



Solving False Alarms: Bringing New Context for Monitoring

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The security industry has experienced substantial growth in recent years as new technologies and changing consumer lifestyles have made the “peace of mind” value proposition more attractive than ever. New technologies enable different types of alerts and monitoring responses compared to traditional security systems, and with the increase in choice, consumers can make more qualitative judgements on the value of security solutions.

New information shared with monitoring firms, first responders, and the user is providing more context and information, with less limitations on making informed decisions, and with automation to help streamline response times. In addition, consumer perceptions of events that trigger alerts and alarms, as well as the perceived value of those alerts, carry even more significance when owners are considering contract renewals and making recommendations to the next cohort of new system owners.



The TMA-AVS-01 Alarm Validation Standard was crafted to support more relevant and timely information in a standardized way to help reduce false alarms and build trust and support resource allocation for staffing shortages.

Implementation of the new standard, while challenging, will benefit the monitoring and intrusion industry, as quality of response to alerts and alarms is critical to the core role of professional monitored security: safety and security.

This white paper provides a snapshot of the current security and monitoring market and assesses the impact of the TMA-AVS-01 standard on the security industry and consumer.

Security Market Expansion

Over the past five years, the market for residential security solutions has expanded to include low cost, no contract solutions creating market changes:

- Self-installation players have increased their share of the market and offer pro monitoring and installation.
- Pro install players now offer self-install.
- Security sales have moved online.
- Security services have expanded.
- Professional monitoring providers have expanded the types of solutions monitored.

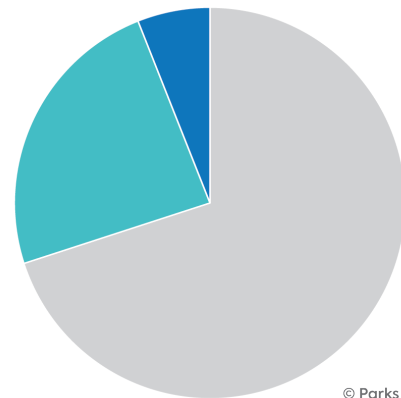
This expansion includes devices like cameras and video doorbells that can be professionally monitored and provide a “safe enough” experience for many consumers over full security systems. Thirty percent of internet households report owning a security system, and an additional 11% of Internet households, or ~12 million households, own a network camera or video doorbell but NO security system.

About 41%, or 48 million households, have some kind of security solution at home.

Paid security services – including professional monitoring, self-monitoring, and video streaming/storage fees — are also available for both systems and security devices. Together, 30% of US internet households reported paying for a security-related service.

Paid Security Device Adoption

- Paid service attached to video device (households with NO security system)
- Paid service attached to security system
- No paid security service



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The top features noted by security system owners and purchase intenders include:

- Alert or notification to a smart phone
- 24/7 professional monitoring and video camera or video doorbell shortage.
- Video verification to reduce false alarms
- Video analytics to identify objects

Parks Associates estimates that professional home security monitoring currently generates just over \$12 billion in annual revenue in the US and will grow to \$13 billion by 2025.



The Long-Standing False Alarm Problem

The security industry has grown and changed, but one thing remains the same: security system owners demand a swift, accurate, and effective response to alerts and issues. One of owners' top frustrations with their security systems is failure to accurately identify the presence of unauthorized individuals on a property, leading to false alarms.

- 62% of security system owners report experiencing a false alarm in the past 12 months.
- 53% of security system owners who experienced a false alarm cite a non-person as the cause.

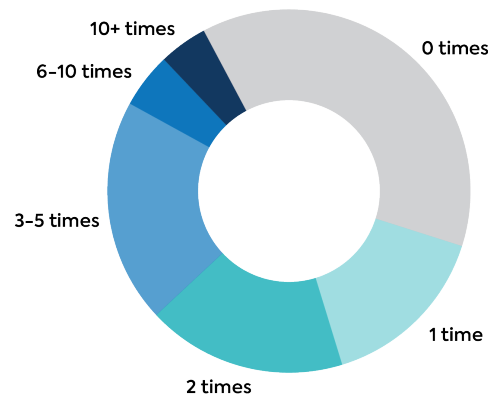
The prevalence of false alarms is also a top reason households give when cancelling monitoring services. The detrimental impact of false alarms on human and financial resources has caused municipalities to impose false alarm fees, penalties, and de-prioritization of calls. Security dealers understand the seriousness of the issue. In fact, video verification to prevent false alarms is the top add-on service security dealers are likely to add to offerings, according to Parks Associates' Security Dealer Survey.

