

A high-angle photograph of a soccer ball on a green field. The ball is white with black and red patterns. A white line runs diagonally across the field. The text 'STADIUM SURVEILLANCE IN HIGH RESOLUTION' is overlaid on the grass in a bold, white, sans-serif font, slanted to follow the line.

**STADIUM
SURVEILLANCE IN
HIGH RESOLUTION**



Stadium surveillance and monitoring

How to stay ahead of the game

A popular sport event attracts many thousands of people, gathered in a stadium to be carried away by the thrills and emotions of the game. Though the atmosphere is mostly positive, there are incidents that may cause a lot of problems for spectators, staff and athletes. Such incidents include violence between fans, pick-pocketing, black market tickets and vandalism.

Meeting your stadium security needs

The security level at stadiums greatly depends on the capacity to efficiently detect, monitor and respond to potential and real security threats. Therefore, it is important to have a modern surveillance system in place, enabling monitoring of all critical areas at all times, including:

- > Entrances and exits
- > Ticket stands and ticket offices
- > Bleachers and escape routes
- > Food and beverage stands
- > Corridors, hallways and stairways

Centralized monitoring for complete overview and surveillance efficiency

Before, surveillance video was used in a forensic way to investigate incidents after they had taken place. With Axis network video solutions, you get an IP surveillance system where live and recorded video is easily accessed from any authorized computer connected to the network. In other words, live video from all security cameras can be remotely monitored from the stadium's security center. Security staff can thus get a complete view of the situation at any time. They can also see how each incident develops and quickly decide on the most appropriate response.

Built-in intelligence provides automatic alerts

The cameras come with built-in intelligent video applications that bring great value to the surveillance system. Examples of such applications include motion detection, tampering alarm and audio detection. A camera with built-in tampering alarm provides an automatic alert if the camera is covered, redirected or manipulated. This enables the security staff to ensure that all cameras are up and running as intended. With motion detection, a camera can automatically detect and alert staff about movement in areas where no activity should be taking place. This can be a great help to fight graffiti, vandalism, trespassing and break-ins.



HDTV capabilities facilitate identification and investigations

With Axis' solutions, you also benefit from very high image quality. High-definition television (HDTV) has become a de-facto standard in the consumer market. The same image quality is now available in many network cameras, making it possible for the stadium's security staff to:

- > Identify persons and objects that are involved in security incidents
- > Share high-quality images of troublemakers with guards and police
- > Shorten investigation times and get valid proof for cases that are taken to court

It is common to place HDTV cameras at all entrances and exits to ensure high-quality images of everyone at the stadium.

Easy and cost-efficient installation

Axis network video solutions also provide a number of capabilities that save valuable time and costs at installation:

- > PoE (Power over Ethernet) – allowing installation with only one cable for both power and video, making the installation easier and cheaper
- > Outdoor-ready products that are designed for outdoor installations and conditions. They are delivered with robust, weather-proof casings, day/night functionality and have a wide operating temperature range.
- > Remote focus and zoom, enabling efficient adjustments over the network

Open, flexible and future-proof

You benefit from well-proven products based on open IP standards and the very latest surveillance technology. This allows efficient integration with other IP-based systems such as access control and fire and smoke detectors.

New cameras can be added at your own pace, just as easily as adding a new computer to the network. If you already have an analog system in place, Axis helps you make the transition to IP by combining existing analog cameras with Axis video encoders.

With Axis network video solutions, it becomes easy to create a safe and secure stadium environment for everyone present, which in turn makes it possible to focus on what really matters – sports!

How it works



Axis network cameras

Axis network cameras are the most advanced, intelligent and versatile on the market. Based on open standards, they connect to any kind of IP network, including the Internet, and enable remote viewing and recording from anywhere in the world.

NETWORK



Stadium monitoring

Stadium monitoring can be easily performed from any authorized computer connected to the IP network. Specialized video management software can be used to carry out event management functions, analyses and recordings. It is possible, for example, to record video continuously, on schedule, on alarm and/or on motion detection. The software can have multiple search functions for recorded events.

INTERNET



Remote access

Remote access to live and recorded video is just a click away. Access video at any time, from any authorized computer, no matter where you are.



Digital recording

Digital quality images are recorded and stored directly on standard PC servers rather than proprietary equipment such as DVRs. This radically reduces management and equipment costs. All video data can be saved on a central server, even at a remote location, in order to prevent violations. Efficient access is possible from any authorized computer.

Solutions for stadium monitoring and perimeter protection

Axis offers the market's broadest and most consistent range of high-quality network cameras, which come in different forms to fully meet your requirements: Fixed and fixed dome network cameras, PTZ and PTZ dome network cameras, megapixel/HDTV cameras, thermal network cameras and outdoor cameras. For a full list of products, please visit www.axis.com/products



AXIS M1054

Smallest camera with HDTV quality. Perfect for refreshment stands and ticket booths.

- > Integrated PIR sensor for detecting movement even in the dark
- > White LED for illuminating the scene automatically at an event or when requested by the user
- > I/O ports for connecting external devices
- > Active tampering alarm



AXIS P1344-E

Robust, outdoor-ready fixed network camera for day and night.

- > Superior HDTV video quality with progressive scan and multiple H.264 streams
- > Saves time and installation cost
- > SD/SDHC memory card slot



AXIS P3344-VE

Ideal for access control and outdoor areas.

- > Optimized use of bandwidth and storage
- > Vandal-resistant
- > Easy installation with remote focus and zoom
- > Day and night
- > SD/SDHC memory card slot



AXIS Q1921-E

Developed to detect people and objects via heat emissions.

- > The only 100% IP thermal cameras
- > Capacity to detect objects the size of vehicles from up to 2,760 meters
- > Capacity to detect people from up to 870 meters
- > SD/SDHC memory card slot



AXIS Q6034

Ideal for monitoring large concentrations of people.

