

Reliable satellite backhaul solutions providing connectivity in rural areas



TowerXchange: Please can you introduce Gilat to TowerXchange readers, what solutions does it offer and in which markets?

Gilat's satellite solutions are enabling cost effective, rapid deployment in rural areas



On-the-Paue Deployment by Gilat

With over 30 years of experience in powering connectivity worldwide, Gilat is a go-to partner for many African tower owners in both rural and urban areas. Offering both CAPEX and OPEX solutions to their customers, they are leaders in satellite backhaul, with their innovative CellEdge solution enabling speedy and efficient deployment for small rural sites as well as allowing MNOs to gain the advantage in rolling out new technologies. TowerXchange spoke with Amir Carmeli, Associate Vice President Middle East and Africa at Gilat, to find out more.

Keywords: Africa, Backhaul & FTTT, Core Network, Gilat, Multi-Country Partner, Network Rollout, Off-Grid, Rooftop, Urban vs Rural

Read this article to learn:

- Which solutions Gilat offers and in which markets
- How governments and MNOs can best extend connectivity into rural areas
- How Gilat's CellEdge solution can enable rapid rural deployment
- Satellite applications for urban areas
- How the changing cost of satellite backhaul is making it a more accessible solution

Amir Carmeli, Associate Vice President Middle East and Africa, Gilat: Gilat Satellite Networks has over 30 years of experience, in design and manufacture of cutting-edge ground segment equipment, and provides comprehensive solutions and end-to-end services, powered by our innovative technology.

Innovation is at the heart of everything we do. Gilat's rich portfolio includes our next generation cloud-based VSAT network platform, high-speed modems, high performance on-the-move antennas and high efficiency, high power Solid State Amplifiers (SSPA) and Block Upconverters (BUC).

Gilat provides thousands of enterprises, service providers and operators with efficient and reliable satellite-based connectivity solutions. Addressing the needs of residential broadband access, cellular backhaul, enterprise communications, in-flight connectivity, rail and maritime mobility, defense and public safety applications, Gilat's products and solutions are in use in more than 90 countries worldwide.

As an end-to-end solution provider, Gilat offers complete integrated solutions which include satellite capacity, managed services, remote network operation, call center support, and field operations. Working in close partnership with leading satellite operators, major service providers and tier-1 MNOs, we meet our customers' business

needs and answer the most stringent service level requirements.

Gilat's offering combines our unmatched technical know-how and field experience to help our customers deploy and operate their network infrastructure while reducing total cost of ownership and lowering risk.

Gilat has extensive experience working throughout Africa mostly in the cellular and broadband markets and has gained vast experience and know-how to address the challenges in this part of the world. Gilat's customers in this region include among others: Orange, MTN and Vodacom.

TowerXchange: There is increasing pressure upon Africa's MNOs to extend coverage to rural and remote areas, with a host of different business models and technological solutions being proposed. How do Gilat see the rural connectivity issue best being resolved?

Amir Carmeli, Associate Vice President Middle East and Africa, Gilat: Rural broadband connectivity is a major challenge and a fast growing need that is best addressed by satellite communication. We're seeing how nations rich and poor are starting to view broadband connectivity as a fundamental right. Mobile network operators worldwide are joining this effort by expanding their networks into areas that they might not have considered a few years ago. As a result, people who never dreamed of joining the connected world are now embracing with new opportunities. As a matter of fact, dozens



of countries have incentivized mobile network operators to provide broadband coverage to all their residents, no matter how remote.

Gilat is heavily involved in this initiative on several fronts. Gilat provides satellite backhaul to 2G/3G/4G networks and is the industry leader in LTE backhaul over satellite. We are also heavily involved in broadband connectivity for education, and an assortment of government services, as well delivering broadband directly to the consumer.

The terrain in sub-Saharan Africa makes laying copper wire, coax cable or fiber optic cable

prohibitively expensive. The satellite alternative over terrestrial infrastructure is becoming increasingly popular due to a significant reduction in satellite bandwidth costs stemming from the abundance of high throughput satellite (HTS) capacity. In addition, time to market is a key factor when MNOs are looking for quick satellite deployment over lengthy terrestrial infrastructure digging, so they can extend coverage to a new subscriber base ahead of the competition.

Gilat has designed numerous solutions in order to reliably operate in the harshest conditions, overcoming challenges common in Africa such as:

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Gilat's differentiator is that the fully outdoor small cell is integrated and optimized with our satellite backhaul solution, providing MNOs with optimized bandwidth capacity and reduced bandwidth costs. CellEdge has the advantage of transmitting two carriers from the same box for simultaneous 3G and 4G support, and the option of seamless migration from 3G to 4G, when required

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high temperature, heavy rains, sand storms and intermittent power.

