PTZ Traffic Monitoring and Plate Recognition for Highway Surveillance

A new surveillance system was composed of HD PTZ cameras for panoramic monitoring and IR cameras for plate recognition, both of which cameras were powered by PoE switches.

Safety is priceless, but challenging for busy commuter highways. A regional traffic management center (TMC) planned to deploy a surveillance system for vehicle detection and speed measurement. The environment would face a wide variety of environmental conditions, and cameras would have to monitor traffic day and night, and in rain, snow, or shine. The surveillance system would be composed of HD PTZ cameras for panoramic monitoring and IR cameras for plate recognition, both of which needed to be powered by high-power PoE switches to simplify system deployment and future maintenance.

System Requirements

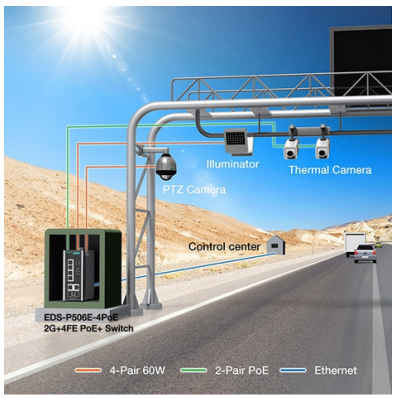
- High-power power sources
- Outdoor network reliability
- Easy system monitoring and maintenance

Moxa's Solutions

Moxa's EDS-P506E-4PoE 4FE+2GE switches were used as they can provide up to 60 watts per PoE link, giving the cameras the power they needed for pan, tilt, zoom, and focus control. The EDS-P506E-4PoE was also able to feed power to infrared (IR) cameras and illumination peripherals at the same time with 4 PoE+ ports and a total power capacity of 180 watts.

The compact EDS-P506E-4PoE switches feature two-port Gigabit uplinks, millisecond-level failover redundancy, and dual power inputs, ensuring constant and robust connections for traffic surveillance monitoring. They were also used to secure the surveillance network by providing device-level cybersecurity to defend against both internal and external threats.

PoE network deployment was simplified through the built-in Smart PoE functionality, which helped automatically identify the different types of PoE



powered devices (PDs) and performed configuration and connection with just a few clicks. It was also used for failure checks and auto reboots to ensure that all the connected cameras and illuminators were working properly. If a reboot of a PD couldn?t solve the problem, engineers could now check on the problem through the web console or viewing the PoE link status shown by the LED indicators on the switch?s front panel. **Why Moxa** • High PoE output up to 60 watts for power-hungry cameras and peripherals • Smart PoE for easy configuration, monitoring, and maintenance of connected PDs • Device-level cybersecurity to protect the network		