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Integrated Weapon Screening White Paper

The Athena Security Approach

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www.athena-security.com

Abstract

Athena Security's Weapon Detection System (WDS) was designed to enhance safety and security by deterring and detecting potential threats in various environments, managing the weapon screening process, offering additional layers of security to screen for persons of interest, and providing deep analytics, incident workflows with tracking, integration with adjacent systems, and reporting.

Unique weapon screening management features include Evasion Detection, Wrong Way Detection, Turn-Around, and others that will be discussed in future exploration. This white paper provides an overview of Athena Security's Weapon Detection System platform and software as of June 2023, highlighting its features, benefits, underlying technologies, applications, impact on safety and security, costs, and return on investment. Athena's WDS combines software with modular hardware components. The weapon screening conversation starts with defining the metallic threat targets, the best plane of detection (which is beyond the scope of this whitepaper and will not be discussed, though it essentially means where in the portal objects can be detected), and the appropriate tradeoffs to fit the goals of your security plan. The most popular Athena solution is the Athena Platform with the CEIA OPENGATE because it adheres to a **Federal Standard.** This standard ensures a baseline of detection consistency while also allowing high throughput, and is thus the setup option that is evaluated in this paper. In WDS solutions, it is important not to underestimate the need for "Concept of Operations" (or "ConOps") support in a screening system. ConOps includes such factors as policies, standard operating procedures, logistics, and tactics of running a screening program. This whitepaper introduces ConOps support embedded into the technology.

Introduction

Incidents of workplace violence, mass school shootings, and violence at hospitals, concert venues, stadiums, and political events continue to soar. Once sacrosanct shelters such as hospital emergency departments, schools, houses of worship, and theaters are no longer immune. **In 2022 40% of nurses in the National Nurses Association survey** said they have seen an increase in violence. Attacks perpetrated against healthcare workers have exploded since the Covid pandemic. Schools, hospitals, malls, theme parks, jewelry stores, and casinos are increasingly deploying Weapon Detection Systems in a manner similar to venues such as airports, stadiums, and courthouses that have long utilized entry screening with metal detectors. Metallic-threat screening may help identify threats ranging from the very small, like a razor blade, to the medium-sized, like a handgun, to large items such as rifles and pressure-cooker bombs.

"Weapon Detection System" is an industry term for any metallic-threat screening technology that is optimized to detect handguns, large knives like a K-Bar, and larger-category mass-casualty weapons. The forecasting firm **Future Market Insights projects that the global market for concealed-weapons-detection systems will grow from $707 million in 2023 to $2.28 billion in 2033, a compound annual growth rate of 12.4%.** Much of this growth is due to recently developed Weapon Detection Technologies capable of identifying these medium-to-large weapons while simultaneously facilitating high throughput.

Organizations seeking a Weapon Detection System should focus on the following criteria:

- **Identifying a WDS that meets specific threat screening detection, throughput, and cultural requirements and sensitivities**
- **Incorporating the correct assemblage of technologies to support operational requirements and goals**
- **Establishing an open API platform to future-proof investment in a WDS**
- **Identifying the ideal partner for long-term technical service and training**
- **Utilizing data generated by a WDS to provide additional value to the organization**

Identifying A Weapon Detection System That Meets Your Needs and Culture

Facilities, applications, and deployments are unique. They vary by size, industry, use, traffic flow, and culture, among other factors. For example, a high school must manage a huge influx of students hopefully trained in what not to bring in the morning and a trickle throughout the day, while a hospital might see a steadier stream of new visitors throughout the day with potential surges during visiting hours or immediately following a crisis.

A fundamental question to consider is "What are you trying to find?" Detecting smaller items will necessitate a more invasive screening process and increased on-site security labor for secondary screening. For each technology or system you evaluate, it is essential to examine the plane of detection and detection capabilities with thorough testing of items you wish you catch.

