



# TODAY'S NEW NORMAL, TOMORROW'S EMERGING NEEDS

THE EVOLUTION OF VIDEO-BASED SAFETY AND SECURITY TECHNOLOGY





# TABLE OF CONTENTS

<b>Defining Safety In 2022</b> .....	<b>3</b>
<b>Video Security and Safety: Themes From the Motorola Solutions Industry Surveys</b> .....	<b>4</b>
Retail .....	5
Healthcare .....	6
Education .....	7
Hospitality .....	8
Manufacturing .....	9
Transportation .....	10
Public Safety .....	11
<b>Implementing Video Security and Analytics</b> .....	<b>12</b>
Video Analytics: At the Heart of Next-Generation Security .....	13
H5A Camera Line .....	14
Access Control Manager (ACM) .....	14
Avigilon Control Center (ACC) 7 .....	15
AI NVR .....	15
<b>How Are You Going To Implement Video Security Technology?</b> .....	<b>16</b>



# DEFINING SAFETY IN 2022

What does safety mean in 2022? How can technology play a meaningful, constructive role in enhancing it? And what is the lesson for businesses and the public sector as they take stock of today's safety imperatives and tomorrow's anticipated safety needs?

These are the questions that today's fast-moving events are necessitating among forward-looking companies and agencies.

As the COVID-19 pandemic raced across the globe in late 2019, technology was relied upon to help keep modern society operating, efficient, and entertained. From video calls to internet-connected exercise machines, businesses and private citizens alike were jolted forward in both their use of, and expectations around, technology.

According to a global survey of top executives conducted by consulting firm McKinsey & Company, "responses to COVID-19 have sped the adoption of digital technologies by several years — and many of these changes could be here for the long haul." In addition, "most respondents recognize technology's strategic importance as a critical component of the business, not just a source of cost efficiencies."

It's clear that for executives and citizens, expectations around technology are rapidly shifting. Businesses across a broad range of industries and the government, are racing to make technology's promise of smarter, more resilient, and more powerful capabilities a reality. Today, people simply expect technology to do more and be more helpful in their everyday lives.

When it comes to safety and technology, that's true across a range of industries from retail, healthcare, and education, to hospitality, manufacturing, transportation, and across public safety. All industries are doubling down on core safety technology such as video security, access control systems, and cloud-based management software. Now, it's not enough to offer individual pieces of technology. To be truly useful, they must be integrated and easy to use, while acting as a powerful force multiplier, allowing users to do more in less time, using fewer resources.

It's clear that as world events and safety challenges shift, our safety technology must evolve in tandem.



# VIDEO SECURITY AND SAFETY

Themes From The  
Motorola Solutions  
Industry Surveys







## RETAIL

VIDEO SECURITY  
IS IN USE BY

72%

OF RESPONDENTS

Even before the pandemic, the retail sector has been hit with a range of challenges, from the need to make physical retail relevant in the digital age, to keeping customers and employees safe, to combatting increases in organized shoplifting. Now, amidst the ongoing pandemic, the retail industry is facing new and daunting challenges. Providing a safe and enjoyable experience for guests and employees while operating efficiently to keep costs down is still a top priority, but with stricter health guidelines and staff shortages, many businesses must make changes to long-standing operational procedures.

From video security and analytics to artificial intelligence, technology is helping staff do their jobs more safely by proactively addressing issues before they become larger problems. That's why the adoption of security technology in retail is on the rise. According to the 2021 Motorola Solutions Retail Survey, video security is in use by 72% of respondents, access control is in use by 33%, and 50% of respondents continue to rely on security personnel in addition to their technology security measures.

Video security is an essential part of loss reduction and overall safety. Yet, while video security is in use by almost three-quarters of respondents, video analytics are currently used by only 22%, making this a likely growth area in the years ahead. Equipping retail employees with a solution that intelligently captures first-hand video records of their day-to-day interactions offers a unique opportunity to solve problems, provide evidence of crimes committed in the store, and even act as a training opportunity. Additional advances are enabling integration between video security and communications technology, enabling real-time alerts to be sent directly to the devices that teams use most.