The value of security solutions is threatened when systems detect and alert users to issues that are not actual security events or emergencies. About half of system owners say their security system triggers too many false alarms, and nearly one-in-ten report they experienced more than five false alarms in a 12-month period.

Most false alarms that are due to user error are generated from people living in the home:

- Incorrect password
- False alarm caused by children
- False alarm caused by adult living in home

Number of Times the Security System Triggered a False Alarm in Past 12 months



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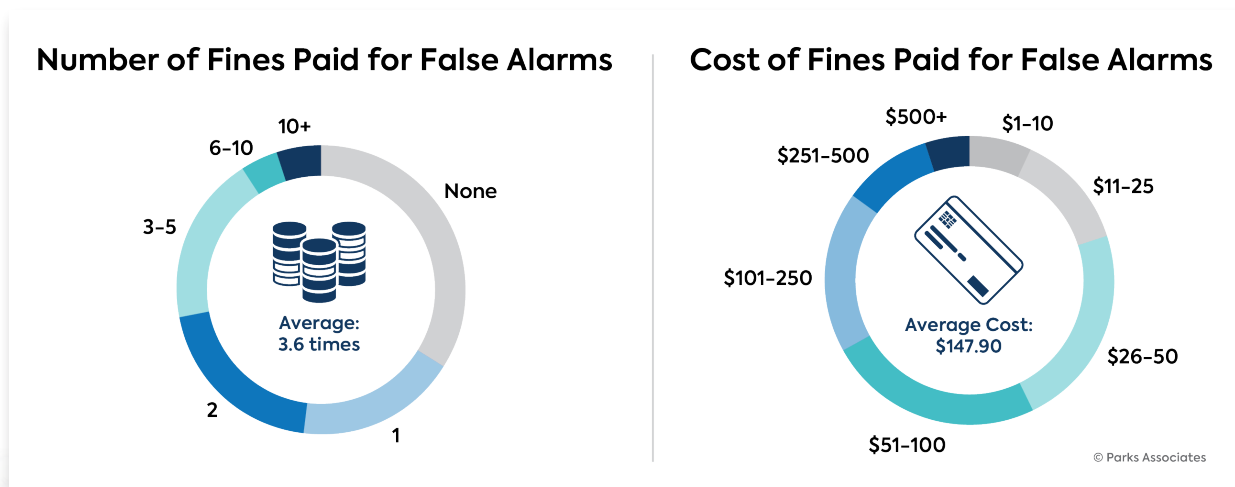
Security owners also report that their systems misidentify too many moving things as intruders, including pets, wildlife, and objects. False alerts can frustrate users by generating large numbers of notifications due to harmless triggers, leading users to doubt the value of their system and disable or ignore alerts.

False alerts also drive-up monitoring center costs and result in fines for the security system owner.

Even one false alarm has a major impact on perceptions. Half of system owners consider one false alarm too many to experience in a year, and about two-thirds say two is too many.

About 2-in-3 security system owners have paid a fine for a false alarm, with an average cost of almost \$150.

After three false alarms, there seems to be no change as consumers have settled into the belief that their system triggers too many false alarms. Security companies hoping to change perceptions will have very little room for error when it comes to design, installation, and monitoring of potential alert events.



