Security of campus, teachers and students.

Axis Communications provides security assurance for the campus of Tong Ji University.

Organization:
Tong Ji University

Location:
Shanghai, China

Industry segment:
Education

Application:
Campus safety and security

Axis partner:
Effort, Ragile

Mission

Tong Ji University in Shanghai is a comprehensive national university under direct administration of the Ministry of Education, and is listed as a famous institution for higher education with a long history and great reputation. In order to respond to the overall planning of digital campus construction, the university, decided to construct a complete campus video security management system, in accordance with all requirements needed to get 24-h uninterrupted surveillance.

Solution

All front-end equipment in the campus were integrated into a complete network video surveillance system, and over 400 Axis network cameras were deployed at all important locations in the campus, providing possibility for 24-hour surveillance of the monitored areas.

Result

The cameras were carefully chosen to meet the requirements of the different sceneries in the campus area. Challenging outdoor lighting conditions and complex weather situations have been countered to provide great image details, including face details, even in poor light. Further, areas with a large population flow is now under 24-h uninterrupted surveillance, providing video footage with excellent image quality.

AXIS®
COMMUNICATIONS

> "Axis cameras deliver very clear, smooth surveillance images and in particularly low-light performance which enables extraordinarily clear images of monitored areas without supplemental lighting at night in the campus, which indirectly help us save some investments. Moreover, Axis provides high-efficiency professional pre-sales & after-sales services. We enjoy a very happy and comfortable cooperation with Axis!"
>
> Security Office, Tong Ji University.

The University and the leadership have always paid high attention to the challenging security management and accident prevention for the numerous faculties and the large floor area in the campus.

Face and license plate identification

The fact that many teachers, students and vehicles enter and exit at several places of the campus every day, put high requirement of the quality of the cameras. Yan Yonghai, the Director of the Security Office in the Tongji University, says: "The cameras installed at exits and entrances such as campus gates must enable us to see clearly and identify the face of each person and license plates of inbound & outbound vehicles and document relevant information without omissions for 24 hours."

In accordance with scene characteristics at the exits and entrances of the campus, the AXIS Q1604 Network Camera including Wide Dynamic Range with dynamic capture was recommended. It delivers a HDTV 720p resolution, enabling clear identification of people and objects even under complicated and varying light conditions. Its wide dynamic range function can capture several images at different exposure times. Its advanced image processing results in video with exceptional clarity and sharpness, which makes the camera very suitable for monitoring exits and entrances.

24-hour no-dead-angle surveillance

To monitor numerous public areas inside the campus is important but yet difficult. For example, canteens and playgrounds have a large population flow each weekday and are very prone to campus security events, requiring cameras to achieve 24-h uninterrupted surveillance, thus giving high requirements for environmental adaptability and reliability of the cameras themselves.

Simultaneously, in order to effectively distinguish details of each event, the cameras are not only required to "see" but they also must "see clearly" and "identify", calling for excellent image quality and other relevant features. It is imperative to achieve 24-h no-dead-angle surveillance particularly at important locations and special areas of the campus, such as location in front of the library's door,

ward of statutes of great men, and locations near campus information bulletin boards, to prevent vicious crimes and sensitive events.

However, according to Yan Yonghai, a common and easily neglected campus surveillance problem is ambient lighting of surveillance scenarios. In consideration of requirements for the engineering, overall aesthetics, etc. in the campus, it is impossible to install lights anywhere, because it will undermine the overall campus atmosphere. At night, only regular landscape lamps or road illumination can be taken as light sources, which is insufficient for surveillance. Therefore, the cameras must achieve good video even in low-light areas. In accordance with these requirements and in combination with the overall engineering plan for the campus surveillance, AXIS P1354 was recommended for its day and night function, excellent image quality, powerful design and that it features Axis' Lightfinder technology, a technology developed specially for surveillance in low-light environments.

Bandwidth

In this project, the bandwidth requirements was another focus. It was stressed that the university's video surveillance images were under uniform management by the Information Center but they were planned to be uploaded to Cultural Protection Branch of Shanghai Municipal Public Security Bureau, relevant police stations, the education committee and even the Ministry of Education and other government departments. Since bandwidth needs is inextricably linked to investment in storage and system, it was required for front-end vendors to offer high-quality video with low bandwidth utilization.

Axis cameras cannot only deliver high-resolution video according to the HDTV standard but also uses low-bandwidth. In the industry, when the regular 720P and 1080P cameras typically are designed to deliver 4mbps and 6mbps streams, Axis cameras can, on average, achieve 2.5mbps and 4mbps streams to save bandwidth and reduce storage requirements while ensuring transmission of high quality images, saving project investment for the user.