As safety and security challenges evolve in the retail space, early adopters of advanced safety and security technology are detecting threats earlier, minimizing incident response time, preventing incidents, and maximizing the value of other security investments.

Source: McKinsey & Company





# 52%

SAID THEY  
RESPOND TO UP TO  
5 SECURITY/OPERATIONAL  
INCIDENTS PER DAY

## HEALTHCARE

For healthcare facilities evaluating technology solutions, protecting staff, patients, and visitors with safety features is the first priority. Yet, when it comes to safety, few things are more important than a quick response. Whether in the midst of an emergency or a smaller incident with the potential to grow more dangerous, time is of the essence. Technology can help automate and speed responses, providing seamless sharing of data and automatic notifications to appropriate staff, saving time when every second counts.

Yet, most respondents (62%) say it currently takes 3-5 minutes to respond to security or operational incidents. At the same time, 52% said they respond to up to 5 security/operational incidents per day, and another 33% respond to anywhere from six to 21 or more incidents daily. As the number of incidents rise, the average response time is likely to increase, leaving staff and patients more vulnerable.

That's why basic security technology may not be adequate for many health facilities. Currently, 36% of respondents report they have video analytics in place, compared to 12% in 2019. Of that 36%, most are using video analytics in patient care areas to detect "slip and fall" or "fall out of bed" incidents and for license plate recognition. Facial recognition is being used by 22% of respondents; however, facilities would also likely benefit from video appearance search, which incorporates color and object recognition to find matching results in seconds or minutes instead of hours or days. In addition, less than 5% of facilities have body-worn cameras or interoperability with public safety in place – two capabilities that offer significant potential to enhance security and safety. Fortunately, all facilities surveyed plan to invest in additional security technology in the next five years.





## EDUCATION

NEARLY  
**40%**

OF RESPONDENTS  
SAY THEIR SECURITY  
SYSTEMS EITHER “NEED  
IMPROVEMENT” OR ARE  
ONLY “ADEQUATELY”  
MEETING THEIR NEEDS

Perhaps no other part of everyday life has been as challenged by the pandemic as the education system. Of course, those challenges are being piled upon long-standing safety considerations around school access control and violence prevention. So, it’s no surprise that, according to the 2021 Motorola Solutions Education Survey, when evaluating technology, the number one priority for schools is finding safety features that protect staff, students, and visitors.

That corresponds to other aspects of our survey responses when respondents reported the most implemented technology is video security equipment, in use by nearly 9 in 10 schools, up from 8 in 10 in 2019. Video security is also being used beyond school campuses. For instance, nearly 60% of school bus systems now have video surveillance systems. Yet, there’s an opportunity for technology to do much more.

When it comes to improving school safety, nearly 40% of respondents say their security systems either “need improvement” or are only “adequately” meeting their needs. Recent technology innovations now allow schools to get more out of their existing technology investments. By integrating the technologies they’re already using every day in one single ecosystem, schools can reduce response times, improve situational awareness and maximize their often-constrained resources. For example, security staff can receive an automatic text notification directly on their radio when their access control system detects a secure door is ajar or forced open or when video analytics identify an unknown individual in a restricted area. By more tightly connecting the technologies that keep schools secure, security staff are always proactively aware of unfolding incidents and can more effectively prevent them from becoming a larger incident.





## HOSPITALITY

APPROXIMATELY

**40%**

OF HOSPITALITY ORGANIZATIONS ALREADY HAVE ACCESS CONTROL TECHNOLOGY AND THE REST PLAN TO ADD THIS CAPABILITY IN THE NEXT FIVE YEARS

As guests begin returning to hotels, resorts, and other entertainment venues, the hospitality industry is facing new and pressing challenges. Providing a safe and enjoyable experience for guests while operating efficiently to keep costs down is still a top priority, but now many hospitality-based companies must make changes to operational procedures, often with stricter health guidelines and while struggling with ongoing staffing shortages.

