



## Expanding the Coverage of Wi-Fi Area in Cyprus with LigoWave products

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**Project:** AIRNETWORKX

**Project Implementer:** Sistem Co Ltd.

**Goal:** Expanding the Coverage of Wi-Fi Area in Northern Cyprus

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### Information

The wireless project AIRNETWORKX has been implemented in Cyprus by Sistem Co Ltd. The main goal of the project was to extend the coverage of Islands' Wi – fi area. The enterprise AIRNETWORKX was initiated due to the fact that connectivity provided by the local telecom in the northern part of the Island was relatively poor.

The architecture, design, engineering and implementation of AIRNETWORKX have been done by Sistem Co Ltd, while LigoWave experts have provided their support and technical knowledge.

# Challenges



**Cost** – although the application called for equipment with excellent quality, the solution needed to be cost-effective.



**Unusual landscape** and network topology required a professional backhaul solution capable of delivering high throughput even to the distant locations. High PPS (packet per second rate) was necessary to ensure sufficient data transmission over the network.



**The noisy spectrum** in some areas of equipment deployment has been experienced due to GSM stations and other wireless networks. The obstacle was successfully eliminated by manufacturing and installing the aluminum shields behind the antennas by the GSM base stations. The next struggle has been experienced with different dish and frequency utilization. At most times it was a success though a lot of time should have been devoted for installing the devices at the necessary signal level.

# Solution

The telecommunications infrastructure was not used. LigoPTP products were used in the backbone links while Deliberant products were used in the base stations.



**LigoPTP UNITY 5-N** devices were selected for the backbone of the network, which did a perfect job ensuring the minimum required capacity of 130 Mbps without any disturbance.

While the models **DLB – 5M – 90**, **DLB - Propeller 5**, **DLB – 5M – 18**, was the selection for the base stations. The distance from the base stations to the clients' site was on average 7 km ( **DLB – 5M – 18**) and 3 km ( **DLB – Propeller 5**). The performance evaluated by data throughput is different due to spectrum, yet in all locations reaches 8 Mbps for each CPE. The first year of the projects' AIRNETWORKX implementation, involved creating the reliable infrastructure, in parallel with providing internet services for the users, while in the following two years, the improvements were made on purpose to obtain a better performance in the wireless network.

AIRNETWORKX is still in a development phase and is continuously growing. Sistem Co Ltd. provides internet services covering 1800 km of North Cyprus. They are providing 130 Mbps wireless services in 4 main cities and more than 200 villages of the Island. Their aim is to continue expanding the network to cover an area of 2800 Km<sup>2</sup>.

AIRNETWORKX is also providing L2 and L3 services via its network. L3 is provided using PPPOE protocol while L2 service is provided using the VLAN application from point to point.