high-visibility jackets and hard hats

*Requires a separate subscription and fee.

Maintaining and managing the system

The efficacy of your video security system depends not only on its initial setup but also on how well it's maintained and managed over time. While maintenance processes may look different based on camera and system type, below are essential practices and strategies to ensure your video security system continues optimally.

Regular camera maintenance and cleaning

Dust, dirt and environmental factors can accumulate on camera lenses and housing, potentially compromising image quality. Routine cleaning involves gently wiping camera lenses with a microfiber cloth and cleaning solution to ensure clear, unobstructed views. Additionally, inspecting cameras for physical damage or signs of wear and tear is crucial, as timely repairs can prevent costly replacements.

Software updates and security patches

Regular maintenance also includes software updates to ensure that security camera systems are running the latest firmware for optimal performance and security.

Periodic system health checks

Regularly scheduled system reboots are required to ensure optimal performance. Additionally, live and recorded video footage should be reviewed daily to ensure cameras and storage systems are working.

Incorporating these practices into your video security system management maximizes camera longevity, maintains image clarity and ensures that your security system operates reliably when needed.





Compliance and legal considerations

As mentioned, diligently adhering to legal considerations fosters a sense of security without compromising individual rights. A well-executed approach to video security enhances safety and demonstrates your commitment to responsible data handling and ethical practices, which can enhance your organization's reputation and credibility.

FIPS and US government compliance: FIPS (Federal Information Processing Standards) compliance ensures that video camera security systems meet the stringent security standards mandated by the US government. This certification is crucial for systems used in government facilities and organizations that handle sensitive data, as it guarantees robust protection against cyber threats.

NDAA and international government bans on Chinese-manufactured cameras: [The National Defense Authorization Act \(NDAA\)](#) prohibits the use of certain Chinese-manufactured security cameras and components in US federal facilities due to security concerns. Likewise, international governments have followed suit, banning these cameras to safeguard against potential vulnerabilities and data breaches associated with these products.

GDPR, HIPAA, and other relevant regulations: GDPR (General Data Protection Regulation) and HIPAA (Health Insurance Portability and Accountability Act) are just a few examples of regulations that impose strict guidelines on handling personal and healthcare-related data. In video camera security, compliance with these regulations necessitates stringent data protection measures, access controls and data retention policies to ensure individuals' privacy and safeguard sensitive information.

Data protection and privacy measures

The importance of data protection and privacy measures in video security cannot be overstated. In an era of pervasive video security technology, maintaining public trust and safeguarding individual privacy are paramount. Effective data protection measures, including robust encryption, access controls and secure storage, are essential to prevent unauthorized access and data breaches. Moreover, respecting privacy rights through thoughtful camera placement, redacting sensitive information and compliance with relevant regulations (stated above) is crucial.



Responding to incidents

No matter the industry, proactively responding to incidents and threats is key. Pelco's video security devices allow organizations to mitigate threats, gain stronger situational awareness and increase real-time response to emergencies.

Developing incident response procedures

With cyber threats and security incidents growing by the day, every organization needs a solid incident response plan – AKA, a repeatable procedure that helps your organization before, during and after a confirmed or suspected security incident. The easier it is for staff to report suspicious activity, the quicker security teams can investigate incidents.

Organizations must establish points of contact for incident response, such as who is responsible for threat verification and when to call law enforcement. Next, define how to manage out-of-hours monitoring and when to arm and disarm your site.

An effective incident response plan enables security teams to accomplish the following:

- Recognize and respond to an incident
- Assess the incident quickly and effectively
- Notify the appropriate parties of the incident
- Organize a company's response
- Escalate response efforts based on the severity
- Support recovery efforts

The initial minutes in an emergency are critical. Knowing what's going on, quickly notifying employees and taking action are essential. A robust video security system helps organizations enhance their emergency management capabilities to better prepare for and respond to emergency scenarios.



Training and education

Once you have chosen the right video security technology, providing training to your staff is essential. Basic training should cover skills and knowledge of video security, such as operating, configuring and troubleshooting devices and software, accessing recorded footage, storing data and compliance. Other considerations include:

- How to identify and report suspicious behavior
- How to perform frequent inventory audits, if applicable
- How to detect and prevent fraudulent activity
- How to create workplace safety and emergency procedures

Advanced training should cover the specific skills and knowledge of video security, such as how to use analytics and alerts, enhancing image quality and resolution, optimizing the network and bandwidth and responding to incidents and emergencies.

