

AI Video Surveillance Is Transforming Stadium Security and Operations



As the global market for smart stadiums and arenas surges toward an estimated \$46 billion by 2029—more than doubling from \$19.55 billion in 2024— one technology is poised to lead the charge: intelligent video surveillance.

According to Research and Markets, AI-powered surveillance solutions will capture the highest market share growth among smart stadium technologies, outpacing even IoT, 5G, big data analytics, and energy management systems.

This explosive growth reflects a broader shift in how stadiums and arenas are designed, operated, and secured. No longer isolated suburban structures, today's venues are increasingly embedded in urban cores, serving as year-round hubs for entertainment, commerce, and community engagement.

With this evolution — and the rising amount of potential threat vectors — there is a heightened need for sophisticated, scalable security systems, supported by integrated AI video surveillance.

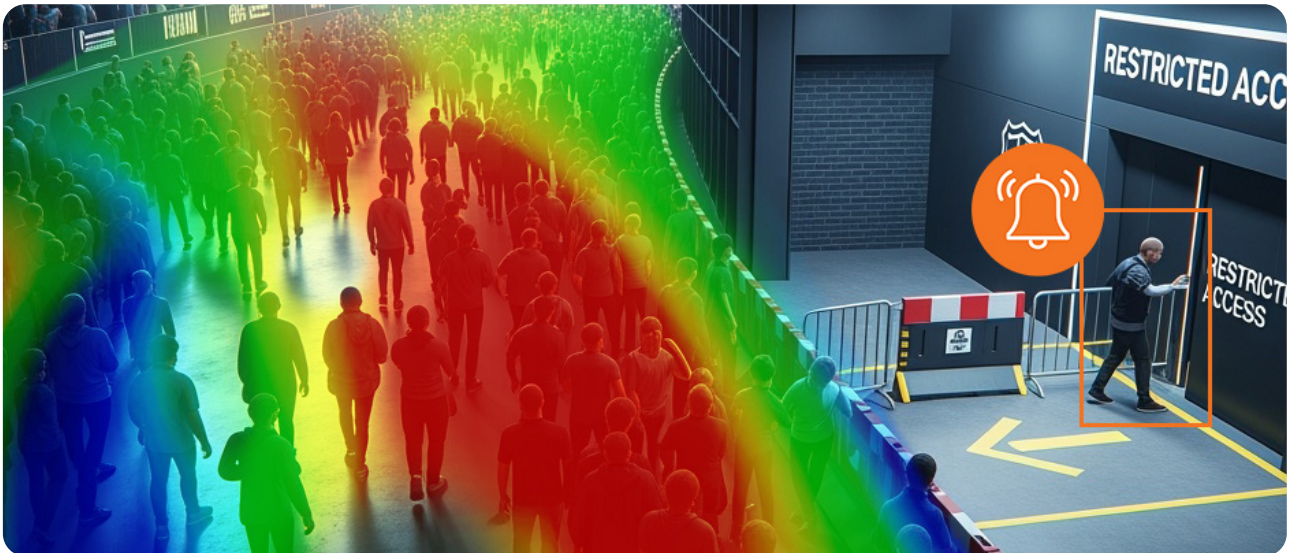


Beyond the Turnstiles: Expanding the Security Perimeter

Modern stadiums are rethinking the boundaries of their surveillance strategies. Security efforts now extend well beyond the gates, encompassing sidewalks, parking lots, and surrounding neighborhoods. This expanded perimeter aligns with the new urban model of sports and entertainment facilities, where venues are integrated into bustling districts rather than standing alone on the suburban outskirts.

City planners, team owners and real estate developers are all embracing this transformation, envisioning stadiums as anchors of vibrant communities. But with increased foot traffic and complex logistics comes the need for robust security infrastructure.

AI-enhanced video surveillance enables venues to monitor vast areas in real time, detect anomalies, and respond swiftly to potential threats—whether it's a suspicious package left near a transit stop or a crowd surge outside a concert entrance.



A Smarter Surveillance Approach: Being Proactive not Reactive

Traditional surveillance systems rely heavily on human operators to monitor feeds, entry lines, attendee baggage, and identify issues of unruly fans.

AI changes the game by automating detection and analysis, allowing venues to shift from reactive to proactive security postures.