From video security and analytics to artificial intelligence, technology is helping staff do their jobs more safely by proactively addressing pressing issues. That's because as advances in artificial intelligence and analytics transform video security, they're providing unprecedented visibility and insight using fewer resources. Additional technology improvements are enabling integration between video security and communications devices, enabling real-time alerts across devices like radios and smartphones. For instance, AI and video analytics-capable cameras can help with upholding social distancing guidelines and occupancy limits by automatically counting guests who enter or exit a room. Body-worn cameras can deter public aggression toward essential service workers and cloud-based video management software can work together with intelligent cameras to conduct more efficient contact tracing.

Our 2021 Motorola Solutions Hospitality Survey found 64% of hospitality-focused respondents said their business has seen an increase in adaptability to new technologies. Approximately 40% of hospitality organizations already have access control technology and the rest plan to add this capability in the next five years. Similarly, video security is already in use by 63% of respondents, with another 42% planning to adopt it in the next five years. Yet, video analytics are only currently used by 22% of respondents, setting up this technology for rapid growth. Those that have already adopted this technology are detecting threats earlier, minimizing incident response time, preventing incidents, and maximizing the value of other security investments.



## MANUFACTURING

VIDEO SECURITY  
IS IN USE BY

**41%**

OF RESPONDENTS

As the world's appetite for new products surges and workers continue calling out sick, the manufacturing industry has struggled to keep up with demand. There is very little room for error in this environment, so any shutdown for health or safety reasons would be catastrophic.

That's why the adoption of security technology is on the rise among manufacturers. According to the 2021 Motorola Solutions Manufacturing Survey, approximately half (52%) of manufacturing facilities already have access control technology and the other half plan to add this capability in the next five years. Similarly, video security is already in use by 41% of respondents, with another 42% planning to adopt it in the next five years.

Video analytics are primed for growth, with only 8% of respondents currently using this important tool. As advances in artificial intelligence and analytics transform video security, it will increasingly be integrated with other security technologies, and used to keep workers safe and operations running smoothly. For instance, an analytics-enabled camera could identify a non-authorized individual on the factory floor, automatically alerting a security team with video clips sent directly to their mobile devices in real-time. This type of advanced security technology is providing a critical edge, helping manufacturing facilities keep pace with demand in a highly challenging business environment.





## TRANSPORTATION

ANOTHER  
**36%**

ALSO INTEGRATED VIDEO  
INTO THEIR SAFETY  
COMMUNICATIONS, AND  
**40% PLAN** TO DO SO IN  
THE NEXT FIVE YEARS

As the pandemic marches on, along with manufacturing, the transportation and logistics industry has been left scrambling to keep up with consumer demand for everything from food staples to electronics and toys. Companies must deliver greater volume at a faster pace in an environment that poses an increased risk. That's why safety and security technology has never been more important. Whether in the warehouse or on the road, new technology is transforming safety and security across the industry. Companies are finding they can identify and resolve potential threats before they escalate. This allows them to increase productivity without sacrificing the safety of employees, visitors, property, or assets.

Our 2021 Motorola Solutions Transportation and Logistics Survey found that the adoption of these next-gen safety solutions is surging. A significant percentage of transportation and logistics companies already have incident management solutions (40%) and access control (43%), with roughly the same percentage indicating they will add these capabilities in the next five years. Another 36% have also integrated video into their safety communications, and 40% plan to do so in the next five years.

Video analytics are currently used by only 9% of respondents, making them a likely growth area in the years ahead. As advances in artificial intelligence and analytics transform video security in the transportation sector, they're providing unprecedented visibility and insight using fewer resources.



