



DELIVERING RURAL AND ULTRA-RURAL CONNECTIVITY IN 500 RURAL SITES ACROSS NIGERIA

IHS Towers, a New York Stock Exchange listed company, is the fourth largest independent tower company by tower count globally. With operations in Africa, Latin America and the Middle East, they provide critical communications infrastructure across 11 countries. In Nigeria, their largest market, IHS operates almost 17,000 sites, mostly located in urban or semi urban areas.

IHS Nigeria has evolved its service offering and in 2020, piloted it's Rural Telephony solution offering which is in response to mobile network operators' (MNOs) requirements to bring connectivity to rural areas, IHS Nigeria needed a cost-effective, reliable and sustainable solution that can quickly be deployed in remote and hard to reach locations. In addition, they needed partners that were flexible and responsive through their service development process as a company.

IHS Nigeria partnered with Avanti Communications to bring broadband connectivity to rural sites across Nigeria.

Challenges of rural and ultra-rural connectivity in Nigeria

- Cost of traditional telecommunication network deployments can deter mobile operators from providing services in rural areas due to the high equipment deployment, maintenance and tower costs coupled with a low customer penetration/Average Revenue Per User (ARPU) profile compared to urban communities.
- It was estimated that there are 30 million Nigerians living in rural communities that are unserved or underserved due to lack of seamless access to telecommunication services.

The Solution

Avanti provides the physical, transport and network layer for transmission of cellular backhaul traffic to and from cellular towers and connection back to the MNO's core network.

A fully managed service: Avanti is fully responsible for the satellite configurations, hub infrastructure or terrestrial networks to deploy a successful satellite cellular backhaul topology. Avanti has selectively collaborated a global leader in satellite communications provide for its cellular backhaul services, facilitating delivery of industry leading speeds for 2G, 3G and 4G.

Features of the Solution

- On Demand Bandwidth Pooling – given the low ARPU that is common in rural areas, we provided a flexible bandwidth allocation that allows each site to start small while giving ample room for growth and catering to surges in network traffic without affecting network performance.
- Supports various Interconnects with P2P on L2, L3, IPSec and scalable in all regions from fixed Gateway Earth Station.
- Managed Service & Turnkey Solution: our carrier grade solution is end to end including remote hardware compatible with leading RAN providers enabled for 2G, 3G & 4G mobile services.
- Extensive Coverage: our network, with a fully redundant meshed Point of Presence (POP) infrastructure, covers some of the most ubiquitous and hard to reach areas in Nigeria.



The Benefits

- **Cost and time saving** - IHS did not have to invest in satellite network and resources. Avanti provided the technology, skills and resources, allowing IHS to deliver quickly and cost-efficiently. Billing is on a per site basis for ease of managing costs therefore there is no need to buy large pools of satellite spectrum eliminating high upfront costs.
- **Reliable and secure satellite backhaul** - Avanti provides consistent availability of 99.5% SLA to all sites enabling the reliable transfer of data and voice traffic from the site to the telecoms infrastructure of the Mobile Network Operator.
- **Seamless Integration** - our solution is compatible with leading RAN vendors which allows a plug and play solution for our customer's solution.
- **Sustainability** - Avanti leverages smart off-grid solar-powered systems, removing reliance on traditional diesel generators, providing a more sustainable and cost-effective solution to some of the remotest communities.

500 Rural sites

In **21** Nigerian states

To **2.5 Million** People

Providing **2G & 3G** Connectivity

Far reaching impact - Bringing life-enhancing connectivity to millions of people

Together, IHS Nigeria and Avanti are playing a pivotal role in delivering life-enhancing connectivity to millions across the country.

Day-to-day life improvements for 2.5 million people

Bringing digital inclusion for rural dwellers

- Saves time and money as they no longer need to travel to neighbouring towns to get access to make calls or use the internet.
- Brings a sense of security: reliable mobile coverage means they can be connected to family.
- Boosts the local economy with the creation of small businesses such as resellers of sim cards, phone charging & repairs. Many of these businesses are headed up by women.

Creation of skilled jobs

Beyond the direct contributions it makes to rural communities, the programme has a wider impact. It has enabled the creation of over 200 new skilled jobs of field engineers and has led to further investment in satellite gateways and service delivery in the country, which has also been recognised by the Nigerian telecoms industry through its annual awards.

Socio-economic development

A stimulation of demand for broadband services at the community level which bring socio-economic developments

Technical Design Diagram