Additionally, staff must be trained on the location of security cameras, including the areas they cover and how they work.

Pro tip: Security awareness training should not be a one-time event but a continuous process that adapts to your organization's changing security landscape and needs. Communicate and coordinate with your colleagues, managers and stakeholders to ensure everyone is on the same page and working towards the same goals.

Industry-specific video camera security use cases

Oil & Gas

Video camera security solutions for the oil and gas industry help maximize on-site security for better protection of employees, assets and the natural environment. In many cases, IP video cameras designed for extreme environments meet the challenges of exploration and energy production companies, including explosion-proof systems for harsh conditions.

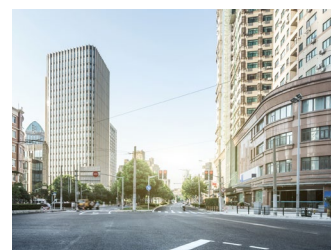
[Discover oil and gas video security](#)



City safety

A city camera system addresses challenges such as safety concerns, crime, threats and stakeholder collaboration to deliver a better quality of life for citizens. Whether dealing with security at government facilities, managing traffic and crowds at local events or responding to natural disasters, having rugged IP video security devices streamlines decision-making and guides actions.

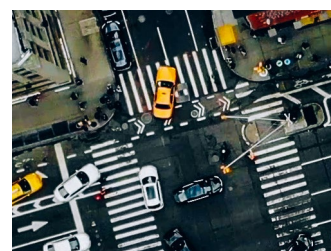
[Explore security devices for cities](#)



Traffic monitoring

Maintaining traffic flow requires cameras that adapt to all lighting conditions, including bright sunlight, glare, low lights, shade and darkness. Clear, crisp images in all lighting conditions are essential for responding to traffic flow challenges, accidents, and weather-related issues. Pelco cameras also feature video analytics that alert operators of accidents and hazardous conditions to ensure rapid responses.

[View traffic monitoring solutions](#)



Government organizations

Every government agency needs the right protection. Securing people, facilities and assets of government at all levels, including borders, ports, embassies and military bases, are critical tasks. Advanced video camera security allows security leaders in this segment to observe sensitive and extensive areas, preventing intrusion, internal or external theft or tailgating.

[Discover government video security](#)



Schools

Whether a school has one building or is a large multi-facility campus, school leaders are faced with the same responsibility - to keep students, staff, visitors and assets safe. While system requirements vary greatly by school size, campuses require security cameras and technologies that provide full coverage so you never miss an incident.

[Explore school video security](#)



Medical facilities

Healthcare and medical providers need security that protects patients, staff and equipment. The unique surroundings of hospitals and healthcare facilities – comprised of restricted areas, such as infant delivery and operating rooms, high-risk patients and a constant stream of staff, patients and visitors daily – create an ever-changing threat environment. Our devices, including specialty video security cameras, offer medical facilities complete situational awareness and operational effectiveness.

[Explore healthcare security devices](#)



Commercial businesses

Commercial video security camera systems are crucial to an effective security plan. Pelco offers commercial security cameras and video management solutions for businesses, office buildings, shopping centers and hotels to safeguard personnel, improve operational flexibility and help reduce theft, crime and vandalism.

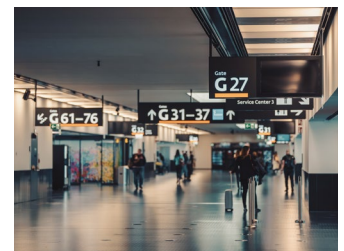
[View commercial video camera security devices](#)



Airports

From terrorism threats, crime, passenger safety and rules and regulations, it can be argued that airports are the most dynamic environments in the transportation market. Our devices can efficiently observe an entire airport, from perimeter to terminal, while overseeing and controlling crowd movements, passenger flow and suspicious activity, ultimately ensuring the highest level of safety.

[Discover security devices for airports](#)



Casino and gaming

The gaming industry faces significant challenges with safeguarding guests and employees, protecting critical assets and gathering intelligence to prevent significant breaches and fraud. Intelligent IP video security solutions help decrease fraud, control liability issues, comply with regulations, and meet customer safety expectations. From the flashing lights of slot machines to low lights in parking areas, extreme lighting conditions require video cameras designed to adapt automatically.