- > HDTV quality
- > Day and night functionality
- > Fast and precise pan/tilt response
- > Powerful zoom
- > SD/SDHC memory card slot



Axis' Corridor Format™

Ideal for monitoring of corridors and aisles.

Provides a unique field of view suitable for several stadium surveillance scenarios, including corridors, aisles, entrances and stairways and makes it possible to get a vertically-oriented video stream from the camera. For an HDTV camera, the result is an image with 9:16 aspect ratio.

Customer stories



Axis network cameras ensure visitor safety at 2010 World Cup in South Africa

Keeping an eye on the ball

The Mbombela Multipurpose Recreational Stadium was constructed on the outskirts of Nelspruit (South Africa) as one of the ten official venues of the 2010 FIFA World Cup™. With a capacity of approximately 46,000 people, the stadium offers visitors a hint of South Africa's natural beauty within a world-class facility. In order to meet the standards and regulations set by FIFA ensuring the safety and security of all stadium equipment, visitors, staff and contractors, the design and implementation of a technologically-advanced surveillance system was required.

Deterring crime and monitoring movement

Security technology specialist TVMS was awarded the CCTV installation tender during the construction of the stadium. "Although we faced many challenges ranging from architectural alterations to tender specification adjustments, we were able to implement a highly successful IP video surveillance system, using cutting-edge Axis network cameras, to provide effective stadium security," remarks Belinda Gouws, Director of TVMS.

The megapixel resolution of the AXIS 216MFD Network Camera prompted TVMS to select this high-performance camera to monitor the turnstiles where facial recognition of fans entering the stadium is vital. AXIS 216MFD offers a discreet, tamper-resistant solution for meticulous monitoring. Effective protection against tampering was once again a priority within the stadium, resulting in the selection of a variety of Axis fixed dome network cameras to monitor the lower concourse inner ring and the majority of covered areas, such as suites, passages and the basement, respectively.

26 Axis PTZ network cameras were also installed on the outer ring of the stadium at each level from basement to upper concourse to monitor crowd flow and give an overview of the turnstiles to monitor mass movement. The system included AXIS P5534 PTZ Network Cameras, mounted on the roof of the stadium in a circular pattern, and offering HDTV-quality performance, 360° pan ability and an IP51-rating against dust and water making it the ideal choice for identifying individuals in the crowd.

Multiple applications

The significance of the installation was evident even before the stadium was commissioned – the management used the surveillance system to apprehend a number of people responsible for stealing from contractors as construction tapered off. In an event leading up to the World Cup, the network cameras were used to avert a stampede at the gates when the turnstiles malfunctioned. During the World Cup events, troublesome fans were identified, photographed and monitored by the police.

Besides the obvious benefit of crowd surveillance, the security system continues to demonstrate its worthiness. An injury-on-duty claim was proved to be unfounded when a review of the footage showed negligence on the part of the claimant. Emergency medical personnel are also able to make use of the cameras to ascertain the swiftest route to a sick or injured fan. As a legacy of the 2010 FIFA World Cup™, the distinctive Mbombela Stadium and its state-of-the-art surveillance solution will persist in providing a secure, internationally acceptable sporting and entertainment venue for the entire Mpumalanga province.

"Our objective is to allow attendees to simply enjoy their chosen event without having to concern themselves with their personal safety or the security of the venue. We have utilized Axis network cameras in an unobtrusive yet all-encompassing manner to maximize monitoring capabilities." Belinda Gouws, Director of TVMS.



Axis network cameras monitor entrance turnstiles at the Rigamonti stadium

Complying with strict security requirements

Brescia Calcio, established in 1911, is the main soccer club of this town in Lombardy, Italy. During the soccer season 2009-2010, in the return leg of the playoff final, the club returned to Series A (premier league) after five years in Series B. The soccer club, in order to achieve the certification of the town stadium and to comply with the strict security requirements of Federcalcio for the premier league, needed to quickly fit their video surveillance system to the high standards required.

Axis cameras reinforce the existing analog system

The Municipality of Brescia, owner of the premises, and Brescia Calcio sought the experience of P.A. Sistemi Integrati, a security services company that invests a significant portion of their resources in research for video surveillance systems improvement, providing IT consultancy and software solutions as well.

P.A. Sistemi Integrati, an Axis partner, proposed to reinforce the existing analog video surveillance system with 15 new AXIS Q1755-E Network Cameras, to monitor the stadium access paths, specifically the entry turnstiles. The system is managed with Mirasys software.

Efficient monitoring of entrances

The system fully satisfied the new security demands of the Rigamonti stadium. Thanks to the efficient monitoring of the entry turnstiles, the faces of incoming spectators can be recognized, with the possibility of preventing access of suspect people to the stadium.

Why Axis?

Axis is the global market leader in network video*, driving the ongoing shift from analog to network video.

- > Over 25 years of networking excellence
- > First company to introduce a network camera in 1996
- > The world's leading expert
 - Broadest product portfolio in the industry
 - The largest installed base of network video products
- > Worldwide presence
- > Global partnerships with leading IT and security integrators

*IMS Research 2009

About Axis Communications

Axis is an IT company offering network video solutions for professional installations. The company is the global market leader in network video, driving the ongoing shift from analog to digital video surveillance. Axis products and solutions focus on security surveillance and remote monitoring, and are based on innovative, open technology platforms.

Axis is a Swedish-based company, operating worldwide with offices in more than 20 countries and cooperating with partners in more than 70 countries. Founded in 1984, Axis is listed on the NASDAQ OMX Stockholm under the ticker AXIS. For more information about Axis, please visit our website at www.axis.com