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Case Study Fixed Wireless

With a growing concern of community safety, a local city police department needed an upgrade to provide camera surveillance equipment. Powernet was able to provide the technology and design they needed to aid in the protection and safety of their city.

Design and Grant Approval

Powernet was approached through the city's technology consultant for a local city police department to talk about our proposal for a much needed public safety project. There were multiple factors that had to be considered when designing the plan; local business involvement, Department of Homeland Security grant requirements, and not interfering with local radar detection.

To achieve the desired outcome, Powernet needed permission from several local businesses, including restaurants, retail businesses, manufacturing buildings, and a church that had rooftop and side building space for us to access and install the needed antennas. The neighborhood partners agreed to let us utilize the space that Powernet needed, at no charge. They did this because they wanted to help the community and knew how important this project would be in proactively safeguarding the community.

With the location of the city police department, Powernet had to make certain that our antenna connections would not interfere with any nearby radar systems. This was a concern due to the proximity with a local airport and boats using radar on a nearby river. Our base stations had to be able to detect radar and not interfere with that service.

Powernet engineers worked diligently to plan and ensure the design layout met all the requirements of the federal grant that the local police department needed to complete this project. Together, with the city police department, the project proposal was submitted to the committee for their review. Once requirements were laid out, the project and grant funding was approved, Powernet could begin the work.

Local city police department calls on Powernet to implement redundant wireless connection and security cameras.

Local City Police Department

Industry: Public Safety



Challenge

- Long range and encrypted wireless connection and cameras
- Design an efficient solution to give police department more visibility in the community

Solution

- Installation of Radwin JET 750 PtMP and Radwin 2000D Plus
- Installation of AXIS cameras

Results

- Successful installation of high beam antennas to give fiber-like connectivity and eight cameras across the city area
- Encrypted and seamless wireless connection back to police network for their surveillance monitoring.



Implementation

Powernet engineers worked closely with the police department's technology consultant to pinpoint what camera views and angles would be needed in the community. The city PD wanted more visibility to be proactive in protecting their people from growing crime. Once the view locations were identified, then the antennas were installed to set up the wireless connections back to the police department network. Partnering with Radwin, Powernet used their JET 750 and 2000 D plus antennas for Point to Point and Point to MultiPoint connections. Both point to point and Point to Multi point configurations were used to reach the 8 camera locations. In order to make sure the video streams were secure Powernet chose Radwin for their proprietary protocol and encrypted links. Radio beams from the antennas are also high enough to help mitigate potential to be intercepted.

Project Completion

The beamforming solution for fiber-like connectivity that was used in this project is the best fit for what the police department needed to achieve given the city layout. Point to Point and Point to MultiPoint connections for private networks provided the long range, greater network capacity, encrypted link, and low latency. In addition, this project required a connection that would be redundant, in any risk of network failure. Since the equipment needed to power the antennas and ensure network connectivity was outdoors, IP66 and IP67 (ingress protection) enclosures were used to protect from any weather elements. Although Powernet did not provide the AXIS cameras, Powernet engineers did oversee the installation of the eight cameras throughout the city, to give the police department their desired visibility. Ongoing, Powernet manages the routers and switches of the wireless connections for the police department.

About Powernet

Powernet enables businesses to connect with audiences in the office and across the world through wireless networking, Wi-Fi, voice, data, IT managed services, in addition to domestic and international carrier services. As a Woman-Owned business with more than 24 years of telecom experience and expert sales and support teams, we provide our partners and clients the unparalleled service and innovative technology they need to achieve their business goals.

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