netwatch
North America

Crime Prevention through Proactive Video Monitoring

A Disruptive Solution Delivers on the Promise of Crime Prevention

Crime Prevention through Proactive Video Monitoring

Introduction

Proactive Video Monitoring (PVM) uses a unique combination of technologies, processes, and protocols to protect property, reduce crime, and ensure business continuity. It is a valuable solution that is currently trusted by more than 250,000 customer sites worldwide.

Netwatch is the pioneer in the delivering of this unique approach. Leveraging proprietary algorithms that reduces nuisance alarms to a fraction of what video surveillance systems typically ingest. In real-time, live video feeds are passed up from camera feeds to two UL 827, 827A, and 827B monitoring facilities in the United States. Here, highly trained Intervention Specialists monitor live video of alarms and visually confirm where intervention is warranted. If a situation is critical, monitoring specialists immediately confront perpetrators with live audio commands. It is this direct, real-time communication that puts a proactive security presence exactly where and when it needs to be to prevent crimes before they happen. This is what sets Netwatch apart.

With Netwatch's AI-based platform, it can virtually deploy security personnel in the moments before imminent crimes are perpetrated. With their voices projected clearly on-site, Intervention Specialists identify the intruder by appearance and activity before ordering them to cease activity. It is a compelling message delivered with authority and entirely different from traditional alarms or recorded audio warnings. Intruders, challenged by a live voice and knowing they are being actively monitored, respond by fleeing the scene in almost every recorded incident.

It is the fulfillment of its promise to clients, and its potential to disrupt an industry that has previously settled with deterrence, detection, and delay that enables Netwatch to repeatedly over-deliver on its promises by reducing crime at client sites.

In this white paper, we explore the benefits of PVM, why it is a growth driver for dealers, and how it is changing the mindset of the market from reactive to proactive.

Proactive Video Monitoring

Proactive Video Monitoring (PVM) is a market-disrupting solution designed to address security concerns in a variety of environments and vertical markets. The approach simultaneously leverages the combined strengths of humans and technology to deliver higher levels of intelligence and rapid response.

"There are a couple of defining factors when it comes to the difference between video surveillance monitoring and manned guarding," says Grant Graham, Executive Vice President of Operations, Netwatch North America. "The primary difference with PVM is that it leverages analytic technology to draw in an Intervention Specialist to step in on the front end of crime, before it happens, and the system only pulls them in when there is an actionable situation."

That analytic technology is a set of proprietary algorithms, similar to those that are more broadly changing the way we live. Whether online loans that are approved or rejected in seconds, predictive crime mapping that analyzes social, economic, and weather conditions, or the most esoteric questions we type into search engines; algorithms deal with vast quantities of data in real-time that would vastly overwhelm the human capacity to process.

Not only are these programs superhuman in their capacity to ingest and analyze such data, algorithms are also capable of learning from it. AI is simply any activity that computers can perform that was once performed by humans; the simplest algorithm can analyze vast quantities of data from remote edges of video surveillance, only sending the most valuable data to monitoring stations when needed. When an operator validates or dismisses an alarm, they are essentially teaching the program with every decision.

This is a key distinction between video verification and PVM. A video alarm verification service feeds information directly to a central monitoring station but still produces a high percentage of false alarms requiring humans to observe, analyze, and decide if action is required. More often than not, none is. This routine cadence of false positives not only squanders the time and energy of operators, it can also lull people into inattention.

The value of PVM stems from the division of responsibility: operators are only tasked with intervention, while a mix of advanced technologies is leveraged for identifying the data points that lead to that intervention. AI performs the essential task of separating the small urgent signals from a sea of noise in milliseconds. The alarm-handling software delivers key visual information to specialists who intervene according to extensive training, best judgment, and established protocols. This is a key difference from the other types of guarding where guards are constantly watching monitors that cover wide geographical areas with just one set of eyes. "The ask there is too big," Graham says.

