



Establishing a pollution monitoring solution for China's Bureau of Environmental Protection

Project Implementer: Cloud Teams Technology Inc.

Project date: 2015

Information

For resource- and time-effective monitoring of pollution levels and potential contributors to pollution a video surveillance system was implemented as per the request of China's local Bureau of Environmental Protection. A solar-powered network of 50 dome cameras and LigoWave wireless devices covered the 10 most pollution-sensitive areas in the city of Shenzhen. The video data from all sites is set up for direct transmission to the monitoring screens installed in the office of Bureau of Environmental Protection.

Challenges



Absence of wired infrastructure was one of the biggest challenges in this project. Cable infrastructure was not available in the area, therefore, a wireless solution, with a high capacity and high PPS (packet per second), was required in order to monitor all pollution-sensitive sites, at all times in 1080p HD video quality.



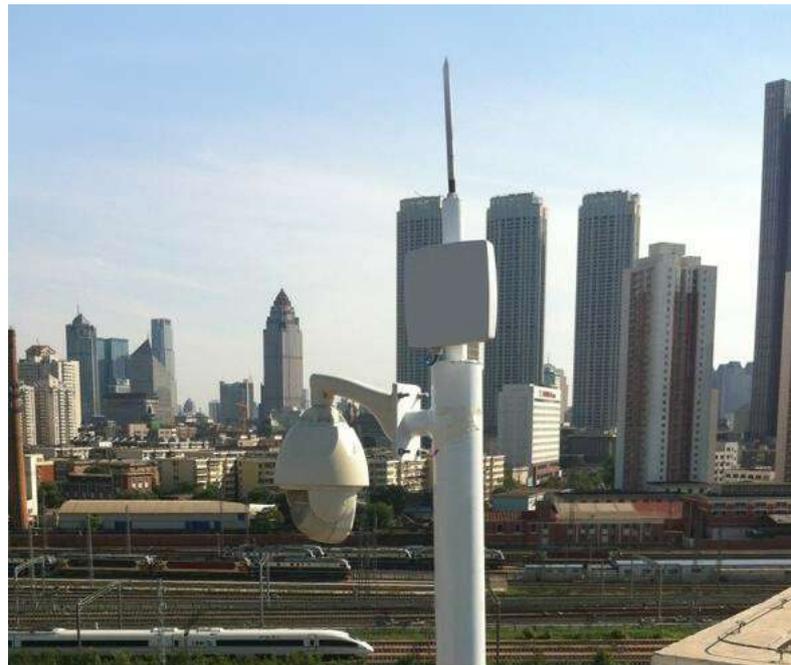
Congested line of sight in the city, as well as changing pollution levels had to be taken into account when planning the network.



A cost-efficient, yet professional quality wireless solution was required by the client. Moreover, the project's exploitation costs had to comply with the Bureaus' environmental policies.

Solution

LigoPTP 5-23 UNITY devices were selected for the backbone of the network to ensure reliable video data transmission. Deliberant APC 5M-18 and APC 5M-90 devices with the proprietary communication protocol, iPoll, completed the point to multipoint network and enhanced the overall network performance and reliability of communication.



The communication protocol iPoll increased throughput, packet per second rate and stabilized the network's latency, making up for the absence of wired infrastructure. For easy and efficient network monitoring and maintenance, LigoWave's WNMS (Wireless Network Management System) was installed. This allowed the Bureau to both gather statistical information and service the devices remotely. And to minimize the installation costs low power consumption was secured by choosing solar power as a source of energy for the dome cameras and LigoWave wireless devices. These minimal infrastructure costs as well as fast and easy set up of the network contributed to a quick return of investment.