Smart Surveillance in the Workplace: Top 5 common areas need Real-time video analytics

Catalogue

Abstract

Organizations of all sizes across all industry sectors have come to recognize the benefits of keeping their premises safe and secure with video surveillance. Everywhere you look, video surveillance plays a growing role in the protection of people, property and assets. In 2014, there were nearly 250 million professionally installed security cameras worldwide. Through 2021, security camera sales are expected to grow by over 7% annually.

In principle, the surveillance solution is simple: install cameras strategically to allow human operators to control what happens in a room, area, or public space.

In practice, however, it is a task that is far from simple. An operator is usually responsible for more than one camera and, as several studies have shown, upping the number of cameras to be monitored adversely affects the operator's performance. In other words, even if a large amount of hardware is available and generating signals, a bottleneck is formed when it is time to process that information due to human limitations.

Thanks to the popularization of deep learning of AI and noticeable improvements in the chipsets and processing technology, recent video analytics can provide a means of accurately dealing with volumes of information. There have also been huge leaps with new compression techniques that have enabled significant advances in video transmission and storage solutions.

• Entrance & Visitor Management

Managing the security with tight control over the Entrance/Exit while improving running efficiency is one of the topics which concerns every potential Entrance/Exit manager.

Integrated Access Control and Video Surveillance Systems overcome many of the pain points of entrance and exit management while offering several distinct capabilities:

Instant Visual Evidence:

Immediately see and access footage for events happening at any door, in any location, shortening the time to investigate and resolve security incidents. Through integrated systems, security officers could see who was there, and how they accessed the door, including the ability to review footage and dig deeper into user activity.

Streamline Visitor Manual Check-in Processes

A visitor management system combined with video monitoring can keep accurate records and help reduce the chances of human errors.

Employees who know they will have a visitor can plan ahead by entering the visitor's information into the system. When the visitor arrives, they'll receive a temporary badge. They won't have to sign anything as the process is now contactless. Even if a visitor shows up unannounced, the technology can still streamline the check-in process.

• How IntelliSight increases entrance management efficiency

A system that grows with your needs

Large organizations that have multiple entrances in local or remote locations could have from ten to over one thousand cameras to manage. As your coverage area grows, more Anviz Ip cameras can be added in IntelliSight as needed and easily integrated into the network.

Centralized Intelligence management

A unified system is more efficient because the data can be cross-referenced from multiple systems. If you have multiple buildings, then all the information can be centralized into a single system. So, if someone shows up at a building and ends up on the blacklist, the system will ensure the person does not get admitted to any other building.

● Parking management

Video surveillance solutions are used to monitor parking areas and can provide automated parking and a thorough view of parking occupancy. With advanced artificial intelligence algorithms, the cameras transmit video streams to analyze and identify available spaces in real time, as well as the flow of traffic at different times of the day. It allows businesses to gain valuable insight and control over their parking blocks.

Clear overview of parking occupancy

With license plate recognition, ANPR cameras would be able to spot unauthorized vehicles stopped in the restricted zone for too long. The alerts are sent to security staff so they can verify the incident and clear those key zones. Therefore, the cameras not only detect violations but also help to decrease the levels of congestion.
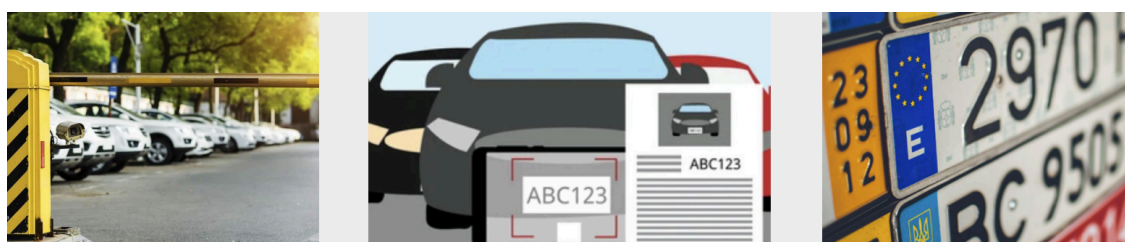
AI-enabled surveillance cameras can be used to identify free parking spaces and predict where the chances of finding an available parking space are highest. This information can be used by parking managers, to open additional parking spaces or inform drivers in advance that there is no parking available, thus preventing congestion and further frustration.

The advantage of IntelliSight in huge parking lots

Facial recognition that relies on Edge computing and Edge AI can process data locally (without sending it to the cloud). As data is much more vulnerable to attack during transmission, keeping it at the source where it's generated dramatically reduces the chance of information theft.