> **"Timing is critical, as is the speed of response. Our technology enables us to achieve fast response times to catch people the moment they set foot on a property.**
>
> Grant Graham, Executive Vice President of Operations for Netwatch North America

When the AI is brought to a brand-new site, it can identify objects that look or move like people. While the improvement is immediate, over time, it improves even further as it "learns" the site. The tree that looks like a person and the cat that walks through the scene are soon recognized as the false positives they are. When it presents an image to a specialist, the program will ask: did I get this right? Is this a person? And the specialist will tell it whether it was correct or incorrect, or if they are unsure. In the ordinary course of work, the intervention specialists provide feedback, and the AI learns and applies its learnings automatically to subsequent scenarios.

Antiquated Technology is not a Solution

Intruder alarm systems are a mature technology, but due to the high rate of false alarms, law enforcement departments will routinely interpret them as unreliable indicators. Many jurisdictions will charge business owners fines for police response to false alarms, and, increasingly, law enforcement will not respond to intruder alarms at all without corroborating video verification.

Video surveillance systems that provide the opportunity for video verification are routinely positioned to detect these events, but unmonitored systems merely collect evidence that can be used in subsequent criminal prosecutions. Without active monitoring, the business is exposed to theft and vandalism, direct losses which are rarely recovered.

Locally or remotely monitored video surveillance systems require security officers to continuously monitor video feeds where nothing is happening most of the time. Even when a combination of intruder alarms and video verification are able to marshal a response, on-site security officers can take time to travel from the monitoring room to the incident location. Law enforcement can take even longer.

First Principles of Perimeter Security

There are a number of video surveillance solutions and services on the market designed to accomplish a wide variety of related functions. Often security systems are bundled with fire safety and environmental controls where dealers rightly point out the efficiencies of these integrated systems. But these efficiencies come at a cost. The first principle of security is crime prevention, and anything that dilutes or distracts from that core mission jeopardizes the effectiveness of the security function. PVM is unique in that it focuses explicitly and solely on crime prevention.

> **Our automation is purpose-built for this business of crime prevention. It is built for economy, an economy of seconds.**
>
> Grant Graham, Executive Vice President of Operations for Netwatch North America

"All of the activities that the Intervention Specialist performs are designed to take place before a crime can occur, so the automation is designed to get the specialists' eyes on the scene within seconds of a rules violation. Every single click, every action they take, even the movement of a specialist's eyes, our automation is built to shave micro-seconds from every element of the response."

It is this speed that creates the opportunity to intervene before a crime has occurred. When a would-be trespasser enters a zone where they have no legitimate reason to be, the relevant camera feed is presented to the Intervention Specialist. How this person appears on-screen — their body language, behavior, apparel, and what they are carrying — all provide the context against which to analyze the situation and engage with the perpetrator.

It is this moment immediately before a crime is committed that represents the fundamental market disruption of PVM. Undimmed by hours of scanning video feeds, the specialist's attention is brought to the scene before intruder alarms are triggered.

"The intervention specialists have been phenomenal," says John Wright of Frase Security. "They speak very clearly, you can tell they are very serious on those talk-downs."

They use live descriptions, and that is the real differentiator. You hear some of these other automated approaches like 'This is private property, please get off the property immediately.' Well, burglars have all gotten used to that."

> **Hey, you in the white sedan with the black hoodie, that's where the deterrence rate comes from.**
>
> **John Wright, Vice President of Operations, Frase Protection**

"They understand this is live, and they are being watched, and that flips the entire situation. Intervention specialists in every incident have been on top of it."

Todd Bedford, President of Lifeline Fire & Security in Kapolei, Hawaii, agrees that the Intervention Specialists fundamentally change the interaction. Bedford argues that automated solutions provide criminals all the time in the world to test these systems and observe what the response time is.

"Many solutions offer video surveillance but use recorded messages, or they don't talk down to locations; they just manage it as an alarm," he says. "Well, that's a completely different outcome having someone enter a property and thinking about doing something. Then I am relying on a response from police or a security guard to be able to prevent a crime from happening."

