



Why edge-processing matters

When seconds count, Acoem's ATD Gunshot Detection System is designed to detect, locate, and respond to gunshots in real time.



The ATD-300 sensor empowers users with immediate situational awareness. Its edge-processing technology is built on a library of **hundreds of thousands of qualified sounds collected over three decades.**

With up to **15,000 new sounds added monthly**, the neural network is constantly evolving. This critical data is processed directly within the sensor—whether from a permanent installation or mobile deployment—delivering unmatched accuracy in complex environments.

Edge-processing analyzes sounds directly within the ATD-300 sensor. This means:

- **Zero Latency:** No delays from streaming data to a server.
- **Cost-Effective:** Replaces infrastructure-heavy multi-sensor systems with a single device.
- **High Accuracy:** Custom-tuned AI drives false positives toward zero.



5 Phases of Protection

Acoem's ATD Gunshot Detection System revolutionizes how threats are detected and responded to in real time. The ATD system's innovative AI neural network processes signals directly within the sensor itself (edge-processing).

1. **COVERAGE:** A single ATD sensor covers an unparalleled 500 foot radius.
2. **DETECT & LOCATE:** When a sound over 100dB is detected, the sensor's AI analyzes 90+ unique parameters to instantly and accurately classify and locate the gunshot.
3. **ALERT & SLEW:** an alert is sent instantly as the sensor commands a PTZ camera to the detected threat to capture real-time video evidence.
4. **RESPOND:** videos is sent to any commonly integrated video management system (VMS) system for confirmation, enabling rapid response.
5. **ADAPT:** The ATD system grows with you, easy to scale to expand your coverage areas or use as a portable option to monitor any outdoor environment.



A single sensor covers a 500 ft. radius, that's the size of 10 football fields.

Direct control of the camera allows the ATD-300 sensor to immediately direct video capture of the event, often capturing attackers before they lower the weapon or fire a second shot. This allows responders to act quickly to provide aid to victims, prevent further violence, or assess damage, while also capturing video evidence for investigations.

Here's why Acoem's ATD system with AI edge-processing stands out:

Speed: Detects and locates gunshots in just 3 seconds.

Accuracy: Filters out false positives like fireworks or cars using AI.

Privacy: Records only sounds above 100 decibels and identified as a gunshot, with no everyday conversations or extended audio captured.

Efficiency & Integration: Covers a 500-foot radius with a single sensor, reducing hardware and data streaming costs. Now includes specialized on-premise options specifically for critical infrastructure and utilities requiring closed-network environments.

Custom Tuning in Action: The ATD AI engine learns the unique acoustic signature of your environment. "A recent example involved a sensor near a baseball field. The Acoem team registered the crack of the bat with the neural net to ensure a home run is never interpreted as a gunshot, even though the sounds share similar characteristics." – *Timothy English, Managing Director for Acoem ATD technology.*

Real-time intelligence for rapid response

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