Hi-tec Solutions

SITE SOLUTIONS

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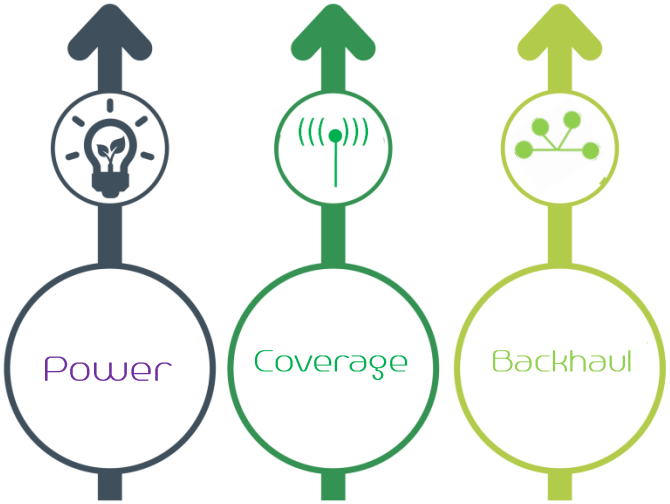


- Coverage Solutions
- Low-power base station
- Backhaul Solutions

Coverage Solutions

Increasing traffic

Our solution allows operators to build smaller cell towers, with lower costs. This allows them to deploy denser networks and reach more subscribers.

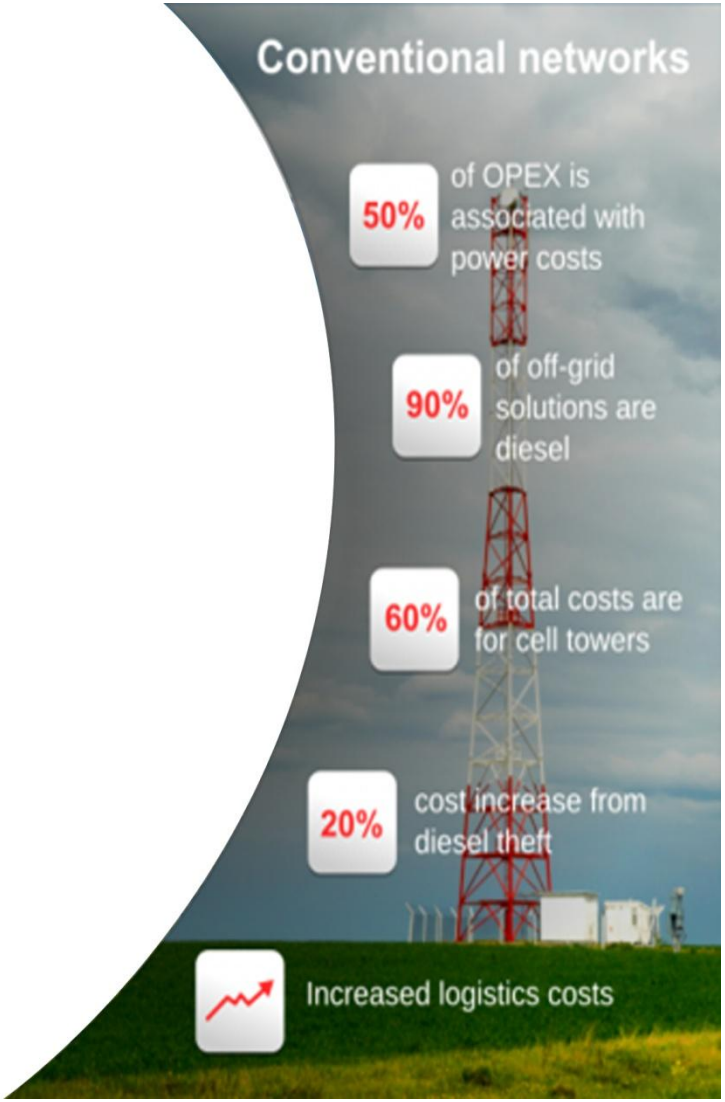
Coverage configuration

It can be configured for up to 4-TRX to increase a site's subscriber capacity.

Upgradability to 4G, 5G

A longer life cycle and upgradability to future protocols and technologies, like 5G.