[Uncover casino and gaming video security](#)



Corrections

Prisons, jails and other correctional facilities need constant video security, and employing 24/7 security personnel isn't sustainable. Security cameras observe the property and perimeter at all times. Pelco's vandal-resistant cameras observe and record activity even in low-light situations. Built-in microphones provide additional situational awareness in high-security corner mount models. Pelco cameras also help correctional facilities comply with camera coverage for blind spots.

[Video security cameras for correctional facilities](#)



Case studies

Find out how businesses and organizations have used Pelco's physical security technologies to enhance safety and security and improve operations.



Video security for an engineering marvel

With thousands of motorists using the Chesapeake Bay Bridge-Tunnel (CBBT) every day, the operations team must keep track of what is happening across the complex to ensure a safe and efficient journey for all. However, with so many things to look out for, including traffic, incidents and weather conditions, it can be challenging to stay at the forefront of security. As a result, CBBT understood that they needed a system that could provide them with crystal-clear, real-time video of what was happening across the facility.

CBBT deployed Pelco's video security system to enhance safety across its site and provide an efficient journey for users. With this powerful video security system, the operations team can rely on its technology to provide the extensive coverage they need to perform their duties. Feedback from CBBT has been overwhelmingly positive, in particular around the significant improvement in the coverage area, imagery and ease of use.

“The coverage achieved using Pelco has allowed us to shorten our response times. When an event occurs, we can pinpoint where to send help, and it arrives sooner.

- Ray Wood, Director of Management Information Systems at Chesapeake Bay Bridge-Tunnel

[Read case study](#)

Streamlining traffic flow and enhancing security for a large airport

With so many passengers coming and going from Memphis Tennessee Airport, it sees a substantial number of vehicles entering and exiting the facility. To streamline traffic and ensure staff could be deployed quickly to a specific parking floor or location to alleviate any problems, the airport deployed Pelco's video security system.

Once the system was deployed, its potential security applications quickly became apparent and have proven valuable in several incidents, including instances of individuals driving through or breaking parking arm gates to avoid paying fees. In these situations, cameras captured license plate information, allowing the drivers to be identified and held responsible for parking fees and the damage they caused.

In another situation, the video system helped the airport as well as the TSA avoid liability and a potential lawsuit when a woman accused TSA of harassing, beating and injuring her daughter, a brain cancer patient from St. Jude Children's Hospital. Cameras showed that the TSA agent had merely restrained the girl after she had swung at and attacked him.



[Read case study](#)

Enhancing awareness across a school district with Pelco

Although its schools had analog video security systems, Lewiston-Porter Central School District leaders identified significant technological gaps that led to security challenges. For example, analog cameras often returned grainy and blurry images in areas of high motion like hallways and cafeterias, making identifying and responding to threats and acts of vandalism that much harder. It also took more analog cameras to cover the same area as it took one IP camera, meaning the cost of purchasing and maintaining analog video security was costlier.

To help ensure its schools remained safe and secure, the school district worked with Pelco, which provided 190 new cameras, including the Sarix, Optera and EVO IP camera lines. Unlike the previous analog system, the new Pelco cameras provide superior resolution, detailed images and the ability to cover a larger area.



“The cameras have been a big help when researching problems. It's added more to my job. But it also helped me do my job better.

- Paul Feathers Jr., Director of Facilities at Lewiston-Porter

[Read case study](#)

Additional resources

- [Commercial security camera industry trends guide](#)
- [Physical security assessment & checklist](#)
- [School security systems guide](#)
- [ONVIF cameras and profiles guide](#)
- [Security camera cable & wiring guide](#)



Video security is fundamental to your business's safety and success. Create a smarter and safer world with Pelco's wide range of security devices and sensors working together as an integrated system to meet global security standards.

Disclaimer: The information provided in this guide is for informational purposes only and is not a substitute for professional security advice.

[**Get expert help today**](#)



Motorola Solutions, Inc. 500 West Monroe Street, Chicago, IL 60661 U.S.A. motorolasolutions.com

MOTOROLA, MOTO, MOTOROLA SOLUTIONS and the Stylized M Logo are trademarks or registered trademarks of Motorola Trademark Holdings, LLC and are used under license. All other trademarks are the property of their respective owners. ©2025 Motorola Solutions, Inc. All rights reserved. 02-2025 [H002]