A good practice is to develop a threat matrix consisting of known threat items that your security team has found in the past. Philosophically, for most non-traditional screening venues, evaluating the trade-off between "finding everything" like at behavioral health facilities and prisons, and working your way up the threat matrix to finding mass casualty weapons is the starting point. Know what you are trying to find.

Consider a small threat item such as a razor blade. A behavioral health clinic may consider it an easily hidden yet highly effective tool to harm medical personnel, patients, and visitors. Given the normal throughput of a hospital, it likely would be too disruptive to set the system sensitivity at a level that would alarm on the razor blade. The average stadium, though concerned with a razor blade, is not willing to take on the additional burden associated with a higher-sensitivity setting for the marginal safety gain: additional resources and personnel for secondary screening, the inconvenience of having patrons remove clothes or open bags, and the inevitable backlog at entry points that not only diminish the fan experience but may also trigger physical scuffles in line.

Facilities always face a choice between convenience and security. Technology is simply incapable of high-throughput screening (1,000+ per hour in one lane) that ignores ordinary objects like keys and mobile phones but alarms on razor blades.

Regarding culture, a facility with an open, welcoming culture might prefer a less-visible solution, such as logoed detection sensors in an existing entryway, while a juvenile intervention school prone to violence might want a highly visible deterrent and demonstration of high security to its students, staff, and the public. Some facilities require systems to be portable and easily moved to various locations, and accommodating placement both inside and outside. Portability was originally designed with events in mind. When running a WDS for extended periods of time in an entryway, safe egress is important and portability is an advantage because the system can be moved in minutes. *It is essential to ensure that the Weapon Detection System you choose allows for safe, unimpeded egress, which is required by life-safety and building codes..

Athena Security's Weapon Detection System accommodates facilities with high throughput and whose visitors routinely carry backpacks, bags, food, gifts, or other items, such as schools and hospitals. At Duke University's hospitals, for instance, visitors, patients, and staff can walk through the Athena detector solution in their main entryways without setting anything down. If an alert triggers, the person is asked to remove (divest) the item(s) and pass through the detector a second time. Secondary screening can then be done on the individual and/or their items, as appropriate.

Our patients absolutely feel safer coming in when they see [the Athena WDS] in place.

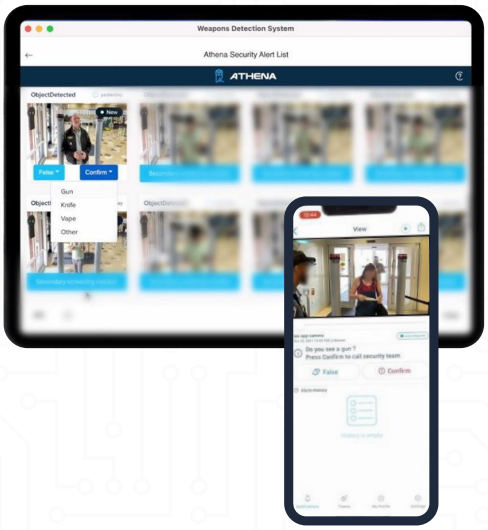
Brian Douglass
Security Supervisor, Unity Health

Incorporating the correct assemblage of technologies to support operational requirements and goals.

Current detection technology options include Active Metal Detection and Ferromagnetic Metal Detection. The latter detects only magnetic metals, but at greater distances than active metal detection, which has the advantage of more sensitivity to anything ferrous or magnetic. Over the last several years, active metal detection systems have become significantly more sophisticated and effective at differentiating medium and large threat items from harmless items such as keys and metal phones. Additionally, active metal detectors are less affected by metals in the surrounding environment, such as swinging metal doors.

