# The new generation of Axis H.264 network video solutions enters Shanghai International Circuit.

## Switch to network video ensures video surveillance is on track for racing events.



**Organization:**
**Shanghai International Circuit**

**Location:**
**Shanghai, China**

**Application:**
**Race surveillance**

**Axis partners:**
**Shanghai Shen Ao Engineering Co., Ltd., Shanghai Ziya Information Technology Co., Ltd.**

### Mission

Shanghai International Circuit is the first F1- certificated international circuit in China and is one of the world's most advanced circuit tracks. It was completed in 2004 with an area of 5.3 km² and the track was designed into the shape of "上" (as "Shang" in "Shanghai"). It is also one of the key landmarks in Shanghai.

With various large international and national races held, Shanghai International Circuit faced increasingly higher requirements for video monitoring along the race track. SIC had already migrated its existing analog system to network video using a solution based on Axis video encoder racks. Feeds from the analog cameras installed on the track sides were thus transmitted via the network, and monitored from a central location. By providing crystal-clear images, swift surveillance, video recording and playback controls, Axis video encoders proved to be a perfect solution in ensuring race surveillance as well as impartiality and security during races.

In the face of of increasing requirements for full track coverage, it became obvious that expanding the network video system would be the quickest and most efficient way forward.

### Solution

Based on the original solution of Axis rack-mounted video encoders, Shanghai International Circuit integrated the new generation of Axis video encoders, featuring the H.264 video compression standard. AXIS Q7401, a single-channel video encoder, was selected. The encoders are installed next to the analog cameras that are mounted along the race course, and directly convert analog video into digital video signals, connecting into the core network and transmitting all video feeds to the back-end management platform for race management. Shanghai International Circuit added many important monitoring points including those for monitoring the finish line of the race course and jump start.

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All were easily integrated into the existing Axis system, realizing a seamless expansion. The multi-streaming technology provided by products based on H.264, helps the race control officers to rapidly view and play back video via the network, thus further enhancing the sharing of and concurrent access to video information in the whole system.

## Result

The Axis H.264 video encoders are not only easy to install but also deliver superior performance, providing live and recorded video with high resolution (D1) and full frame rate (25fps). The single-channel encoder allowed Shanghai International Circuit to quickly expand the original monitoring system to full coverage, making up for the blind zones in the original monitoring system.

Users at the control center, including the event supervisors, can now access real-time video, as well as view and play back the high resolution video instantly over the network. This allows them to comprehend the race progress and judge/respond to any regulation violation, incident or accident in due time, thereby considerably improving the timeliness and accuracy of race arbitration.

## High image quality, and reduced band– width and storage consumption

The new generation of Axis video encoders is based on the video compression standard H.264, which greatly improves video compression efficiency, and decreases the consumption of network bandwidth and storage - the average bit rate declines by nearly 50% while maintaining perfect image quality of D1@25fps.

Mr Rock, Manager of Beamin System, the project's system integrator said: "The new generation of Axis network video solutions has helped us to upgrade and expand the original monitoring system with much ease; in addition, it has enabled us to utilize the network resource at hand, thus greatly reducing the cost of system expansion."

## Concurrent support of many video demands

The Axis network video solutions with H.264 are capable of responding to various demands for video with different configuration. In a large motor race, it does not only need large-screen real-time video display and digital video recording with high quality, but many users, such as the race's director, the chief referee, and the timing officer, all need real-time access to video information on the race course.

"The system for track surveillance and video recording is the heart of the entire circuit; the accuracy, timeliness and user-friendliness of such a system were the three key points in our minds when we were reviewing the system solution – and we found that the solution from Axis is completely satisfying," said Qiu Lei. As such, the solution now in place provides satisfactory video surveillance on track for every first-class racing event.