Flexible deployment

Anviz Wi-Fi & 4G communication cameras can operate apart from a wired network, meaning you could install them farther and wider than ever before. This also means that you can have all the power of high-end video security — including 4K resolution, high-performance sensors, advanced zoom, motion detection, and more — especially for applications like parking lots, that are out of reach from ethernet cables.
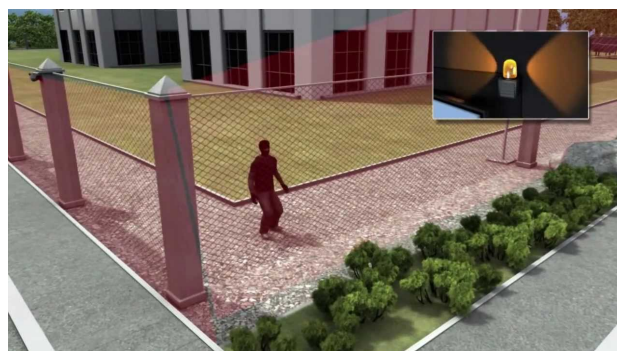
● Perimeter Security Management

Physical perimeter security utilizes the systems and technologies that protect people, property, and assets within a campus by detecting and preventing unauthorized intrusions.

Deter and Detect

Together with perimeter defender analytics and technology integrated with video surveillance solutions, organizations have real-time visibility, able to monitor and catch unauthorized intrusions in real-time. After remote verification, security operators could use audio speakers relaying warnings, as well as flood lights to deter malicious actors from attempting the intrusion.

Moreover, high-resolution security cameras can be leveraged to accurately identify breaches and notify security personnel – especially with the ability to zoom into the area digitally or optically where intrusion was detected.

How IntelliSight makes a difference in Perimeter Security management

Traditional challenges

Anviz embeds deep-learning algorithms into security cameras and video recorders to differentiate people and vehicles from other moving objects, allowing security teams to focus on real threats. With high accuracy, the system disregards alarms triggered by other objects such as rain or leaves and delivers alarms that are associated with human or vehicle detection.

Effective false alarm reduction

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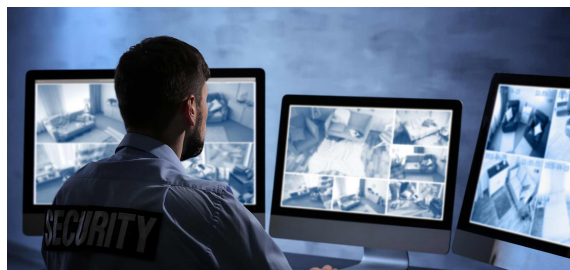
Anviz bullet infrared 4k cameras can provide detailed visual identification of potential intruders, give automatic alerts about potential perimeter breaches, as well as zooming in and following suspects. Not requiring visible light, these cameras can provide detection for low light conditions and even in hours of darkness.

● Asset Management and Asset Protection

Video surveillance is also used to ensure that high-value assets are being locked up and properly protected from thefts and accidents.

Protect and Track Assets

24/7 live remote monitoring systems can track assets as they move around your property. For example, when important deliveries arrive, they can be equipped with a tracking device and watched by live agents. When paired with meaningful alerts, supervisors can be informed in real-time.

When paired with meaningful alerts, supervisors can be informed in real-time, and they will note its location and update this note as the property moves. This way, you'll never lose track of valuables or spend time searching for them.

With video analytics, the inventory managers could monitor Inventory Levels: With a clear and direct view of stock, suppliers know exactly when materials are low and new shipments need to be made.

How IntelliSight do for loss prevention

Get Instant Alerts

Anviz cameras are fitted with motion detection, which means the camera will record when something is happening. With instant alerts, users will be instantly notified when something bizarre is picked up on camera. You'll be told what's going on and given the chance to check in and see, but even if you don't see the notification, your cameras will certainly be rolling.

View and Monitor Remote Facilities

Users can access live and recorded footage from any location via web and mobile apps. Security staff could view live security feeds or review historical footage from any computer or smartphone. This flexibility makes it easy for security personnel to keep track of important assets around the clock, as well as enables remote viewing and export of video.

Meanwhile, IntelliSight enables 24/7 remote problem diagnosis and repair and alarm operation, making it possible to manage user permissions, in order to upgrade and restart devices remotely.

• Heightened Incidents Management

Video surveillance cameras can be combined with audio sensors, smoke sensors and edge-based analytics for incident detection, alerting responders to react quickly to incidents in real time.

Proactive Insights

With powerful edge AI processing, the security responders would receive a prioritized alert from the system when suspicious activity is detected in-frame, or a person on blacklisting appears.

By using high-quality video from network video cameras, security personnel can make an informed assessment in real-time of the incident from a remote location and decide on the appropriate action.

For example, if the 80 dB noise threshold is exceeded, security personnel might check to ensure no bullying or fighting is taking place. Then quickly intervene with live, personalized audio to notify the people there that they are being monitored.

Video surveillance cameras can also be combined with a fire alarm and access control system, which allows the responder to quickly identify and view the location of the fire alert. When a fire alarm is triggered, all the doors automatically open.

How IntelliSight Shorten Incident Response Time

Anvzi 4K IP cameras record continuously and reliably with up to 4K resolution to ensure availability and clarity of video evidence. Archived clips are stored indefinitely in the cloud and automatically time-stamped with the time and date to ensure their usability as digital evidence.