False Alarms and Response Times

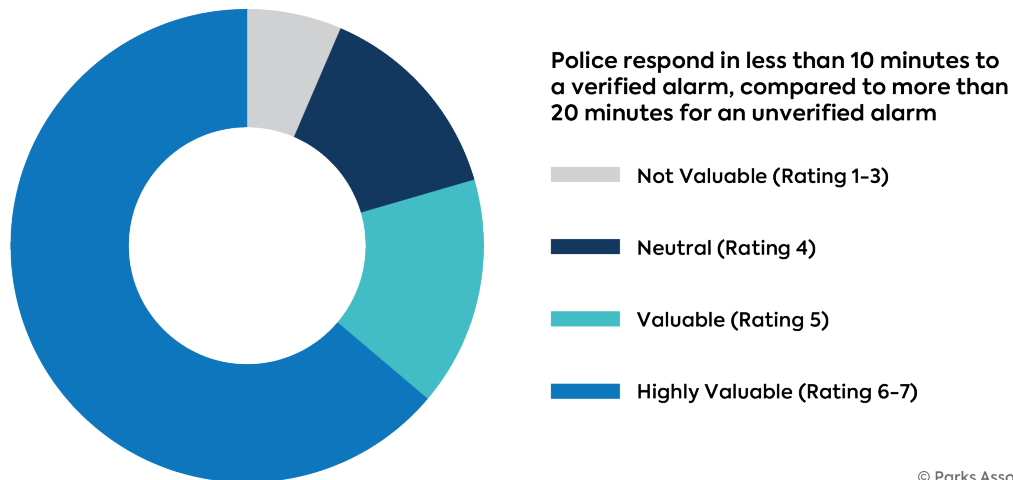
Consumers are not alone in their frustrations. False alarms also prevent public safety and emergency responders from effectively validating and responding to security events. Response to false alarms diverts responders' time and attention away from valid security events. It also conditions first responders to assume that system-triggered security events are false, potentially impacting response time.

According to a report by the National Institute of Justice, the estimated cost of false alarms in the United States is approximately \$1.8 billion per year. This includes the cost of police response, as well as costs associated with fines, equipment maintenance, and other related expenses. There have been several research studies on the impact of false alarms on first responders. These studies have examined the effects of false alarms on factors such as response time, safety, job burnout, and costs.

Users intuitively understand the connection between false alarms and response times—80% of security owners rated “very valuable” the ability of video verification to enable police to respond in less than 10 minutes to a verified alarm, compared to more than 20 minutes for an unverified alarm.

Ultimately, security providers, users, and first responders are all incented to limit false alarms.

Value of Video Verification Benefits among Security System Owners



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Validating Alarms Through Technology

To address the industry-wide problem of false alarms, The Monitoring Association (TMA) developed an alarm validation scoring standard.

TMA-AVS-01 helps emergency operators and responders assess the threat level of a burglar alarm activation by scoring and classifying “unauthorized human activity detected by alarm systems.”¹

TMA-AVS-01 uses historical and real-time data to assign a score and alarm level to each security event, with all current solutions incorporating manual verification where a person reviews the data to make a risk assessment. This includes video and audio verification, eyewitness reporting, and analytical data confirmation, among other factors.

TMA-AVS-01 has three main priorities:

- Accurately and consistently classifying intrusion alarms based on the threat
- Maintaining a consistent communication procedure for transferring results to responders
- Providing guidelines to ensure compliance with the standard, including quarterly self-audits and a UL audit done annually (UL827) for central stations



As of February 2021, the United States has 5,748 primary and secondary PSAPs and 3,135 counties, which include parishes, independent cities, boroughs, and Census areas.

- 240 million calls are made to 911 in the US each year in many areas
- 80% or more are from wireless devices
- 30% shortage on average at 911 centers
- 15-20% turnover rate for 911 employees nationwide

Staffing shortages in 911 centers are a growing problem

- 91% of 911 centers reported being short-staffed
- 60% reported having a higher vacancy rate than the prior year

¹ <https://tma.us/tma-avs-01-alarm-validation-standard-receives-ansi-accreditation/>

TMA-AVS-01 has five alarm levels:

- **Alarm Level 0** – No Call for Service
- **Alarm Level 1** – Call for Service with limited to no additional information.
- **Alarm Level 2** – Call for Service with confirmed or ‘highly probable’ human presence with unknown intent
- **Alarm Level 3** – Call for Service with confirmed threat to property
- **Alarm Level 4** – Call for Service with confirmed threat to life

The implementation of AVS-01 means emergency operators and responders can prioritize and respond to alarms more effectively, reducing the number of nuisance alarms and improving overall system performance. It provides an opportunity for security providers to earn greater trust with local municipalities by providing additional benefits, including improved response times, increased situational awareness, reduced operating costs, and improved security outcomes. Implementation of AVS-01 can also improve customer satisfaction and enable higher revenue-earning potential for security providers, stemming from monitoring services coming from camera solutions.





