WHAT CAN BE KNOWN ABOUT VIDEO GUARDING AND REMOTE MONITORING SERVICES?

[The following informational guide is primarily intended for company executives, to serve as a compass in navigating the maze of various types of video remote monitoring services.]

Video guarding and remote monitoring services operate based on event notifications received from digital network video recorders (NVR). The quality of the service is fundamentally determined by video management and incident handling. However, in order to understand their practical significance, one must be familiar with the capabilities of digital network video recorders and the technical competence and technological preparedness of the companies providing remote monitoring services.

WHAT CAN A NETWORK VIDEO RECORDER (NVR) DO?

Digital network video recorders (for example: Hikvision, Techson) record and store footage from connected Internet Protocol cameras, and their client software allows remote access to the cameras, continuous live viewing, playback, and configuration.

WHAT IS A NETWORK VIDEO RECORDER NOT CAPABLE OF?

Most digital network video recorders do not have client software capable of both video management and interactive incident handling. The former supports simultaneous access to and management of multiple recorders of different types and brands across various sites. The latter enables professional evaluation of incoming alarm camera footage by a dispatcher, as well as the documented execution of related tasks, interventions, and notifications.

VIDEO MANAGEMENT and **INCIDENT HANDLING** have become essential parts of dispatcher-based video surveillance services.

Therefore, remote surveillance service providers must ensure their systems can:

- Receive alarm signals from various types of video systems through a unified software platform (multi-domain management),
- Display these signals uniformly,
- Evaluate incident-related video footage according to predefined protocols,
- Initiate remote local interventions (e.g., warning unauthorized individuals via outdoor loudspeakers),
- Notify clients, patrol services, authorities, or maintenance personnel either manually (phone call) or automatically (SMS, email, push notifications),
- Professionally document all interventions (linked to the corresponding video footage),
- Professionally complete related tasks (e.g., creating reports and analyses).

TRADITIONAL, REACTIVE-RESPONSE VIDEO GUARDING AND REMOTE MONITORING SERVICE

The appearance of digital network video recorders on the market gave rise to video-based guarding and remote monitoring services. By replacing physical guarding, clients can achieve significant cost savings. Remote monitoring providers see video guarding and remote monitoring as a new market opportunity. However, most providers still lack the technical infrastructure necessary to simultaneously receive camera footage from different video systems and to professionally manage and document video alerts and related interventions.

The main challenge lies in the functional shortcomings of existing remote monitoring systems. The software used for remote monitoring is not prepared to handle various types of video systems or to provide interactive incident handling. This includes both the documented evaluation of incoming video alerts by a dispatcher and the execution of related tasks, interventions, and notifications.

In the absence of this functionality, dispatchers are forced to continuously monitor live camera feeds using the proprietary client software of each video recorder, connected through a broadband internet link. Since these client programs come from different manufacturers, they must be operated separately in what is called “island mode.” As a result, the walls of remote monitoring centers are often covered by video walls made up of monitors. These video walls display hundreds of live camera feeds so that in the event of an alert, the dispatcher does not need to wait for the video server to connect and load the footage.

However, this operational approach poses significant risks to both service providers and clients. Managing multiple client software platforms from different video systems in parallel complicates the dispatcher’s work. Moreover, client software is not designed by manufacturers to support the documentation of video alert assessments. Therefore, dispatchers must perform the documentation using separate software. This not only requires additional resources but also increases the risk of errors, which can negatively affect service quality for clients.

The procedures for handling individual video alerts are identical to the reactive intervention methods used in alarm systems. In practice, this means that when an alert is received, the dispatcher immediately sends a response unit, which begins the necessary measures upon arriving at the site. This type of service is referred to as a traditional video guarding and remote monitoring service.

ADVANTAGES OF THE SERVICE

IMMEDIATE START-UP

The service is based on the proprietary client software of the digital network video system. Once the client program is installed at the remote monitoring center, the service can be launched immediately.

FAVORABLE SERVICE FEE

The operation and efficiency of the service are fully equivalent to the reactive remote monitoring of alarm systems, making its quality and pricing comparable.

