

## First-class quality for first-class races.

Axis provides full HD network video surveillance system for Shanghai International Circuit.



### Organization:

Shanghai International Circuit

### Location:

Shanghai, China

### Industry segment:

Stadiums and venues

### Application:

Safety and security, remote monitoring

### Axis partners:

Shanghai Shen Ao Engineering, Shanghai Vitlon Intelligent Technology

### Mission

Shanghai International Circuit plays a key role in shaping the automotive culture of Shanghai International Automobile City. It was completed in 2004, covers an area of 5.3 square kilometers, and can accommodate up to 200 thousand people. The total length of the race circuit is about 7 kilometers (including alternate track) and includes tracks for F1 and other races. Shanghai International Circuit is made up of the race zone and zones for commercial exhibition, culture and entertainment as well as future development. The video surveillance system is divided into two parts: the race track zone and other common zones.

Surveillance of the race track zone entails full coverage without blind spots, thereby enabling staff to instantly spot safety hazards via the video wall in the main control room and respond accordingly. This not only protects staff and property, but also ensures the race keeps running smoothly. Surveillance of the other common zones is used to ensure the security of the entire circuit compound and raise the security level in order to protect spectators and their property within that area.

### Solution

Thanks to technological advancements over the years, surveillance systems have evolved from the initial analog system surveillance of the past to the full HD network surveillance of today. The video surveillance system is a key component in strengthening what was originally a weak system of the race circuit. As a world class circuit, there are new security requirements.

- > The race track zone requires full coverage with video surveillance. All race cars must be visible and trackable throughout the race.
- > Grandstands must have essential coverage, with the capability of zooming in on specific features, such as a person's face.
- > All entrances and exits must be managed, with monitoring of all staff and facial recognition performed at some of these passageways.
- > Recognition must also be effective at night and meet the requirement of 24-hour security surveillance of the entire circuit.

**“When selecting cameras, we decided to go for international brands with good reviews and good quality. Axis was our first choice, and the results have proven that we made the right choice.”**

**Pan Zhaojun, Shanghai International Circuit Event Management.**

- > Front-end equipment must be based on open standards to ensure interoperability across different platforms.
- > Videos must be compatible with international standard protocols for connecting to local security authorities.

### Result

The video surveillance system of the race circuit has now been upgraded with 1080P HD cameras. The system has been divided into two subsystems, i.e. two independent operations run and managed by professionals. Thanks to its high quality, the equipment can operate normally under complex and demanding circumstances. In addition, the superiority of the Axis network cameras has become more evident over time through image quality that is stable and can meet the stringent demand for high-quality and high-definition videos for international circuits.

Moreover, use of the advanced image processing technology and Axis Zipstream compression technology has made it possible to reduce the image bandwidth by 20–50% without compromising image quality. This effectively reduces the transmission bandwidth and storage capacity required, thereby helping the customer to achieve significant cost savings.

Since its installation, the system has been working virtually flawlessly. The reliable operation has effectively enabled the successful hosting of many domestic and international events in this sports arena, including the F1 World Championship China Grand Prix, World Endurance Championship (WEC), China GT Championship, and Porsche Rally.

### A solution for a world-class track

Revamping of the race track surveillance began in 2014, at which time the analog encoder system was scrapped and HD surveillance began being used for the entire track.

This is the first time that HD digital dome cameras have been used for race tracks. To meet the need for real-time tracking without lagging, AXIS Q6045-E PTZ Network Camera was chosen upon thorough research and testing. The camera model meets the full coverage requirement while providing details of specific locations quickly and accurately enough to enable staff to make instant decisions.

While the system is built on open standards, it allows the event organizers to connect the video signals to the event control system or use it for live broadcasting, providing convenience and efficiency in operations. AXIS P5635-E MKII, AXIS P3225-V MKII and AXIS M1125 Network Cameras are used to provide coverage of passageways, main roads, parking lots, grandstands, building surroundings and other important zones other than the race tracks.

Recordings are kept for at least 3 months, ensuring the security of the entire sports arena. Security staff are on duty in the control room 24 hours a day, and the excellent image quality provided by the cameras ensures that no suspicious movement will be missed – night or day.

In addition, images are sent to the local security authorities through a dedicated network, providing them real-time updates of the situation at the race track. These HD videos can also be used as evidence if necessary.



**VITLON** 越龍

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