Providing Wireless Connectivity for the Security Video Surveillance of the Lepanto Mining Site

Lepanto Consolidated Mining Company

Situated at the mountainous area of Mankayan, Benguet, Lepanto has been at the forefront of the Philippine mining industry for more than 75 years. In its efforts to reinforce security in its mining site and augment operations, the company employed the use of Deliberant's APC Series radios to wirelessly connect additional and existing surveillance cameras to its network. Given the critical nature of security in a mining site, the company needed a compatible and much more efficient solution that would allow for low latency and can flexibly be used for either PTP (Point-to-Point) or PTMP (Point to Multipoint) links. Deemed as an ideal and cost-effective alternative to fiber optic wired connection, the wireless equipment are concurrently used for data and voice backhaul, internet sharing and CCTV transmission to the benefit of its 1,000 employees.

The Challenge

Deployment in a mountainous terrain is always a challenge with the presence of tall trees that can obstruct clear line of sight and the foggy weather conditions during some hours of the day. The established links covered areas from the General Office Complex to Tubo Complex, Nayak, Sand and Gravel Tower and the Mill area.

Why Lepanto Chose Deliberant

- Low latency
- High distance capability
- Good scalability
- Ideal for video and voice applications
- Interference caused by nearby wireless radios easily managed
- Outmatched Lepanto's existing radios in
- terms of performance, stability and reliability

In total, 19 links were established with up to 4 hops for each complete link. Video transmission consumed 4 MB for each Axis IP camera, streaming smoothly with no lag or freeze frame during viewing. Such is the capability of using Deliberant's proprietary PTMP protocol called the iPoll, which enables maximum bandwidth with the lowest possible latency, making it the ideal wireless connectivity tool for voice and video.

In addition to being extremely fast and functional, the new Deliberant OS has all the features required for the WISP community including router and bridge modes, auto modulation, smart auto-channel, internal UAM (captive portal), WDS (compatible with 3rd party equipment), VLAN's, virtual APs, traffic shaping, tools such as antenna alignment, site survey and many more.

APC 5M-90
The Deliberant APC 5M-90 used as the Base Station

Frequency Range	4.9-5.9GHz
Polarization	18 dBi
Cros-pol isolation	Dual Linear
Max VSWR	24 dB minimum
H-pol Beamwidth	90 deg
V-pol Beamwidth	90 deg
Elevation Beamwidth	20 deg
Operating Mode	PTP, PTMP

APC 5M-18
APC 5M-18 as the CPE, both 5Ghz frequency

Frequency Range	4.9-5.9GHz
Polarization	18 dBi
Cros-pol isolation	Dual Linear
Max VSWR	27 dB minimum
H-pol Beamwidth	16 deg
V-pol Beamwidth	16 deg
Elevation Beamwidth	16 deg
Operating Mode	PTP, PTMP