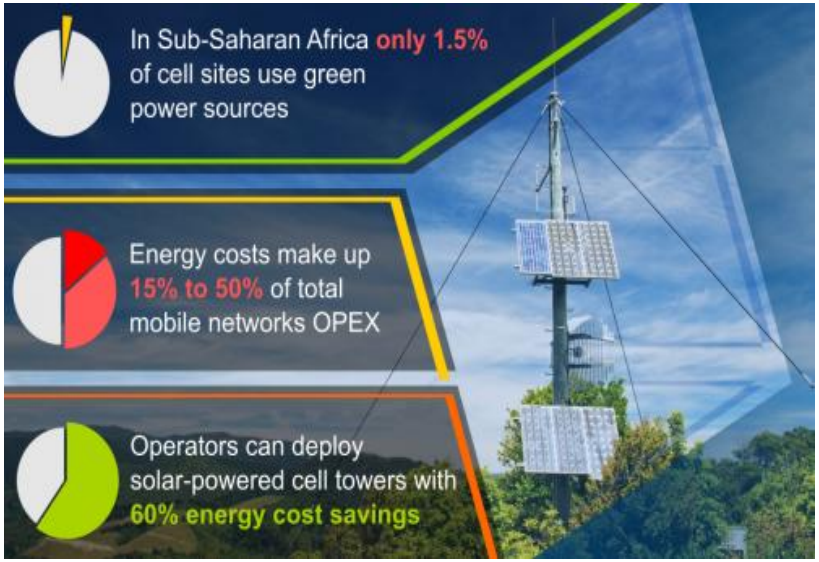
Power Solutions



Powered alternative energy sources

Our solution requires a low power input (65W-80W) and is ideal for installing in remote areas with unstable or even no electrical grids. Cell towers using our solution in either single or 3-sector configuration are a lightweight deployment for isolated or remote locations, relying only on the existing natural resources.

Working on solar power



Power Solutions

It is common knowledge that the share of energy drives the largest costs in mobile network deployments - about 50% of the total OPEX in emerging markets. While diesel power systems play a large part in the high level of expenditure, according to a 2014 GSMA Green Power for Mobile report, they account today for nearly 90% of power solutions used in off-grid and unreliable grid sites.

Operational fuel costs, logistics (transportation, depositing), diesel pilferage - which alone increases costs with about 15%-20%, the need for continual service in areas where power outages are frequent, all add up to operators' investment and operational expenditure, reflecting eventually in a higher service cost for users and therefore in a drop in use of mobile services.

60% of the overall network infrastructure costs is attributable to building and powering cell towers,so saving on energy requires the choice of equipment that uses makes a more efficient use of power resources. Deploying cell sites using green energy is easy when using a base station like Our solution, which requires a low power input (45W) and is ideal for installing in remote areas with unstable or no electrical grids. Cell towers using Our solution in either single or 3-sector configuration are a lightweight deployment which allows it to serve isolated or remote locations, relying only on the existing natural resources. Our solution design differentiates from that of traditional base station by integrating a passive cooling system that makes its use independent from air conditioning or ventilation units. The power required for air conditioning makes up for a large part of the overall input needed to run operate a site. Eliminating air conditioning also frees up space to make cell towers more resilient.

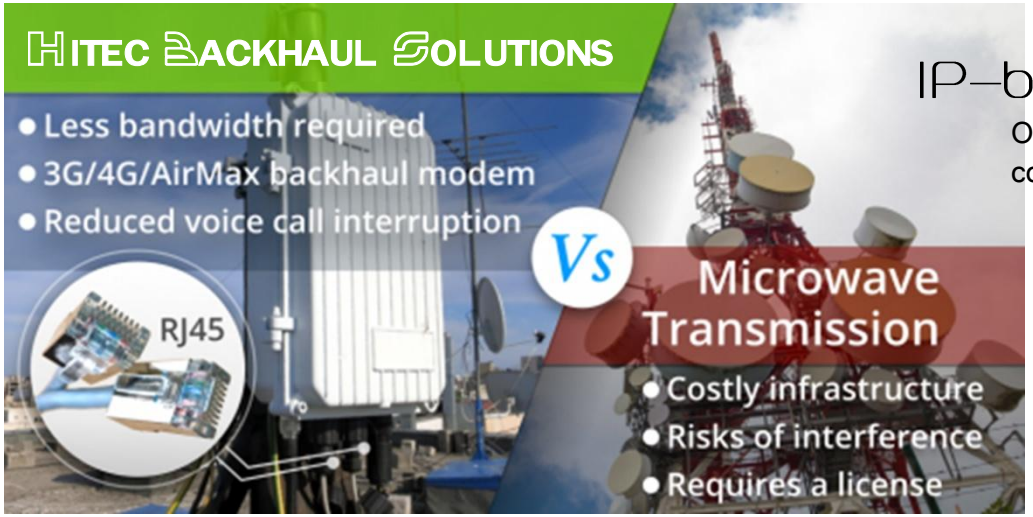
Over diesel power systems, solar panels and wind turbines, for example, have a much longer life expectancy, that can range to 20-25 years. Combined with diesel power in hybrid energy systems, operators can achieve a longer and more reliable operation of cell towers, driving down fuel costs to save more than $10 billion annually.