Athena's Weapons Detection System contains the following technologies:

- **Walkthrough metal detection including HIPE, SMD600, or OPENGATE**
- **OPENGATE (as evaluated)**
- **CEIA PMD2 Walk Through Metal Detector**
- **LiDAR (and optional thermal camera)**
- **High resolution visual cameras**
- **Artificial Intelligence technologies**
- **Controller Unit**
- **Operator Tablet (optional)**
- **IoT Device for Smart Door Logic (optional)**
- **Visitor Management Kiosk (optional)**
- **External Data Link To Persons of Interest like child abductors and other criminals for real-time background check in under 12 seconds (optional)**
- **API Integrations to Access Control (optional)**
- **API Integrations to Video Management Systems (optional) example Milestone VMS**



This combination of technologies creates a multi-layered holistic solution to weapons detection without increasing false positive alerts. The Athena WDS goes beyond the plane of detection in order to help ensure the proper process while maintaining rigorous Quality Control Standards. This system helps ensure the effectiveness of the Security Team Personnel operating and running the security program. Additional layers of safety beyond process include Person of Interest recognition from an internal database, and/or an external database link to find criminals like child abductors, registered sex offenders, and persons of interest with a record.

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Finding An Integratable Solution

Standalone Concealed Weapon Detection Systems serve an important role, but their value multiplies when they are integrated with other security measures or building controls, such as alarms, video management systems, visitor management systems, Person of Interest detection, video surveillance, intercoms, and occupancy sensors. For instance, at Jefferson Regional Hospital in southwest Arkansas, Athena's Concealed Weapon Detection System is tied to the facility's visitor management system. Upon checking into the system, a visitor is matched with their activity in the Weapon Detection System, allowing administrations to know WHAT and WHO is coming through their doorways. If someone has triggered an alert or alarm in the past, they are marked as a "person of interest." Once identified, they are subsequently flagged with the visitor management system at any future check-in. WDS security personnel will be notified and respond accordingly. Likewise, a terminated employee, patient with a history of violence, or other dangerous persons who may enter the facility may be flagged in the system with comments or a code, and identified before they reach the WDS portal. Security may wish to engage them before they reach the portal, check on their state of mind, and/or de-escalate tensions.

Unity Hospital, which has 17 locations and 370 clinics, integrates Athena's WDS with its electronic access control system. If a weapon or threatening object is identified, the door from the screening area into the facility locks. Smart logic in the system keeps the door locked for a set period of time after an "all clear" follows an alert incident, or until an officer manually confirms "all clear". Beware of systems that actuate door unlocking upon an "all clear" condition, which poses a significant threat if the "all clear" signal is premature.

WATCH THE VIDEO!

When staff witnessed an alarm triggering entrance doors to lock, "that's what really made them happy," says Unity Security Supervisor Brian Douglass. "They felt really secure with that, they knew that if someone was coming in with a firearm, they'd be stopped when that door closed." Athena Security is leading the way on assistive technologies.

"With Athena Security's concealed weapons detection system tech in place, our family and valued customers can rest assured that no one with a concealed weapon is going to gain entry to the store."