DISADVANTAGES OF THE SERVICE

Requires the parallel operation and expert handling of heterogeneous software inventory by dispatchers.	Handling 5-6 different types of client software increases the possibility of errors by dispatchers.
Demands continuous monitoring of live feeds on video walls.	Monitoring hundreds of cameras is not only monotonous but also extremely exhausting, which increases the likelihood of dispatcher errors.
Simultaneous handling of alarms from multiple video servers requires the intervention of multiple dispatchers at the same time.	If one dispatcher manages simultaneous alarms, switching between different client software also increases the potential for errors.
In the absence of Artificial Intelligence analytics, the number of unnecessary alarms significantly increases.	After a while, dispatchers may start to take frequent false alarms less seriously, which can lead to oversight and errors.
During alarms, the client software of various network video recorders does not include dispatcher duties, evaluation tasks, protocol-based handling of notifications, nor their professional documentation.	The intervention measures related to incident events are managed by the surveillance software, which is not connected to the individual video system client software. Therefore, the administration of actions taken in response to alarm events lacks video recordings of the incidents, hindering retrospective verification of dispatchers' work and significantly complicating the investigation of any customer complaints.

HOW DOES AI-BASED VIDEO SURVEILLANCE AND ONLINE RECEPTION SERVICE WORK?

The idea to develop a modern, artificial intelligence-based, preventive-response video guarding and remote monitoring service with online reception was born from the disadvantages and risks associated with traditional, reactive-response video guarding services.

This new preventive-response service differs from its reactive predecessor in that the dispatcher responsible for monitoring can intervene in on-site events remotely, in real time. This makes protection much more efficient and significantly improves overall security. In reactive video remote monitoring, there is no interaction between the dispatcher and the perpetrator on-site, so there is no possibility of preventing a crime. When an alarm is triggered, the dispatcher immediately notifies the response unit, which begins on-site intervention upon arrival. In the event of a burglary or natural damage, the dispatcher also informs the relevant authorities and the client.

To this day, many providers still offer this reactive type of video remote monitoring service, which operates and performs in the same way as traditional alarm system remote monitoring—meaning both its quality and pricing are comparable.

In contrast, in modern, artificial intelligence-based preventive video guarding, the dispatcher first remotely activates floodlights installed along the perimeter fence, then issues a live verbal warning through an outdoor loudspeaker, instructing the suspicious individual to refrain from any unlawful action. If the warning is unsuccessful, the dispatcher contacts the response unit. In most cases, however, the live verbal warning has a strong deterrent effect, significantly reducing the number of intrusions and the need for dispatching on-site units.

This modern, artificial intelligence-based, preventive-response video guarding and remote monitoring service greatly reduces criminal activity and significantly increases property security. Targeted surveillance supported by artificial intelligence, remote control of floodlights, and live communication through loudspeakers enable more effective intervention than what could ever be expected from an on-site security guard.

ADVANTAGES OF THE SERVICE

INTEGRATION WITH ARTIFICIAL INTELLIGENCE-BASED VIDEO SYSTEM

The remote monitoring incident management system is capable of seamlessly integrating with artificial intelligence-based network video recorder systems (for example: Luxriot, AxxonSoft, HikCentral), which utilize various types of cameras and sensors. This integration enables the remote monitoring system to receive immediate data and alerts from the video network monitored by artificial intelligence.

REAL-TIME ALERT MANAGEMENT

The surveillance system can automatically handle alerts when the Artificial Intelligence detects unusual events such as intrusions, fire, or equipment failures. Alerts are immediately sent to dispatchers who respond swiftly to the situation. Alerts include:

- The type of event
- The precise location of the event
- Related video footage and data
- Client-specific details about the equipment or site

CLIENT-SPECIFIC PARAMETERS

Since the dispatch center serves various clients, the surveillance system provides the ability to create custom settings for each client. This includes:

- Client-specific alert protocols and event management processes
- Management of alert thresholds and priorities related to various technical equipment
- Client preferences regarding response times and handling methods

AUTOMATED AND MANUAL INCIDENT MANAGEMENT PROCESSES

The surveillance system supports both automated and manual interventions flexibly. Automatic interventions may include:

- Automatic notifications to the client or on-site security personnel
- Remote control of floodlights
- Alert forwarding to technical teams or external service providers

In addition, dispatchers have the option to intervene manually during an alert, such as:

- Camera and device control for further investigation of the situation
- Remote intervention using the loudspeaker system and gate intercom

CENTRAL EVENT LOG AND AUDITING

The surveillance system maintains a detailed event log of every alert and incident, including:

- The time, source, and type of the alert
- The timeline of the dispatcher's interventions
- Recording of all related communications and actions
- Logging of client notifications and feedback

This ensures auditability and aids in resolving legal or technical disputes, as well as improving service quality.

SCALABILITY AND SIMULTANEOUS SUPPORT FOR MULTIPLE USERS (MULTI-TENANCY)

Thanks to its scalability, the surveillance system can manage multiple clients and locations simultaneously without decreasing the speed or effectiveness of incident management. Multi-tenancy allows each client to have isolated data and settings within the surveillance system.

COMMUNICATION AND REPORTING

The surveillance system features built-in communication tools that allow dispatchers to easily interact with on-site personnel or potential offenders through an outdoor loudspeaker installed at the facility. It also includes automatic report generation features that regularly produce reports on alerts and their management for clients.

AI-SUPPORTED ANALYTICS AND FORECASTING

The surveillance system can collect and analyze data generated by Artificial Intelligence. This helps in forecasting and identifying long-term patterns, thus preventing future problems and optimizing security.

MOBILE AND WEB-BASED ACCESS

The surveillance system provides access for dispatchers and response teams from anywhere, making mobile and web-based access crucial. This enhances efficiency and responsiveness.

FLEXIBILITY IN HANDLING VARIOUS INDUSTRIAL STANDARDS AND PROTOCOLS

The surveillance system is compatible with industrial standards used by various technical equipment and systems (e.g., Video Management APIs, SCADA, IoT devices). This allows it to adapt to client-specific solutions built on different technologies.

DISADVANTAGES OF THE SERVICE

REQUIRES EQUIPMENT PROCUREMENT

The implementation of modern, preventive-response video guarding requires the purchase and installation of an artificial intelligence-based digital network video recorder (for example: https://www.luxriot.com/), outdoor loudspeakers (for example: https://www.axis.com/products/axis-c1310-e-mk-ii), and floodlights or reflectors (for example: https://www.ledcenter.hu/kategoriak/led-fenyvetok-led-reflektorok).

The implementation of the online reception service also requires the procurement and on-site installation of a GSM-based infocommunication terminal (for example: https://www.mohanet.hu/imachine-classic).

HIGHER SERVICE FEE

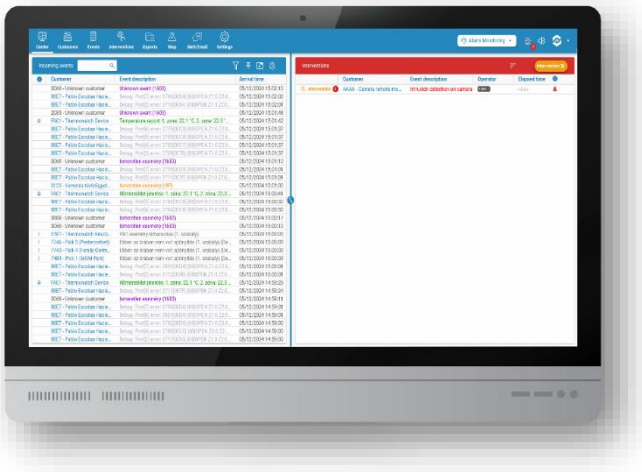
The service fee is significantly higher than that of traditional alarm system remote monitoring. However, with the introduction of a modern, artificial intelligence-based, preventive-response video guarding and remote monitoring service, the client significantly improves operational efficiency and security. A dispatcher continuously monitors the premises and is familiar with its specific needs and technological environment, and is able to intervene interactively to prevent negative incidents. This service represents significantly greater added value than traditional alarm system monitoring. Although the fee is higher, it still costs only about one-third of physical guarding—while delivering far superior results in terms of security, quality, and efficiency.