Advanced algorithms can identify track crowd density, and recognize behavioral patterns that may signal trouble. For example, if a group begins moving erratically or congregating in a restricted area, the system can trigger alerts before the situation escalates. This early warning capability empowers security teams to intervene quickly, potentially preventing incidents altogether.

Moreover, AI systems can integrate with other technologies — such as license plate readers, and access control systems — to create a comprehensive security ecosystem. These integrations not only enhance situational awareness but also streamline investigations by providing law enforcement with high-quality evidence when needed.



Safety Benefits & Key Operational Insights

Today's advanced AI video surveillance systems deliver obvious security benefits as well significant operational insights.

For instance, AI-enabled cameras can monitor concession lines and restroom usage, helping managers deploy resources more effectively. They can also track vehicle movement in parking areas, reducing congestion and improving entrance and exit access during peak times. Acting on these real-time insights can translate into smoother operations, better employee utilization, happier patrons, and increased revenue.



Additionally, AI surveillance supports compliance with health and safety regulations, such as:

- **Accessibility Routes & Signage** — demonstrate that the facility is following accessibility standards for stadiums that ensure equal access seating, accessible parking, entrances, signage and restrooms for people with disabilities.
- **Safe Food & Beverage Handling** — ensure employees are handling products safely, and wearing required PPE (hats, hairnets, gloves).
- **Sanitation Management** — ensure garbage/refuse being disposed of properly
- **Spill or Hazard Detection** — Reduce liability risks with real-time spill detections spills or hazards

Solutions for Various Venue Types

Whether it's a 5,000-seat amphitheater or a 70,000-seat stadium, Hanwha Vision's customizable surveillance solutions can fit any needs. Smaller venues may prioritize perimeter monitoring and crowd control, while larger facilities might require multi-zone coverage, integrated emergency response protocols, and real-time analytics dashboards.

Importantly, these systems can be layered onto existing infrastructure. Many venues already have CCTV networks in place, and AI solutions can enhance their functionality without

requiring a complete overhaul. This scalability makes adoption more feasible and cost-effective, especially for operators managing multiple properties.

For large venues competing to host major global and regional events, such as the Olympics, World Cup, or the Super Bowl, prioritizing enhanced venue security systems is essential.

Governing bodies for these events also want to see comprehensive security approaches and integrated technologies in use that will ensure patron and athletes safety.



Products like Hanwha Vision's 4ch AI multi-sensor camera powered by the NVIDIA Jetson platform and our AI Box are ideal options.

They open a world of possibilities as customers can leverage existing and custom-developed applications for the NVIDIA chipset to enable new analytics and capabilities unavailable on competitive cameras seamlessly.

Hanwha Vision also offers ultra-high-resolution cameras, the TNB-9000 (32MP) and the TNO-A26081 (26MP). These AI cameras deliver total venue security, covering large areas and capturing the finest details, digitally zooming in on specific sections of an image while still retaining sharpness.

Both are high megapixel solutions for long-range wide area coverage, including the ability to detect perimeter activity without needing long data and power cable runs.

Hanwha Vision's multi-channel, multidirectional cameras with AI and IR capabilities can help venues get the most out of their tech spend. With just one multi-directional camera using one IP data connection, a facility can cover large areas more efficiently. Plus, there's an added infrastructure benefit of fewer cable runs needed to provide total coverage.



TNO-A26081
26MP AI Bullet Camera

PNM-C19183RVTP

PNM-C32083RVQ

TNB-9000
8K AI Box Camera



Building Trust Through Transparency and Safety

In an era of heightened public awareness around privacy and security, AI surveillance must be implemented thoughtfully. Clear communication about how data is collected, stored, and used is essential to building trust with patrons. When done right, these systems not only protect people but also make them feel protected.

By demonstrating a commitment to safety and transparency, venues can foster a welcoming environment that drives repeat visits and community engagement. This is especially important as stadiums evolve into multi-use destinations hosting sports, concerts, festivals, and corporate events.

Looking Ahead

As stadium and arena operators continue striving to make their venues smarter, safer, and more efficient, AI video surveillance will play a central role in shaping their future. From enhancing security to streamlining operations, these technologies offer a powerful toolkit for venue operators navigating an increasingly complex landscape. AI surveillance is no longer a luxury—it's a necessity for modern stadiums striving to deliver safe, seamless, and unforgettable experiences.



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