## PUBLIC SAFETY

### A MAJORITY OF PUBLIC SAFETY RESPONDENTS LISTED **OFFICER SAFETY AND WELLNESS & COMMUNITY TRANSPARENCY**

AS THE TOP BENEFITS  
OF VIDEO SECURITY  
TECHNOLOGY

In public safety, technology often sits at the intersection of accountability and safety – for both public safety personnel and citizens. Today, citizens are used to taking photos and recording video with their mobile devices, elevating community expectations around the use of video technology and evidence to inform, expedite and better resolve everyday incidents. At the same time, many states have enacted mandates around the use of video across law enforcement agencies in aims of boosting transparency with their communities and efficiency in responding to incidents..

Video technologies allow officers and other public safety personnel to do their jobs more safely, efficiently, and effectively, especially when cameras are integrated into the broader law enforcement technology ecosystem. The use of cameras can also greatly improve law enforcement’s overall engagement with the community, creating new avenues for transparency and trust-building. Our 2021 Motorola Solutions Law Enforcement Survey confirmed this, with a majority of public safety respondents listing officer safety/wellness and community transparency as the top benefits of video security technology. Other top benefits cited included decreased crime, strengthening Public Private Partnerships between law enforcement and the community, and officer recruitment and retention.

The growing use of Public Private Partnerships between neighborhood homeowner associations (HOA) and law enforcement is a particularly interesting recent development. Today, many HOAs and communities are partnering with law enforcement to share video evidence or list their recording devices for law enforcement to consult when an incident occurs in neighboring areas. In this way, communities can actively partner with law enforcement to ensure safety, while law enforcement can reinforce trust between residents and public safety personnel.

Safety and security technology is also critical in correctional facilities, where inmates, staff, and officers face increased risk of harm on a daily basis. Across the country, video surveillance systems have proven their potential to improve transparency and safety, for both inmates and guards. The result is a measurable reduction in violence and crime in correctional facilities where they’re installed.



# IMPLEMENTING VIDEO SECURITY AND ANALYTICS

## Evolving Technology for Changing Safety Needs

Analytics and AI are revolutionizing video security and safety technology. Today, Motorola Solutions is leading the way. Our line of analytics and AI-based cameras, access control systems, and detection technologies help you stay ahead of changing needs, from everyday threats to the ongoing pandemic response. Our solutions help you focus attention on what matters most, so you can accomplish more, faster, using fewer resources.



# VIDEO ANALYTICS

## At the Heart of Next-Generation Security



### FOCUS OF ATTENTION WITH AI-POWERED NOTIFICATIONS

Focus of Attention (FoA) is a new concept in video monitoring that offers a more intuitive way to consume information about potential security events. FoA uses artificial intelligence to detect and flag events that may require your attention, highlighting them visually in color-coded nodes to indicate different levels of importance such as unusual motion detected, unusual activity detected, license plate watch list match events, and more. With just a simple mouse hover over the illuminated node, operators can preview the live video or click into the node to expand it for a closer review and replay of the event.



### AVIGILON APPEARANCE SEARCH

Avigilon Appearance Search™ technology is a sophisticated deep-learning AI search engine for video. It sorts through hours of video to quickly locate a specific person or vehicle of interest, simply by entering physical descriptions, uploading a photo, or by finding an example within recorded video. Appearance Search can improve incident response times and enhance forensic investigations by helping operators compile robust video evidence, create a powerful narrative of events, and reveal a vehicle or individual's route or last-known location.



### FACIAL RECOGNITION

AI-powered facial recognition technology helps you accelerate response times by quickly identifying people of interest. We take a rigorous approach to the application of AI that starts with the fundamental tenets of fairness, privacy, understandability, and reliability. The use of facial recognition in our technology is 'assistive' in that we only use it to assist humans in performing tasks they're already authorized to do. When applied responsibly and correctly, AI is a powerful tool that can be used to increase the effectiveness of physical security systems, deliver on business outcomes, and improve safety.