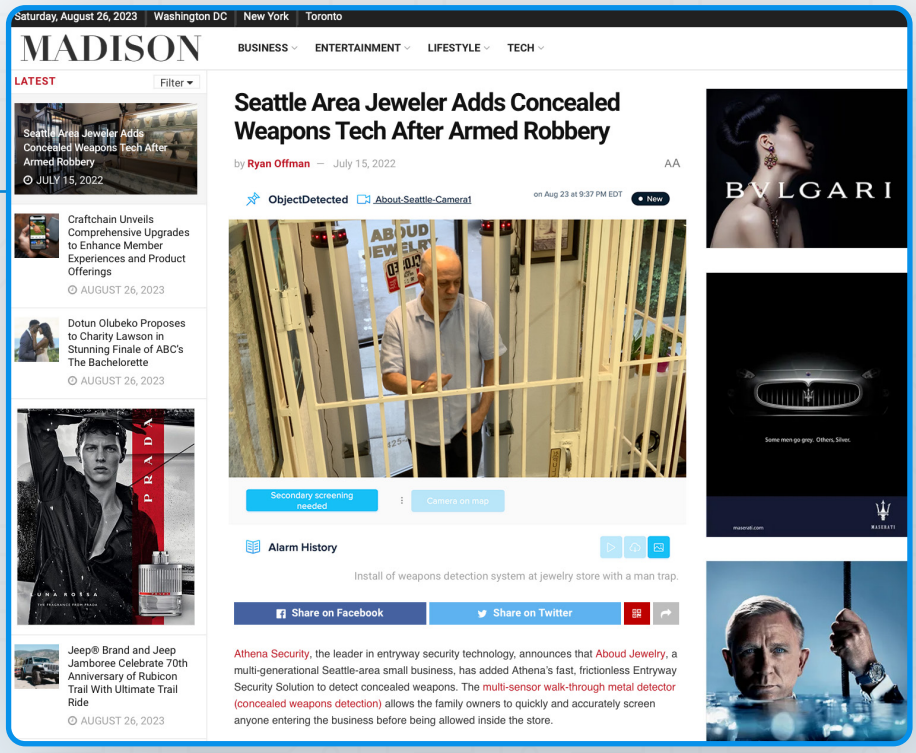
Alhareth Aboud
co-owner, Aboud Jewelers, Seattle

Identifying the Ideal WDS Partner

Investing in a WDS should not resemble delivery of an Amazon package, with the product simply dumped on your doorstep. The vendor should have a team dedicated to serving the customer with setup and installation, testing, operational refinement, signage templates, software and hardware updates and upgrades, and readily available support. Buying is just the beginning. Integration into policy and operations is critical to maximizing value with Athena's enhanced total system.

Be it a large hospital, school, casino, or a small jewelry store, ensuring the chosen vendor takes the time to understand your unique needs, and supports implementation with continued training and technical support. Athena Security works with some of the largest companies in the United States with complex sales processes, planning, installations, training, and technical support. Athena is notable for its ability to provide turnkey solutions for clients large and small. Following an incident in which a man pulled a gun on the owners of Aboud Jewelers , they wanted to make sure it was not going to happen again. By Installing a WDS a patron must enter the initial front access door, and that door must close. Only upon clearing Athena's WDS will the secondary access door into Aboud Jewelers open with their mantrap entrance.

The system adheres to the Federal Standard while also being high-throughput allowing both auditory and visual alert options, as seen in the best practices of Homeland Security for WDS as a totally unique system.



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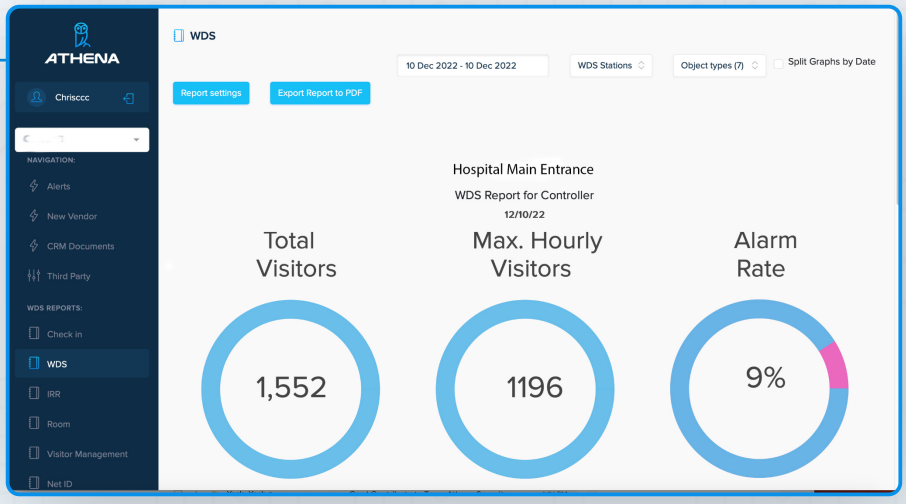
Utilizing Data Points Generated by a WDS to Maximize Value

Data is the most valuable currency in today's world. Security expenditures often will not be approved if they fail to provide additive value. Data generated by a WDS can create efficiencies and reduce costs when utilized intelligently. Example know when to run 1,2,3 people at an entryway with Athena's Smart Logic AI to help you decide. At a noteworthy academic customer in North Carolina, Athena enabled the hospital system to generate system analytics able to be isolated for specific use purposes or combined with other building and security data. See all data Points Collected by Athena (Link to Data Points collected (password protected)) must contact us for data points.