One-Way Communication

While Intervention Specialists can speak directly to potential criminals on-scene, they are not able to hear anything from the remote location and that is by design.

"We look for environments that are completely sterile where we know anyone who comes on to the site is a suspect until proven otherwise," says Graham. "So, we are going to be barking at them until they call in and verify themselves and their purpose for being there."

"The beautiful thing is that it doesn't include the two-way audio," says John Wright at Frase Protection in Memphis, Tennessee. "If the person who has been caught were to protest that they are an employee, that introduces a layer of nuance where the Intervention Specialist might make the wrong call for all the right reasons. One-way communication eliminates that potential for human error. If you are where no one is supposed to be, you are an intruder until word comes through the system that you are permitted. If the site is armed, no one should be there."

Key to the value proposition of PVM is that it strips away all of the features that are not specifically about crime prevention. Asking Intervention Specialists to assist uncredentialed visitors would compromise key virtues of the design. Facilitating dialogue would also open untold gray areas in which Intervention Specialists would have to grapple with competing interests and persuasive pleas for exceptions to protocol. And while the occasional better outcome may result, it would come at great cost to the essential function of the system.

> **"If we are told that no one is supposed to be in a space, when a person steps on to that space, they are understood to be a trespasser, and we treat them as such.**
>
> **Grant Graham, Executive Video President of Operations, Netwatch North America**

"We don't wait to witness a crime. That's how PVM can reduce crime — by immediately deterring unwanted human activity.

If we wait until the intent is clear, if they are halfway through cutting out a catalytic converter before we intervene, that converter is gone," says Graham. "Our proposition to our customers is we will take action as soon as someone sets foot on-site. We are not going to ignore the guy with the spray paint until he gets close enough to your building to start spraying. If we did, then the damage is done."

From the trespasser's perspective, they are challenged immediately when they enter a prohibited area. According to Graham, 98 percent of the time, they turn and leave immediately. If they don't leave, a second "voice-down" is issued, giving them a final warning.

"It is not scripted or automated," says Graham, "it is our specialist looking at this person who has triggered an alarm and is seeing what they are doing and what they are wearing and calling down to them so that person knows that a real live person is talking to them and watching them. Now, if they don't leave, we are dispatching local authorities with a verified actual alarm, so they are responding with an escalated response."

Responding Before Crime Occurs

PVM is built upon powerful, scalable software designed to filter out nuisance alarms. The overarching goal of the software is the efficiency in which actual security events are identified and transmitted to Intervention Specialists.

To meet this goal means the near-simultaneous identification and elimination of thousands of nuisance alarms while successfully passing up the handful that requires attention. Video camera technology allows cameras to be exquisitely sensitive and detect and discriminate at the pixel level. That sensitivity comes at the price of creating nuisance alarms created by the motion of unstable cameral mounts, changes in scene illumination due to passing clouds or passing headlights, and objects moving across a scene as innocuous as birds, blowing debris, and precipitation.

High nuisance alarm rates overwhelm operators and reduce system effectiveness. The probability of effective detection of real security events decreases as overall detection volume increases and the corresponding time to assess potential alarms increases.

“The goal here is that the Intervention Specialist is only pulled in when there is something that needs the human eye,” says Graham. “We want to screen as many of these distractions out as possible, so they are able to remain honed in on what we really care about. So given that we need to keep the edge at a level of sensitivity high enough to identify threats as they approach, we are still getting a lot of noise from the system. That is where the information hands off to our artificial intelligence, and the AI’s job is to hand up things to the intervention specialist that are actionable.”

Market Opportunity

Though PVM is relatively new to the United States, it is a dominant market solution in Ireland and the United Kingdom. But the U.S.-market is already embracing the approach and is being used to prevent crime in diverse environments such as auto dealerships, municipal properties, small businesses, construction sites, and outdoor commercial storage. As the adoption of PVM continues to grow, many dealers can grab hold of the opportunity to be the first offering it in their local markets, just as others have.

