

Case Study

Shanghai Metro



Infinova provides cameras and a fiber optic backbone to upgrade the video surveillance system at Shanghai Metro, China's largest metro rail system



Solution: Infinova Cameras, Matrix Switches and Fiber Optic transmission

Shanghai Metro Security Upgrade

Shanghai Metro, the largest metro subway rail system in China, upgraded its security system utilizing 59 Infinova Networked Matrix Switchers, 70 PTZ dome cameras, over 1400 fixed and fixed minidome cameras, and fiber optic transceivers.

This critical upgrade offered many challenges for the integrators including very large open spaces with multiple entrances and exits, a high volume of rail traffic and large crowds spread throughout many locations on metro lines 1, 2 & 3. The security integrators needed a system that met multiple requirements from the specification including very large scalability, high reliability, precise camera control and a robust architecture.

Shanghai's South railway station, serving downtown Shanghai, was one of the largest stations upgraded. It is one of the busiest stations connecting three major areas of the city, the Yangtze River, the Pearl River Delta, and southern cities regions. The South railway station, with the south & north station square, occupies over 60 hectares and during a typical day has large crowds to monitor with high traffic density. The main building consists of a 47 meter high dome with a steel structure that is over 200 meters in diameter. The dome covers about 50,000 m² and at anytime over 10,000 people can be waiting or moving through the area. Although the South Station was the largest, the security and surveillance system had to cover many other stations spread over long distances throughout the city.

Infinova[®]
The Integrator's Manufacturer

Infinova's unique security architecture based on a distributed Matrix Switch control over Ethernet contributed significantly to the system reliability. The 59 V2020N and V2040N Matrix Switchers, with a combined input of over 1500 video cameras are controlled via the Ethernet. This unique feature enables the integrators to create a distributed network of Matrix Switches throughout the entire metro rail system. There is no "Master" matrix switch that might become a single point of failure. These Video Matrix Switchers have advanced Video Loss Detection on the input from every camera, this automatically monitors the video signal and issues an alarm if the video camera fails or the cable is cut by vandals.



The Networked Matrix Switchers connect over 70 Infinova V1700 PTZ cameras giving the security operator precise over the camera's movement using the Infinova V2117 Keyboard Controllers. The V1700 PTZ cameras feature a rugged design for both indoor and outdoor operation. The cameras have a high quality zoom lens and are fitted with heaters and blowers for reliable operation under the most demanding conditions. The PTZ cameras can be pre-programmed to execute surveillance patrols with a pre-set accuracy of +/- 0.1 degree. The cameras can also respond to a physical alarm such as door contacts, when the operator can take over to control them manually. The solution has 1300 fixed cameras in housings and 100 fixed domes throughout the South station, these are mounted outside overlooking pedestrian walkways, parking lots and the rail yard.

Given the size of some of the stations and the need to transmit video over long distances, the integrators implemented a fiber optic backbone using Infinova Fiber Optic Transceivers to tie the components of the entire solution together. Advanced multichannel video systems along with video plus control systems were used to connect the cameras to the local Matrix Switches at each station and to connect the Matrix Switchers between stations.



Using fiber simplified installation and reduced both cost and time. The fiber optic backbone helps maintain the video quality over the long distances between stations and provides an easy path for future upgrades.

Infinova[®]

By helping channel partners provide their customers with complete, affordable, best-in-class, large and small video surveillance solutions, Infinova helps integrators generate more business more profitably. Leveraging a manufacturing process certified to ISO 9001:2000 standards and over 250 engineers with a list of video industry firsts, Infinova channel partners provide their end-users with industry-acknowledged product reliability and technical leadership.

So that Infinova channel partners can create complete solutions, Infinova provides IP surveillance cameras and components, CCTV analog cameras, DVRs and components, camera accessories, monitors, power supplies and

fiber optics communications devices. Infinova also has the technical ability and manufacturing flexibility to let integrators propose customized solutions. In addition, Infinova will partner with other manufacturers making other surveillance equipment and software to help its channel partners create turnkey solutions. Contrary to most other companies, Infinova will back-up their partners' products as well as its own to assure both the integrator and its customers that one call – to Infinova only – takes care of everything.

Infinova works diligently to assure its channel partners can provide cost-conscious solutions. With Infinova's hybrid systems, channel partners can propose systems that protect a customer's investment in its already-installed analog surveillance system but that also put them on a dynamic migration pathway to IP systems.

Infinova is lauded for its exceptional maintenance programs. A major highlight is the company's 24-hour advanced replacement policy in which a substitute product is shipped immediately upon notice of a problem.

With such customer focus, Infinova is often referred to as "the integrators' manufacturer."

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