WATCH THE VIDEO!

In a single interface, this university health system is able to visualize the data, throughput rate, alarm rate, objects detected, frequency of WDS alerts, amalgamation of data points at specific points-of-entry, and a summary histogram tracking these statistics over time.



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These critical data sets can be used to refine deployment of staffing and technology, tailor services provided, create energy cost efficiencies, adjust pedestrian flow, and aid in securing valuable assets.

About Athena Security's Technology

Athena Security's WDS is powered by different hardware like CEIA OPENGATE® (or CEIA PD2 walk through metal detector, Metrasens Ultra). While CEIA OPENGATE is a groundbreaking active metal detector designed for high-throughput screening without divestment enabled by its capability to detect mass casualty weapons while permitting metallic non-weapons such as mobile phones and keychains to transit the system without triggering an alert it is not always the best solution for your entryway which is why Athena works with many options for a wider range of use cases. The Athena Solution adds these key technologies:

- **LiDAR sensors and LiDAR-powered analytics allow the Athena platform to track people being screened both through the system, as well as recognize if a person tries to evade detection. The system can also be configured to generate an alert for "Wrong Way" if the lane is an entrance only. Other helpful uses of LiDAR include identifying whether the plane of detection has moved.**
- **A high-resolution visual camera and video analytics offer a set of configurable alerts that include Evasion, Person of Interest, Object Detected, Clear, Wrong Way, Officer Check-in, and more.**
- **Artificial intelligence technologies help officers and administration manage the entryway and maximize the system's efficiency by helping to answer important questions like:**
    - When was the last time you validated the calibration of the WDS–is it finding the intended threat targets? Is it working as advertised?
    - When are officers at their posts? When are they not there? For how long?
    - Are weapons processed properly by the Security team?
- **Controller tablet, mounted on a stand or wall/ceiling located 6-12' from the weapon-screening's plane of detection.**
- **Operator tablet (optional) mounted on a stand or tabletop.**
- **IoT device for smart door logic (optional) connects via wifi or ethernet to the door controls.**
- **Visitor management kiosk (optional)**
- **API integrations to access control (optional)**
- **API integrations to video management systems (optional), such as Milestone VMS, Avigilon, or Genetec.**

Alert notifications are configurable to broadcast in real-time to a Security Operations Center (SOC), mobile phone app, computer-based web browser, video management system, access control system, and additional security systems and components as required. Alerts - which contain location, date/time stamp, and image - can also be integrated with site-specific business software. As such, Athena Security's WDS functions as a workforce multiplier by improving the operational efficiency of the site Security Team.

Why consider implementing weapon screening? What are the benefits?

Deploying a Weapon Detection System provides several benefits to safety and security. Several reasons your institution might consider implementing such a system include:

1. **Preventing Threats:**
Hospitals are meant to be safe havens for healing and recovery. Deploying a WDS proactively prevents potential threats and violent incidents, ensuring increased safety of everyone on premises.

2. **Protecting Patients and Staff:**
A WDS heightens protection of vulnerable patients threatened by angry family members, acquaintances, drug dealers, organized crime or gang members, and so on. It also safeguards hospital staff who provide care and support.

3. **Deterrence:**
The presence of visible security measures such as a WDS can act as a deterrent. Robust security measures discourage those with harmful intent.