"We started [offering Netwatch PVM] a year ago, and it was very new to our market, and people didn't know how to take it," says John Wright, Vice President of Operations at Frase Protection. "But so far, every customer we have put this in for has provided phenomenal feedback. Customers talk about peace of mind. Even if nothing happens, they are willing to pay for it for the next five years for the peace of mind."

In their first nine months installing Netwatch PVM, Frase Protection focused on storage unit facilities and auto dealerships; "anyone who has a lot of assets on the property, that is what this is designed for," says Wright, who notes that awareness is quickly spreading through the business community in Memphis. "So far, this has been all word of mouth. We've had more than 100 incidents where we have Netwatch systems in place, and so far, we have had a 100% deterrence rate."

Wright is installing Netwatch PVM in environments both where clients are supplementing on-site guards and those where they are reducing them. "Guard services are $180 to $280 per night," says Wright. "This service is, depending on how many cameras, 60 to 70 percent cheaper and more effective. It eliminates human error."

"This is a perfect transition for companies that are looking to move away from manned solutions, but we also have clients who chose to augment officers with the system," says Wright who finds this predominantly in areas with high-crime rates. "For those clients, it is an enhanced layer. They like having an officer on-site, but they still have some incidents, so this is a perfect way to augment those officers. In one case, we had a break-in where they were able to sneak past the guard, the Netwatch solution caught them, and the guard on-site was notified."

Web and Mobile App Experience

In today's modern business environment, mobile is king, and PVM ensures its dealers have access to mobile capabilities to ensure continued support and communication. With a mobile and Web-based application, clients can interact directly with every camera on their system, re-set zones, arm and disarm the alarm, and establish long-term and temporary passes.

"I have been really impressed with the Netwatch mobile app that our clients are using," says Wright. "We use the system ourselves, and I had to come into the office to pick something up, and I was able to disarm it and re-arm it without even pulling over."

"One of the things I am most impressed by is the ease of operation," says Ricky Price of Price Enterprises. "All you do is arm the system. We can schedule it to arm and disarm; we can access our cameras at any time. If something's going on at 3 a.m., we can come up and see what's happening in real-time."

Price owns and operates three express car washes he recently designed and built at a cost between $4million and $13 million each. The high-end operations include vacuum systems and external canopies that cost as much as $300,000 apiece.

> **"Then there is the landscaping, and there is just so much that can be damaged by theft or graffiti, and I just can't have that happen.**
>
> **Ricky Price, Price Enterprises**

Describing one site, Price says that "On those two acres, I have 72 cameras, and I can access any of them. We can bring up the cameras at any time from the office or from home, or on my phone, and I can see what's happening. It gives you such a sense of comfort knowing your investment is covered."

Price turned to Netwatch PVM when he was building the first of his three sites in 2018. "We had motion detectors all over the site and construction tents and lights, and still within three months of starting construction, we had more than $10,000 in contractor's tools stolen from the site. So, I worked with Todd Bedford of Lifeline Fire and Security, and he introduced me to PVM. And I thought it was remarkable, and so we tried that out in July 2018, and we haven't had any losses to vandalism or theft since."

Portable Units

Frase Protection has found trailering the Netwatch PVM system to be an effective method of amplifying the market application and exceeding expectations in client relations.

> **We have implemented trailer versions where everything is self-contained within a 20' pole, we have eight of those, and we are growing that number. We put these on construction sites, so they are immediately deployable.**
>
> **John Wright, Vice President of Operations, Frase Protection**

The trailered units also allow Frase to respond to clients who often reach out to correct vulnerabilities that have recently been exploited.

