

ThruLink™ Selected for Real-Time Traffic Control and Smart City Objectives

A simple, secure, and cost-effective integrated solution for growth in Kuwait



CASE STUDY

Background

Like many other cities, Kuwait City has installed hundreds of traffic cameras to optimize traffic management and law enforcement. Because of the extreme temperatures, the sites also required an air-conditioned enclosure to house the devices and maintain system operation. Initially, the existing dedicated fiber optics infrastructure provided secure communication, a must for any critical infrastructure project.

Over time, the city's rapid growth required the integration of many more cameras, radar, and other devices. Additional sites were added to the city-wide system; however, there was no existing infrastructure for data transmission from the new sites. As a result, a team of technicians had to visit each site daily to collect data for processing at the Ministry of Interior (MOI) headquarters. Data collection alone became a considerable task and drain on city resources.

The Challenge

Besides the lack of infrastructure and the arduous task and delay of data collection, Kuwait City leaders recognized the need for full connectivity among all sites and devices throughout the city to move beyond traffic management and implement the new "smart city" requirements. This integration would include monitoring live video, receiving metadata from radar devices, remote control of traffic lights and message boards, and incorporating emergency service vehicles within the system.

The connectivity options presented were implementing additional fiber optics infrastructure or relying on ISP offerings which remained challenging. Implementing a new fiber optics infrastructure would be costly and time prohibitive to keep up with the system objectives and growth requirements. Reliability and security were additional concerns with a Telecom provider. Also challenging was the high cost for leased lines versus the speed available.



"...the flexibility to use public networks security while allowing room for unlimited expansion."





The Solution

After evaluating several vendors and products, it was decided to implement a 4G/LTE solution, given the excellent coverage available in the region. Band 28 (Tetra) was also considered as an alternative since the end user owns the frequency and is secure and dependable.

KBC partners in the region presented ThruLink, a secure hardware transmission device to meet all the requirements and more! ThruLink provided the fully encrypted mesh connections and secure data transmission among all sites and headquarters the MOI and other city departments required with 4G/LTE and Band 28 connectivity and a hardwired connection to the ISP for the control center. The layer 3 capabilities of ThruLink allowed separate data routing for each system (video, tolls, traffic lights, message boards, emergency vehicles, and others) to its dedicated team for proper and faster operating procedures. Since ThruLink can operate in the most extreme conditions with no fan and operational temperatures reaching up to 75 degrees Celsius (167 degrees Fahrenheit) this meant ThruLink was ideal for the site locations in the region. Self-recovery and fail-over features complemented the maintenance-free aspect and ensured online connectivity 24/7.



The Outcome

With all devices connected and providing real-time data, there is no more site-to-site travel to retrieve data, which saves significant resources. With ThruLink, there was no need to dig up the roads and install fiber and no need for expensive lease lines from the ISPs.

Kuwait City now has automated its smart city requirements, adding to the safety and security of its inhabitants. Real-time video and many other data types can be seen live and flawlessly from the various control centers. With no added latency on the network, it's easy to control PTZ cameras from long distances. All emergency vehicles now count on live two-way communications and live video streaming over the encrypted Band 28 network.

ThruLink has provided a user-friendly solution that can be set up in minutes, even with layer 3 routing when required. A proven solution, ThruLink provides the ability to deploy new sites and devices confidently, extremely fast and at a lower cost. The number of sites keeps growing and now includes more than 500 cameras. Kuwait's MOI and city operation teams have real-time access to the sites and devices to analyze and process data and make timely decisions. Since ThruLink has no license fees and is virtually maintenance-free, the total cost of ownership is negligible for the complete solution.

"...the complete system has enhanced the quality of life for all Kuwait citizens. With ThruLink™ you get a cost-effective, simple to use, reliable and secure transmission solution."