4. **Rapid Response:**
A WDS triggers immediate alerts to security personnel and law enforcement, enabling rapid response to neutralize the threat and minimize harm.

5. **Legal and Liability Considerations:**
Hospitals and other facilities owe a duty of care to their users, staff, and visitors. Implementing security measures like a WDS is evidence that the hospital is taking responsible steps to fulfill this duty.

6. **Visitor and Patient Confidence:**
Patients and families who feel safe in the medical environment may have increased confidence in a facility's ability to provide quality care. This positive perception can contribute to patient satisfaction and retention.

7. **Compliance**

Depending on your industry, location, materials kept on site, and other factors, facilities may have to comply with safety and security standards, such as those set forth by the Joint Commission or by federal agencies. Implementing a Weapon Detection System can help your facility comply with these standards.

8. **Emergency Preparedness**

Violence in hospitals has been well documented, and attacks against healthcare workers are at historic highs. Having a Weapon Detection System as part of your emergency preparedness strategy can help mitigate potential risks during critical situations.

9. **Customization**

Modern Weapon Detection Systems are designed to minimize false alarms by using advanced technologies such as AI and machine learning. This ensures that everyday items that might be mistaken for weapons don't trigger unnecessary alerts.

10. **Public Relations**

Hospitals are deeply embedded in their communities. Demonstrating a commitment to safety through the implementation of a WDS can positively impact your hospital's public image and reputation.

It's worth noting that while a Weapon Detection System can offer many benefits, it is not a silver bullet for all security issues. In addition, it is critical to balance security measures with maintaining a welcoming and non-threatening atmosphere. Careful planning, staff training, and clear communication about the purpose of the system help ensure a successful implementation that enhances safety without causing unnecessary distress.

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What are the costs?

The technology, service, training, warranty, and licensing may average $29K/year/single lane or entryway, as evaluated.

Costs may vary greatly depending on the hours of operation, depth of screening, security standard, procedures for clearing alerts, number of units needed to cover the number of entryways, and more.

Initial Equipment Costs

- **Weapon Detection System:**
  The cost of the WDS can range from a few thousand dollars to tens of thousands of dollars, depending on the system's sophistication, features, and capabilities.

Installation Costs

- **Infrastructure Preparation:**
  Installing the WDS may require modifications to a facility's layout, including the installation of gates, sensors, and wiring. This can range from a few hundred dollars to tens of thousands of dollars.

Staff Training

- **Training Programs:**
  Hospital staff, including security personnel, will need training on how to use the WDS effectively. Training costs can include materials, trainers' fees, and staff time.

Maintenance and Upkeep

- **Regular Maintenance:**
  Weapon Detection Systems require regular maintenance to ensure unimpeded functionality. This might involve software updates, sensor calibration, and hardware inspection.
- **Technical Support**
  Ongoing technical support in case of system malfunctions or issues may be an additional cost.

Maintenance and Upkeep

- **Staffing**
  Depending on the level of security prescribed, allocation of additional security personnel to monitor and operate the WDS may be required.
- **Utilities**
  WDS operation requires electricity, which contributes to operational costs.

Compliance and Regulations	• **Legal and Regulatory Compliance** Ensure that the WDS meets any legal and regulatory requirements in your area. Compliance may involve additional costs for certifications and assessments.
Integration and Customization	• **Integration with Existing Systems** If the WDS requires integration with other security systems (such as access control or CCTV), there may be additional costs incurred.
Integration and Customization	• **Equipment Warranty** Consider the cost of extended warranties or insurance coverage for the WDS.
Integration and Customization	• **Lifecycle Costs** Over time, Weapon Detection Systems may need replacement or upgrades to remain effective with current security technologies.
Integration and Customization	• **Training and Response:** Allocate resources for training staff on managing and responding to false alarms to avoid disruptions to hospital operations.

It's important to note that these costs can vary significantly based on the specific needs and circumstances of a facility. When considering the costs of running weapon detection, it's advisable to obtain quotes from reputable vendors, conduct a thorough risk assessment, and budget appropriately for both initial implementation and ongoing operational expenses.