"The key is being very fast when the customer calls needing a solution," says Wright. "On Wednesday of last week, we were called out by a company that just had a break-in and was looking for a new solution. We went on-site, specified and quoted the project one day, and they called the next morning and wanted to get started," recalls Wright. "We rolled the trailer on-site, and the solution and the permanent system were fully installed within the week. That is now our standard protocol. We are able to have security on-site that day."

"We're always looking for ways we can grow, and Netwatch has been phenomenal in helping us bring a new level of security."

The ROI of Crime Prevention

"The problem being solved is preventing crime rather than reacting to it," says Chester Burress, Account Manager for ESI Fire & Security in Channelview, Texas. "The return on investment to is not just eliminating the financial loss but the loss of time, loss of project schedule, stagnant resources, funding limitations; that is where the return on investment (ROI) calculation swings in favor of preventing crime."

ESI Fire & Security has more than 70 clients with Netwatch PVM systems installed, including public infrastructures such as electricity and water plants and public transport facilities such as bus barns. The company is most active in commercial properties such as tractor dealerships and other heavy equipment providers, which has naturally led to mobile security trailers at construction sites.

Burress says ESI chose to go with Netwatch as its video surveillance partner because it distinguishes ESI as unique in the market, holding the fundamental value of crime prevention.

"Fences and lighting are all things that delay and deter crime; they do not prevent it," says Burress. "We have competitors in the market using some version of video monitoring, but we differentiate ourselves with technology, service, and customer experience, and we differentiate ourselves by using Netwatch. They offer reliable technology and custom-based analytics, which is much more advanced and more reliable than nuisance alarms."

Working with Law Enforcement

"Law enforcement responds to many more false alarms than they do real events," says Wright. The protocol for most responders is that alarms are a low priority because there are so many false positives. "But if we notify law enforcement that there is a verified threat," he says, "and that we have video evidence that this is taking place right now, our call priority moves on their list, and we get a really quick response."

Most alarm systems offer very little information to law enforcement and have a high percentage of false alarms. Netwatch only contacts law enforcement when there is a verified incident.

"We only engage with law enforcement when there is a verified alarm; when somebody is on the property who does not belong," says Graham. "We are utilizing police resources in the most effective way possible."

PVM is also providing suspect information. An Intervention Specialist will inform law enforcement where the violators are, what they look like, and what they are doing. They also stay on live to monitor and assist the officers as the scene evolves.

"We've had a number of situations where the officer is on the scene; we're actually helping direct them to where the perpetrator may be," says Graham. "In one example, we had a couple thieves trying to steal cars in a car lot, and we voiced down, and they went and hid under the cars. We dispatched the police force, and they couldn't find them. Our Intervention Specialist came over the loudspeaker and told the officers which way to go and what car they were hiding under, and the police were able to make the arrest."

Todd Bedford of Lifeline Fire and Security recounts another assist at an auto dealership. "A major local auto dealer had new vehicles stolen off the lot on a Monday night and then again on Wednesday. On Thursday morning, he called us, and we had the system installed that day. On Friday, the thief came back, police were dispatched and made the arrest. That dealer now has 7 locations with us."

Netwatch's Graham reports a positive relationship with law enforcement because "we help them with more effective use of their resources, we help them in crime interventions, and we keep them out of unsafe situations by preventing crime."

The Business of Crime Prevention

"We're offering something no one else in our market does, says John Wright of Frase Protection. "There are so many solutions out there that just don't do what Netwatch does. I feel like Netwatch has discovered how to truly blend live people and traditional camera systems where it is extremely cost-effective."

Todd Bedford of Lifeline reports that the Netwatch adoption rate and growth rate of reoccurring monthly revenue for his company have been well beyond anything he had imagined.

"2018 was our 16th year in business, accumulating RMR. In the first year offering Netwatch —without any acquisitions RMR increased by 20 percent by 2019, we increased our RMR by 35 percent," says Bedford. "In 2020, one of the most challenging years with COVID-19, we grew our RMR by 71 percent. 2021 looks like the same trend."

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Tel: 866-459-1414

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