



Case Study

Bridging the digital divide by providing free, easy and reliable Internet access in major public places

The client

The Punjab Information Technology Board (PITB) wanted to set up free Wi-Fi hotspots in Lahore, Rawalpindi, Faisalabad, Multan, Bahawalpur and Murree districts in Pakistan. The Wi-Fi hotspots provided for educational and government buildings, public parks, market places, hospitals, railway stations, airports and bus stations.

The free Wi-Fi facility has also enabled on-field government officials from various departments to utilise centrally-maintained online services in a relatively seamless manner.

The Government faces certain constraints and had specific requirements for the project. The major constraints and requirements were:

- Budget:** PITB was constrained by a limited budget. They wanted a sustainable project design which can bear all the operational cost of the network in future.
- Maintenance:** They prefer minimum maintenance and labor cost.
- Scalability:** Network must be scalable through the majority of the city limits.
- Security:** Network must provide users with a defined level of security to ensure privacy for its users.
- Legality:** Must comply with all provincial and federal laws.

Through working with EZELINK and strategic solution partners, the client will be able to provide free public Wi-Fi internet access to 500,000 students— more than 20,000 government employees and 2 million plus visitors.

The first phase wifi hotspots has been installed with a specific focus on both city government offices, public schools & educational Institutes to improve the students access to online education material.

Industry:

Government

EZELINK provided:

- **Geo-Localized Portal:** Client was able to setup a custom branded captive portal.
- **Dynamic Policy Enforcement:** EZEGATE provided a comprehensive bandwidth management and throttling solution to allow fair usage on the network
- **Lawful Interceptio:** Enforced SMS/OTP based login method to comply with the PTA regulations. Additionally stored web access logs of each user on the network.
- **Bandwidth Management:** Allowed administrator to define various time, bandwidth, speed or client based policies based on the requirements of the network.
- **WiFi Monetization:** Multiple monetization methods like vouchers, advertisements, social media marketing, promotions and push notifications
- **Reporting & Analytics:** WiFi Analytics & Depp user Insight reports for bandwidth utilization, user tracking, AD campaigns, AD Clicks, AD impressions, Video watch time and revenue generation.

The solution: A sustainable metropolitan Citizen Broadband network for more than 2.5 Million City residents.

Pakistan is the 9th largest internet user base in the world where 56% of the people are connected with the internet and 70% of the users connect in urban areas mostly for education & business purposes. Punjab government initiative of providing free public wifi to city residents in high density areas with revenue generation model was a daunting task.

National Engineers (NE) turned to EZELINK, one of UAE's premiere wireless service providers. NE was tasked to not only construct a carrier-grade Wi-Fi infrastructure capable of handling the city's ultra high density environment but one that could be used as a utility to monetize the wifi service in a revenue sharing model.

With EZELINK Wi-Fi monetization services we've turned Wi-Fi into a real revenue generator that adds unique business value

"This was a massive and ambitious project that had never really been attempted on such a large scale," said Muhammad Faizan, Director of Sales for National Engineers's Enterprise Business Unit. " We realized that to do this right, we needed the best products and technologies designed to deliver a first-rate carrier-class Wi-Fi service that was technology aware," He added. "EZELINK was the best choice."

National Engineers's requirements to build city wide, scattered Wi-Fi infrastructure, included the use of carrier-grade outdoor Wi-Fi access points, reliable wireless meshing in areas where ethernet cabling was prohibitive, a scalable, centralized and highly available management system, as well as a monetization-based Wi-Fi service that could provide a rich set of user analytics such as unique and repeat visitors and average user dwell times.

"WiFi is closing the digital divide and covering rural areas, where laying optical cable is extremely expensive. Telemedicine, education, manufacturing and mobile workers will benefit from this and rise of wireless communication establishing digital equality and spurring digital transformation"

Maher AlZarooni, CEO, EZELINK

EZELINK was uniquely able to provide a comprehensive Wi-Fi product and services package that included all the requisite technologies needed for a successful deployment. And in a short span of time, National Engineers deployed 500 outdoor Smart Wi-Fi locations throughout the Punjab province, all managed through redundant management controllers installed in NE's data center.

Wireless meshing was enabled to eliminate the cost and complexity of pulling ethernet cabling to locations where none existed but service was required.

Benefits:

Free public Wi-Fi access for

500,000+

students & employees

35 school districts supported

with strategic placement of school endpoints



Cost-effective solution design leveraging existing infrastructure

Fully managed and optimized network through an expert support team



Phase 2 implementation for 2023 to deploy

7,000+

additional locations and additional education network sites