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ROI: What is the return on investment of a Weapon Screening System?

The CEO of a major healthcare facility summarized the Return On Investment in one line, "If this weapon screening technology helps boost nurse and doctor retention, even just 1 of each position a year, then it more than pays for itself!" The cost of replacing a nurse is currently around $55K+ and a physician can be $200K+. Promoting a culture of security and safety helps staff morale and the organization's ability to retain and recruit the best talent, as well as not lose talent that would need to be replaced.

The ROI for installing a Weapon Detection System at a facility can be challenging to quantify precisely, as it involves both tangible and intangible factors. However, here are some potential benefits that can contribute to the ROI of implementing a WDS:

1. **Enhanced Security:**
A WDS can significantly enhance the security of your facility by preventing potential threats and violent incidents. The avoidance of such incidents can save lives, prevent injuries, and minimize property damage.

2. **Reduced Legal and Liability Costs:**
Implementing security measures like a WDS may reduce exposure to lawsuits, legal claims, fines, and associated costs that could arise from security-related incidents.

3. **Improved Patient and Staff Confidence:**
When patients and staff feel safe within your facility, it can lead to improved satisfaction, better patient outcomes, and increased staff retention. Positive experiences can translate into word-of-mouth recommendations and better community relations.

4. **Emergency Preparedness:**
A WDS may contribute to a facility's emergency preparedness by providing an additional layer of protection in case of a security threat or emergency.

5. **Deterrence and Prevention:**
The presence of a WDS can act as a deterrent, discouraging potential threats from attempting to enter your facility with harmful intent. Prevention of incidents conserves resources that might otherwise be used for emergency response and recovery.

6. **Brand and Reputation Protection:**
Demonstrating a commitment to security and safety may enhance your facility's reputation, which can positively impact patient and community trust.

7. **Staff Productivity:**
A secure environment allows staff to focus on their core responsibilities without concern of potential security risks.

8. **Insurance Premiums:**
Some insurance companies may offer more favorable premiums to facilities that have robust security measures in place, potentially leading to cost savings.

9. **Mitigated Disruption:**
Security incidents can disrupt operations, patient care, and services. Preventing such incidents maintains continuity and avoids associated costs.

10. **Customization and Adaptation:**
Modern Weapon Detection Systems often use advanced technologies such as AI and machine learning to minimize false alarms, reducing the disruption caused by unnecessary security responses.

WDS's counter negative trends such as:

1. **Increased burnout, turnover, and cost of replacing clinical staff**
2. **Increased rate and severity of violence**
3. **Increased perception of workplace violence**

It is essential to consider the total cost of ownership for the technology as well as the staffing costs. The initial expenses of installing the system, ongoing maintenance expenses, training of staff, and any potential operational disruptions during installation and testing should all be calculated. To determine the specific ROI for a facility, conducting a thorough cost-benefit analysis accounting for the unique characteristics of a facility, potential threats to mitigate, and the local security landscape is advised.

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APPENDIX A

The following list of assumptions and inputs to consider, while detailed, is not exhaustive.

When calculating the potential benefits of installing a WDS in a facility, several assumptions may influence the outcome. These assumptions shape the variables that contribute to the benefits side of the calculation. Assumptions that may affect the benefits side of your ROI calculation are as follows:

1. **Threat Frequency:** Assumptions about the frequency of potential threats or violent incidents in a facility's location may impact the assessment of incidents that the WDS might prevent.
2. **Incident Severity:** Assumptions regarding the severity of potential incidents, including harm to individuals and property damage, may influence the overall impact of a WDS on reducing harm.
3. **Response Time:** Assumptions relating to security personnel and law enforcement response time may affect the potential for mitigating harm.
4. **Number of Incidents Prevented:** Estimating the number of incidents that a WDS might prevent may be influenced by factors such as historical data, local crime rates, and System efficacy.
5. **Potential Legal Costs:** Assumptions regarding potential legal costs and liabilities related to security incidents preventable by a WDS factor into estimated cost savings.
6. **Staff Productivity Improvement:** Assumptions regarding WDS presence corresponding to improved staff focus, productivity, and job satisfaction may contribute to potential benefit calculations.
7. **Patient Satisfaction Improvement:** Assumptions regarding patient perception of safety and security corresponding to improved satisfaction, better outcomes, and positive word-of-mouth can be a benefit.
8. **Insurance Premium Reduction:** Estimating potential reductions in insurance premiums due to enhanced security measures may contribute to cost savings.
9. **Emergency Response Costs:** Assumptions regarding reduction of emergency response costs associated with security incidents, including medical treatment and facility repairs, can be beneficial.
10. **Public Relations and Reputation Enhancement:** Assumes positive perception of enhanced security will improve the facility's public image and may influence benefits.
11. **Preventive Deterrence:** Assumes WDS visible presence deters potential threats, leading to incident avoidance and contributes to benefits.
12. **Avoided Disruption Costs:** Assumption that decreased security incidents leads to reduced disruption of patient care and operations, and may influence benefits.
13. **Customization and Adaptation:** Assumptions regarding WDS technology effectively minimizing false alarms and reduction of unnecessary disruptions.
14. **Community Confidence:** Assumes WDS will build community confidence in the facility's security measures and may impact benefits.
15. **Training and Staff Preparedness:** Assumes WDS encourages better staff training and preparedness for security incidents contributes to benefits.

It is crucial to note that these assumptions may vary based on a facility's unique characteristics, location, existing security measures, and the specific goals of implementing the Weapon Detection System. When calculating ROI, it is wise to conduct thorough research, gather data, and consult with security experts to ensure that your assumptions are as accurate and informed as possible.

APPENDIX B

The assumed value from Loss of Life becomes a core driver for the ROI calculation warranting further examination. Assigning a monetary value to human life is a complex and sensitive topic. Individual organizations, insurance companies, and governments may use varying approaches and methodologies to estimate the value of a human life based on economic, ethical, and social factors. However, it is important to note that there isn't a universally agreed-upon value for human life, as it depends on context, jurisdiction, and cultural considerations. To wit, the following details several commonly accepted methods and figures utilized:

1. **Statistical Value of a Life (SVOL):**
   One common method used by governments and regulatory agencies is the Statistical Value of a Life (SVOL). This approach looks at how much people are willing to pay for small reductions in mortality risk. In the United States, for example, federal agencies like the Environmental Protection Agency (EPA) and Department of Transportation (DOT) have used values in the range of $7 million to $10 million per life in their regulatory analyses.

2. **Value of a Statistical Life (VSL)**
   Similar to SVOL, the Value of a Statistical Life (VSL) is used in cost-benefit analyses to determine the worth of preventing a statistical number of deaths. This can be based on factors such as people's willingness to pay for safety improvements or the compensation people require for taking on additional risk.

3. **Quality-Adjusted Life Years (QALYs):**
   In healthcare, organizations sometimes use a concept called Quality-Adjusted Life Years (QALYs) to assess the value of medical interventions. QALYs combine both the length and quality of life gained from a medical treatment, assigning a value to each year of life gained.

4. **Wrongful Death Lawsuits:**
   In legal contexts, courts may award compensation for wrongful death cases based on factors such as the victim's earning potential, life expectancy, and the emotional toll on surviving family members.

5. **Insurance Payouts:**
   Insurance companies might consider a person's earning potential, age, and other factors to calculate life insurance payouts. However, these calculations are specific to the individual and are not reflective of a universal value of life.

6. **Cultural and Ethical Considerations:**
   Many societies and cultures consider it ethically challenging to assign a monetary value to human life. The intrinsic worth of a life is often considered immeasurable.