

Jabal Omar Construction Project

Wireless Surveillance
Infrastructure

Overview

The King Abdul Aziz Road (KAAR) construction project in Jabal Omar is one of the most important development projects of an ambitious Government program to be implemented in Makkah by Umm Al Qura. This development fully supports the Government's strategic plans to rehabilitate some of the least developed districts in the city, upgrading the existing infrastructure, creating a major movement axis in Makkah, supporting a prominent gateway to the Holy City, specifically the Haram Area and deploying future transportation technologies. KAAR project is a unique urban theme to support religious, social and commercial activities all year round.

The project is located in the western region of Makkah, extending 3,650 m from the western entrance of the Grand Mosque leading to Jabal Omar. The total area of the project is around 1.2 Km and includes 9 km of roads, a wide pedestrian boulevard, street furniture, retail facilities, 4 multi-story parking structures, bridges, highway structures, Bus Rapid Transit (BRT) facilities/ infrastructure, metro stations and lines, utility systems and much more. Umm Al Qura needs surveillance monitoring during the construction period. Since a construction site is always changing and needs to adapt and expand, there are difficulties with achieving line of sight. Therefore, traditional Point-to-Point and Point-to-Multipoint solutions did not work. Powered by Anywhere Networks' Wireless Technology, Umm Al Qura is able to connect a demanding number of IP cameras, overcoming the physical constraint of the construction area and providing a reliable, highly secure and redundant wireless network.

Customer

Umm Al Qura

Distributor Partner

Securna
SECORNA

System Integrator

ESE Al-Ajou

Deployment Location

Makkah, Kingdom of Saudi Arabia

Application

HD Surveillance for Critical
Construction

Product Deployed

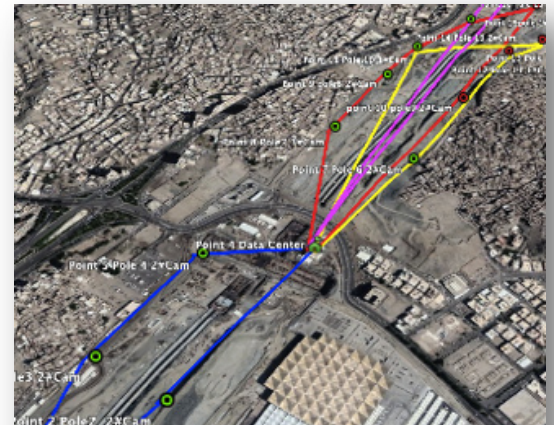
Anywhere Network Node
X20 Series

Competition

Conventional Point-to-multipoint
Wireless System

The Challenge

- High throughput requirements – up to 28 outdoor location with more than two IP cameras at each location. Up to 800 Mbps of throughput required.
- High interference environment with more than one microwave system in place.
- The entire system requires full hardware redundancy.
- Fast auto-recovery time for critical infrastructure – less than 10 seconds.



"The challenging construction environment with no direct Line of Sight between all cameras and the data centre makes using traditional Point to multi point solutions impossible. P2's Smart Virtual Fiber overcomes this problem entirely with the robust ring design and self-healing redundancy."

Anywhere Networks

The Solution

- 28 Units of X20 A-NN (formerly X20 MeshRanger) were used to deploy four wireless mesh rings with multiple hops. This solved the line of sight issues, since the line of sight from each location can be used to connect to the next location.
- Two single radio offload points for each ring at the data center for full hardware redundancy and no single point of failure.
- Each location have various PTZ and fixed cameras from different vendors installed.
- All cameras and X20 A-NN are powered using a solar solution.

The Benefit

- X20 delivers an impressive throughput and stability performance, despite the challenging environment.
- 4x mesh rings deployed to connect 60 full HD cameras at difficult to reach locations. Easily adaptable for future expansion.
- Negligible latency and packet loss.
- Redundancy and automatic rerouting in case of failure.

Anywhere Networks is a leading Wireless Mesh Technology company offering scalable, high-capacity and secure network solutions and services for Smart and Safer City Applications with a focus on public safety, Internet of Things (IoT) connectivity, video surveillance, transportation networks and industrial environments for provinces, governments, industrial and enterprises. **Anywhere Network Node A-NN** is our flagship product line of ultra-high performance industrial-grade wireless products, its full mesh capabilities designed for flexible and expandable deployments regardless of physical constraints. The entire network is managed by **Anywhere Network Manager A-NM**, a Provisioning and Centralised Network Management Software and Platform of all-in-one dashboard for configuring, monitoring, and managing AN network and devices.