### NEXT-GENERATION VIDEO ANALYTICS

Motorola Solutions Next-Generation Video Analytics incorporate neural networks to power self-learning video analytics, delivering improved accuracy in both perimeter protection and in crowded, indoor environments. Added processing power enables the tracking and classification of over 50 objects, including people and vehicles such as cars, trucks, buses, motorcycles, and bicycles.



### UNUSUAL ACTIVITY DETECTION (UAD)

Unusual Activity Detection (UAD) goes further, detecting atypical behavior of learned subjects like people and vehicles. Unusual Motion Detection (UMD) technology adds to this, continuously learning what a typical scene looks like, then detecting and flagging unusual motions that deviate from that model.

[LEARN MORE](#)





## H5A CAMERA LINE

The H5A camera line features our most advanced video analytics technology to help focus your attention on potentially-critical events while providing a smarter and more powerful video security solution every day. Built on the Onvif open platform, you're never locked into proprietary solutions, so you can get more value from your existing security investments. H5A cameras include Avigilon Appearance Search™, facial recognition, and Focus of Attention features, all powered by a sophisticated deep learning AI. Plus, with support for mask detection, social distancing and occupancy counting, you'll be ready no matter how long the pandemic impacts your operations.

LEARN MORE

## ACCESS CONTROL MANAGER (ACM)

Access Control Manager (ACM) is a physical access control system for enterprise-class installations, designed to protect people, property and assets. With advanced alarm and identity management, ACM™ provides superior control of access to facilities. This 100% browser-based solution offers the flexibility to respond to alerts from anywhere. When paired with Avigilon Control Center (ACC), ACM offers unified access control and video for powerful, end-to-end security. It allows you to verify the identity of the person attempting to access a door connected to a camera, quickly search for a person using their cardholder information and view video clips of related door activity. With ACM, you can streamline alarm management with audible alerts and colored indicators to visually represent alarm priority. View associated video, enter notes, acknowledge and clear alarms, all in one place.

LEARN MORE





# AVIGILON CONTROL CENTER (ACC) 7

Avigilon Control Center (ACC) 7 is the latest and most advanced version of our ACC™ video management software. Designed to bring the right information to you so you can take action faster and more efficiently, ACC 7 provides an easy-to-use, AI-enabled user interface to help ensure critical events are quickly handled. ACC software seamlessly integrates with the Access Control Manager™ (ACM) system, allowing you to verify the identity of the person attempting to access a door connected to a camera, quickly search for a person using their cardholder information, and view video clips of related door activity.

Operate safely and comply with local health and safety guidelines by deploying powerful video analytics for occupancy counting, social distancing and no face mask detection – natively available to ACC 7 software users with no additional licenses required.

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## AI NVR

The Artificial Intelligence Network Video Recorder (AI NVR) is an enterprise-hardened recorder that provides a cloud-ready suite of security solutions in addition to powerful recording and storage. The AI NVR provides single-click remote upgrades and supports license plate scans for over 50 lanes, server-side analytics on any third-party camera or non-analytic Avigilon camera, and cybersecurity through an Avigilon Hardened OS. With the AI NVR, security operators can focus on potentially critical events and quickly locate a specific person or vehicle of interest across an entire site.

[LEARN MORE](#)



# HOW ARE YOU GOING TO IMPLEMENT VIDEO SECURITY TECHNOLOGY?

Motorola Solutions is leading the way in the security industry by providing innovative, end-to-end solutions and revolutionizing the way public safety and security is managed.

Incorporating AI and analytics into a robust, end-to-end video security platform for your facility adds a productivity multiplier to help security teams. This results in a dynamic security solution that delivers actionable results and keeps your most valuable assets safe and secure.



Want to see our solutions in action? Request a demo today at:

[info.avigilon.com/video-demo](https://info.avigilon.com/video-demo)



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