Shifting to green towers has major implications. First, it reduces operators' costs and allows them to extend mobile networks in places in areas that are completely deprived of coverage due to the lack of an adequate infrastructure. Then, it reduces the negative effects on environment; GSMA reports that an off-grid site in Africa has an average annual consumption of 13,000 litres of diesel, adding as much as 35 tons of CO_2 emissions to the environment.

Power Solutions

Depending on the type of deployment, cell sites equipped with Our units have consumption levels ranging from 45 Watts to 350 Watts.
A Tesla Powerwall battery offers either 7 or 10 kWh power output, is rechargeable with aid from solar panels and can be mounted indoors and outdoors. It also has a 10 years warranty and requires no additional maintenance costs. A single 7 kWh battery is enough for running 3 Hitec units.
Off-grid technologies for sustainable mobile network deployments
Energy costs amount to 15% up to 50% of the total OPEX of deploying mobile networks in areas without power grid. Operators in developing countries, as those in the Sub-Saharan Africa region, need cost-effective solutions to face this issue, otherwise they will find it impossible to install new networks.
When we first heard about Tesla's latest innovation we were impressed. It seemed the perfect solution for what households need right now. But then we gave it more thought and realized that Powerwall batteries are also an answer for mobile operators. We now know they would make a great match with our base stations.
Depending on the type of deployment, cell sites equipped with Hitec BTS units have the following average consumption levels:
lightweight site, with omni antenna – approximately 45 Watts
three-sector site – less than 150 Watts
three-sector site with tower mounted booster – approximately 350 Watts

Backhaul Solutions



IP–based backhaul vs. Microwave

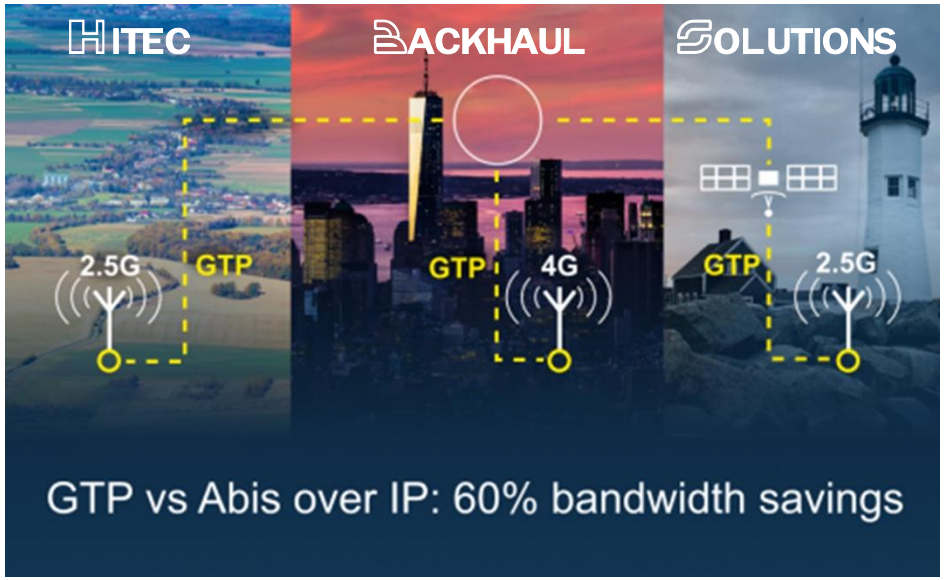
Our solution GSM/GPRS backhaul is offered over any IP connectivity: IP radio, microwave, VSAT, fiber, or 3G/UMTS.

GTP backhaul

Our solution communicate over GTP to reduce backhaul load in low-density areas.

GTP over Abis benefits

Our solution uses GTP instead of Abis over IP to optimally serve 2.5G/4G networks bandwidth needs.



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