A Critical Industry Moment: Moving to Implementation

Now that the Standard is in place, implementation of AVS-01 is the next critical step. Parks Associates anticipates that most change to current systems and processes needs to happen at the Level 2 stage.

Alarm Level 0 and Alarm Level 1 are similar to burglary-alarm events today.

An alarm is tripped, but neither the security company (monitoring partner) nor homeowner have any insight into what is happening in the home. In these circumstances, historically, the security company asks the homeowner if they want to dispatch the police, and the homeowner says either yes or no, with little to no verification. **These scenarios will continue to get further deprioritized as law enforcement has little to no information to rely on to warrant a quick response.**

The threshold for Alarm Level 2 is “highly probable” human presence onsite. How the security industry reliably answers this question will measure the success or failure of AVS-01 implementation. Today, three main tools are available that can achieve an Alarm Level 2 priority: calling the homeowner, video verification, and texting the homeowner.

	Call the Homeowner	Text the Homeowners	Video Verification
	Monitoring center attempts to contact the homeowner based on a set contact list. Assuming the homeowner is home, they answer the phone and confirm that the event.	Monitoring center texts all parties on the contact list simultaneously. If a resident on the contact list is home, they confirm the event.	Video cameras confirm human presence onsite. They provide an image of the person/people at the house, and can indicate to the homeowner if they belong.
Advantages	Ideal prioritization scenario, as it could likely achieve a Level 3 or Level 4, depending on the perceived threat level communicated by the homeowner.	Most efficient way to communicate between a monitoring provider and homeowners, shortcutting the call list workflow.	Can confirm human presence onsite, provide an image of the person/people outside the house, and can indicate to the homeowner if they belong
Challenges	Less than 30% of event calls to homeowners are answered ² 5+ minute response time, with conventional workflows, to work through call list	Lacks situational awareness to the homeowner to be able to verify an alarm event. Neither party has reliable information to inform a law enforcement response	Cameras not available in all security households, professional monitoring of video feeds is still rare. Most expensive option to deploy

² Source: The Monitoring Association

Video verification offers the promise of quick visual confirmation as well as context to inform response. More security households than ever report having a connected video camera or video doorbell (48%), though few of them are professionally monitored. Just 6% of all connected camera or smart video doorbell owners pay for professional monitoring of their video device today. Video also tends to be quite expensive to deploy, capture, review, and intervene. Professionally monitored video solutions can be an expensive proposition for the homeowner.

Residential security providers also have work to do in adopting sensor-based and video verification approaches. Investing in AI and smart technologies is a challenge for smaller providers, slowing widespread integration. Video solutions also require a “human in the loop” today, which adds time, complexity, and subjective judgment to the workflow.

Both stronger technology adoption and a review of current workflows and processes will help move more Level 2 alarm events to the higher stage Level 3 and 4, where confirmed events result in quick and informed response.

Finally, AVS-01 implementation will require industry-wide education and training on the standard. This includes training human personnel, as there is still a large amount of human intervention involved in emergency response as well as verification of the data coming in from the system. The time and costs associated with this training are substantial, and currently AVS-compliant solutions are not automated but rely on manual verification where a human reviews, scores, or verifies the data to make an assessment on the risk factor.

The market penetration of professionally monitored security cameras would need to drastically increase to make that a viable option at scale.





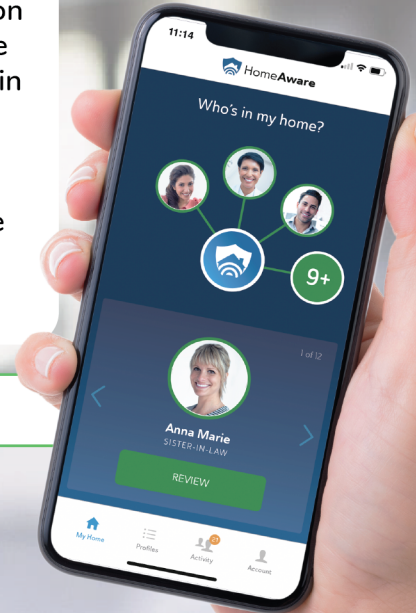
Keith Puckett

Founder/CEO
Ubiety



“Presence Detection & Identification as part of your complete security system is the holy grail...”