Top 2 Emerging Technology Trends for Above 5 Application Areas
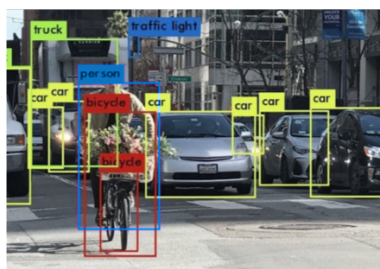
● Edge AI-powered video analytics

The use of Edge AI, especially with analytics based on deep learning algorithms, will drive a large part of video surveillance innovation in 2022 and beyond. According to the 2021 Video Surveillance & Analytics Database Report from Omdia, demand for recording devices with embedded deep learning analytics is expected to increase.

Edge analytics like object detection and classification, and collection of attributes in the form of metadata – all while reducing latency and system bandwidth burdens and enabling real-time data gathering and situational monitoring.

It is noteworthy that the main benefits of edge computing can only be achieved by having a core competency in SoC. Codecs embedded in SoC play a key role in improving image quality while the NPU engine in the SoC with AI algorithm enables AI analytics on the edge.

IntelliSight IP Camera is based on a powerful AI processor. Empowered by 11nm process node, the AI processor includes a quad Cortex-A55 process and 2Tops NPU, optimized for performance and power architecture design. With the high-performance processor, the camera can output a 4K@30fps video stream.
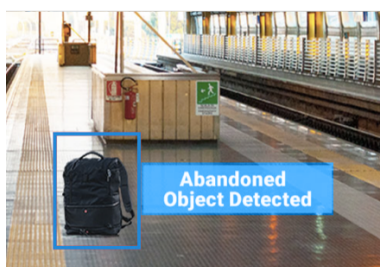
Anviz's Realtime Video Intelligence (RVI) Algorithm is based on deep learning AI engine and a pre-trained model, cameras can easily and real-timely detect humans and vehicles and realize multiple applications.

Vehicle & Person Detection

License Recognition

RVI
Algorithm

Object Left Detection

Regional Intrusion Detection

• Cloud-based video surveillance continues to grow and evolve

More video surveillance manufacturers are transforming into 'Solution as a Service' providers, because of remote working and growing trend in digital transformation due to COVID-19. Video surveillance system installers and integrators can now provide solutions to their customers through cloud-based platforms.

Over 70% of cloud adopters are using it for storage, the 2022 IFSEC report says. Due to its numerous advantages such as cost-effectiveness, remote data access, secure data storage, high reliability, etc., it sees increasing popularity in the SMB sector that cannot independently build and host physical storage servers.

Expansion Of Cloud to Cloud Integration

Cloud storage has several advantages over saving all security camera videos and images on an NVR, including the advantage of accessing videos from anywhere; providing a larger storage capacity than NVR contains; allowing organizations to rapidly deploy systems without having to configure complex networks.

IntelliSight provides various APIs and SDK interfaces and allows other systems to integrate Anviz Cloud's powerful intelligent analysis capabilities and open ecosystem, to meet the requirements of campuses, residential areas, industrial parks, and office buildings.

Edge-Cloud Synergy

Furthermore, Anviz IntelliSight uses the edge cloud synergy solution — pushing intelligent applications on the cloud to the edge, providing structured analysis and retrieval for videos and images of people, vehicles, objects, and behavior.

It has the immediate advantage of being able to analyze camera images locally, and send to the Cloud as lightweight data, without having to send bandwidth-hungry video across the network. After performing analyses of images, edge cameras would give an alarm notification to the operators based on pre-configured alerting rules, not needing an operator to monitor video when nothing is happening.

• **What are intelligent Real-time video analytics?**

Video analytics and AI for video surveillance utilize algorithms and machine learning to monitor, manage and analyze large volumes of real-time video. Driven by AI and deep learning, video intelligence software analyzes audio, images, and video in real-time monitoring to recognize objects, object attributes, movement patterns, or behavior related to the monitored environment.

There are many well-known scenarios, ranging from applications that monitor traffic jams and alert in real-time, to facial recognition or smart parking.

Also, video analytics has been regarded as the 'brains' of a security system, using metadata to add sense and structure to video footage, and offer clear business advantages beyond security. This enables cameras to understand what they're seeing and alert if there are threats the moment they happen. Then, the metadata could be used as the basis on which to perform actions, e.g., to decide if security staff should be notified, or if a recording should be started.

Given the value delivered, many businesses quickly choose to grow their surveillance solutions including video analytics software, to effectively manage thousands of CCTV and IP cameras.

Anviz IntelliSight is a cloud-based smart video surveillance solution with edge AI deep learning video analytics - simple to set up and intuitive to use. It provides intelligent real-time video analytics of video content captured by widespread surveillance cameras located throughout roads, public areas, office buildings, shopping centers, and commercial and industrial zones.

Here, we explore how Anviz IntelliSight provides ultimate security and convenience in the top 5 common areas of application.

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