Gilat has successfully implemented creative business models in several African countries for satellite communication. Gilat offers both CAPEX and OPEX business models and works closely with our partners to deliver the most suitable solution.

TowerXchange: We are receiving a lot of requests from operators looking for low cost, rapidly deployable solutions. How does Gilat's CellEdge solution fit this niche and compare to other solutions on the market? What makes it stand apart?

Amir Carmeli, Associate Vice President Middle East and Africa, Gilat: Gilat's CellEdge is a unique solution of an optimized and integrated small cell

over satellite solution for 2G/3G/4G networks. CellEdge provides mobile network operators (MNOs) with a cost-effective option and rapid deployment for cellular connectivity in areas that often lack both telecommunications and power infrastructure.

CellEdge bundles a small cell for 2G/3G/4G networks with our field-proven satellite backhaul technology. Gilat's differentiator is that the fully outdoor small cell is integrated and optimized with our satellite backhaul solution, providing MNOs with optimized bandwidth capacity and reduced bandwidth costs. CellEdge has the advantage of transmitting two carriers from the same box for simultaneous 3G and 4G support, and the option of seamless migration from 3G to 4G, when required. This is due to featuring Software Defined Radio (SDR) capabilities.

Furthermore, CellEdge couples high transmission power for wide coverage with comparatively low energy consumption, and enables MNOs to use cost-effective solar power at off-grid locations.

As an example, Gilat has a turnkey deployment in Ghana utilizing our CellEdge solution for cellular services and delivering broadband to schools in the most remote areas of the country. The project includes Gilat's multi-application hub and tailored VSATs for cellular backhaul and enterprise broadband.

TowerXchange: Deploying and managing sites in remote areas is particularly challenging, can you explain a bit about how Gilat work with clients and partners to ensure that robust coverage is achieved?

Amir Carmeli, Associate Vice President Middle East and Africa, Gilat: Gilat has substantial expertise in providing turnkey solutions in remote locations. The MNOs often prefer to reduce the complexity and have the satellite backhaul treated as a turnkey solution. Basically, the MNO specifies the service level agreement and key performance indicators. Then the required site locations are identified, and finally the schedule is determined. Giving end-to-end responsibility to the satellite backhaul provider will enable the MNO to focus on their core competency and promote their business.

TowerXchange: Satellite is generally seen as a solution for rural and remote areas but increasingly we hear discussion about its

application in more urban areas. What work is Gilat doing in this field and what has been the feedback?

Amir Carmeli, Associate Vice President Middle East and Africa, Gilat: Metro edge connectivity is a new type of use case that illustrates the applicability and effectiveness of satellite backhaul in non-rural/remote areas.

Requiring only hours to deploy per site, Gilat's solution enabled Sprint and T-Mobile to expand their networks to new areas with very fast time-to-market and lower TCO than terrestrial solutions. This was instrumental in allowing the MNOs to gain new LTE subscribers in underserved areas ahead of the competition. Using Gilat's patented acceleration technology, subscribers enjoy true LTE performance over satellite with an outstanding user experience.

Everything Everywhere (EE), part of the BT Group and an operator of one of Europe's largest 4G networks, has deployed Gilat's satellite backhaul solution to both enhance its network resilience and backup capabilities, as well as to extend its LTE network throughout the UK.

To support this use case, EE uses both fixed and portable cell sites. EE's portable on-the-pause deployment is done via a vehicle-mounted solution containing both the cell node and the Gilat VSAT that handles the backhaul over satellite.

This portable, quick-to-deploy solution enables network resilience in the event of a cell site failure,

as well as providing immediate high-speed voice and data connectivity to emergency response teams in the field. Gilat's VSAT delivers true LTE speeds to the handset and fully supports encrypted data.

TowerXchange: The criticism hailed at satellite is that it is costly and complex; how is the market changing and how will it continue to evolve to improve the competitiveness of satellite backhaul?

Amir Carmeli, Associate Vice President Middle East and Africa, Gilat: The market is changing with HTS providing a major improvement in throughput over traditional wide beam satellites. The result has been a steep drop in bandwidth price across all applications. At the same time, we also see that the HTS Global demand is significantly less than the supply.

In addition, the price is expected to further decrease, primarily due to the abundance of satellite capacity expected to come from multiple launches of LEO and MEO satellites. We can see from this trend that the bandwidth prices of satellite backhaul will rival that of many terrestrial backhaul deployments in the future.

In Africa, in particular, the adoption of 4G is actually faster than analyst predictions. We often see an upgrade from 2G directly to 4G, or even initial installations starting with 4G to answer the growing need for data communication. This need for broadband is best answered today by satellite connectivity ■



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