Ubiety’s Radio Frequency (RF) detection and AI platform capabilities are a game changer that offers unparalleled value in validating alarm responses and linking the entire connected home ecosystem. By leveraging RF signaling technology to determine “who’s in your home,” we offer the most automated, scalable solution to solve for AVS-01.



Visit www.ubiety.io to learn more



Morgan Hertel

President, TMA Board of Directors
VP of Technology & Innovation
Rapid Response



“The future of TMA-AVS-01, and the security industry overall, lies in the development and execution of innovation and technology.”

This is the biggest opportunity for innovation, for players in the field to stand out, that I've seen in 20 years. The future of security will rely on new technology to solve these problems in automation.

At Rapid Response we have been working with Ubiety to automatically update our call workflows based on who is in the home, or who recently left. We have been able to take what used to be a 5 minute response and turn it into a 30 second response.

Using more of Ubiety's presence data we can also score AVS-01 levels in full automation. Something nobody else on the planet is doing. Instead of a judgment call, we know what is happening and can dramatically change our response.

- ...at a glance**
- 75% reduction in time to close
 - Dynamic Workflow dramatically alters the false alarm rate
 - NPS scores are through the roof



Providing More Context to Validate Alarms

Professional monitoring and interactive services will continue to form the core and foundation of a system's value. Advanced video product features are a growing must-have and opens the door to new capability for context, notifications, and impact on response times.

The TMA-AVS-01 standard is important to support and implement across the US. The standard is designed to curb false alarms with several potential beneficial consequences for the industry, the public, and security users:

- Standardize the way in which an event is reported to first responders across diverse monitoring services
- Provide contextual information to first responders
- Speed response times
- Limit drain on public resources caused by response to false alarms
- Bolster user confidence in alerts
- Reduce notification fatigue

The TMA-AVS-01 standard was written to be flexible and largely technology-agnostic.

Both manual and automated monitoring centers can implement the standard, and the standard's classification can be built directly into ASAP to PSAP automated reporting systems. The way in which an event is detected and classified is less important than the end result of proper classification. Presence detection through sensors, video streams, facial recognition, audio detection, and other new methods all provide critical confirmation and context to an ongoing security event.

Although currently all determined manually, ultimately, Alarm Validation Scoring can enable quicker automated alerts, more immediate and direct intervention, and improved efficiency and effectiveness. It also provides additional details about the incident—including potential video feed details—provided directly to the first responder without the intermediary step of speaking with the user.

In this era of change for security providers, a standardized process that heightens the quality of monitoring provided to subscribers extends the trust and value that has formed the foundation of the security industry for decades.

About Parks Associates



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Parks Associates, a woman-founded and certified business, is an internationally recognized market research and consulting company specializing in emerging consumer technology products and services. Founded in 1986, Parks Associates creates research capital for companies ranging from Fortune 500 to small start-ups through market reports, primary studies, consumer research, custom research, workshops, executive conferences, and annual service subscriptions.

The company's expertise includes new media, digital entertainment and gaming, home networks, internet and television services, digital health, mobile applications and services, consumer apps, advanced advertising, consumer electronics, energy management, and home control systems and security.

About Ubiety



<http://www.ubiety.io>

Ubiety Technologies Inc. is a sensor array and data analytics company crafting state-of-the-art hardware and software solutions that enable an elevated and intuitive understanding of people's physical presence via wireless devices. Its patented hardware, presence detection engine, and software applications deliver a digital view of presence that solves detection and identification business challenges across industries.

About the Author



Elizabeth Parks, President & CMO, Parks Associates

As President, Elizabeth supports all teams within Parks Associates. She oversees research topics and coverage areas for the company and directs the integrated strategic communications plan for Parks Associates, including advertising, public relations, and marketing. Elizabeth has supported the growth of Parks Associates business and marketing services for twenty three years and is the key organizer for all of Parks Associates' events, including Parks Associates signature event CONNECTIONS™. She also drives the overall mission to provide clients with the best consumer and industry research and analysis on the SMB and consumer technology markets to inform strategic market decisions.

ATTRIBUTION

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RESEARCH & ANALYSIS

for Emerging Consumer Technologies

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Digital Media and Platforms



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Support Services



Entertainment & Video Services



Consumer Electronics



Energy Management



Home Control Systems



Home Security