When introducing a video guarding and remote monitoring service, clients are strongly advised to evaluate whether the chosen remote monitoring provider has the technical readiness and systems necessary to fully support these requirements.

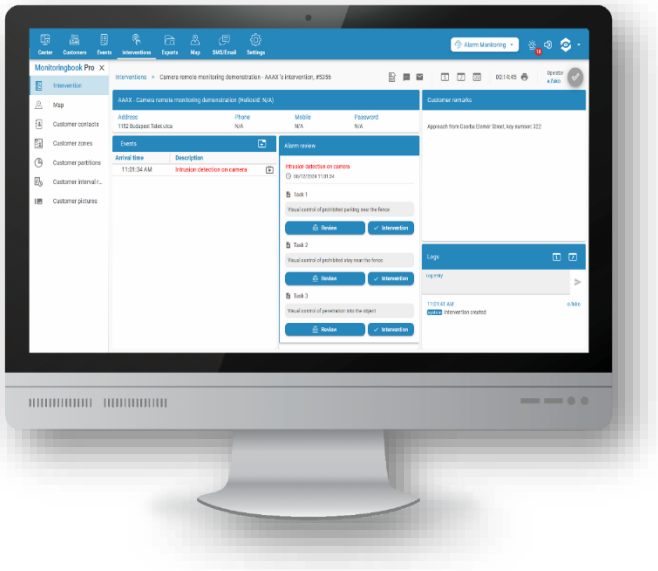
This evaluation can be carried out through in-depth interviews using technical questions, and by reviewing the dispatch center's software, where the provider can demonstrate the full process of dispatcher actions in practice—allowing the client to validate the provider's claims.

DISPATCHER ACTION PROCESS IN ARTIFICIAL INTELLIGENCE-BASED VIDEO SURVEILLANCE

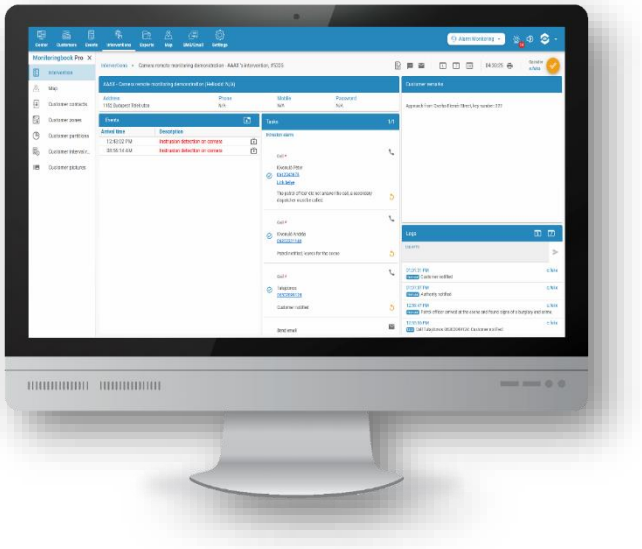
1. An alert is received from an Artificial Intelligence -based network video recorder into the MONITORINGBOOK remote surveillance software.



2. The dispatcher opens the action worksheet associated with the alert in the MONITORINGBOOK remote surveillance software and begins evaluating the alert based on the prescribed tasks and instructions.



3. The dispatcher remotely plays back the video recording of the alert event saved in the Artificial Intelligence-based video recorder (left camera view) to visually verify and validate the triggering event, while simultaneously monitoring the live feed from the same camera (right camera view).



4. Following the evaluation of the alert event, the dispatcher immediately begins professional management of the incident. Specifically, by pressing a button in the MONITORINGBOOK remote surveillance software, the dispatcher establishes a voice connection with the outdoor loudspeaker installed at the site and then verbally instructs the perpetrator to immediately leave the premises. Since the perpetrator has already entered the area, the protocol requires that the patrol service be notified as well. Upon arriving at the site, the patrol service conducts a thorough inspection of the premises and reports the results back to the dispatcher, who then records the outcome on the action worksheet and can subsequently close it.