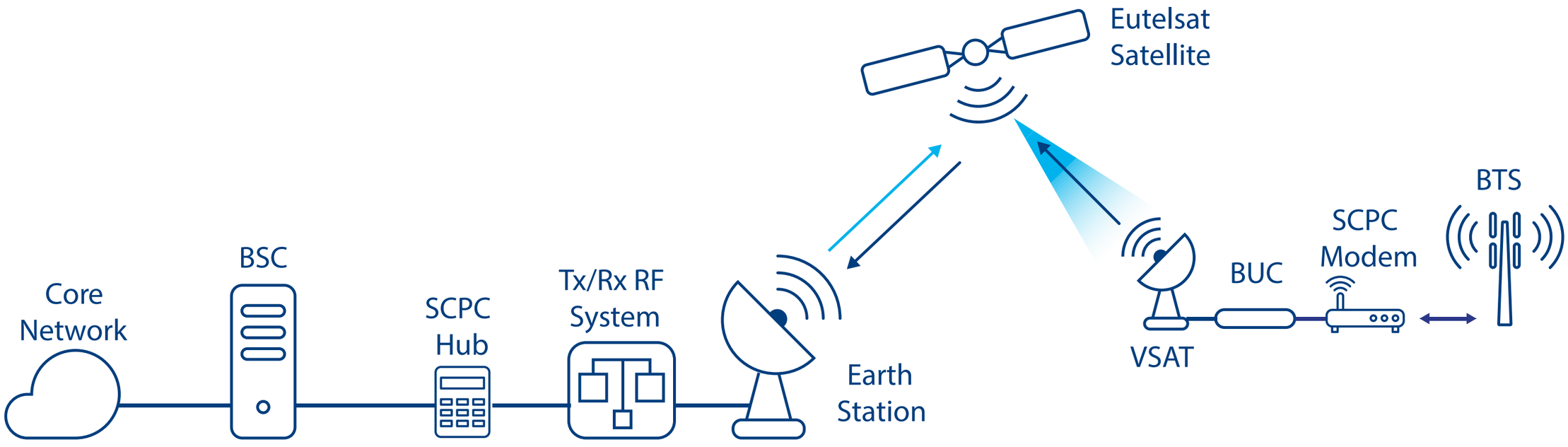
Connect GSM Networks nationwide and extend your services



WHY CHOOSE SATELLITE FOR BACKHAULING?

Flexible, scalable satellites offer cost effective and unlimited reach

Satellites are a vital part of the connectivity ecosystem, guaranteeing reliable, resilient, high-capacity, high-speed communications across regions.

A highly flexible solution, bandwidth can be increased or decreased at any time, depending on business demand.

Providing seamless connectivity, any site can be covered within the satellite footprint, independent of terrestrial infrastructure or geographical terrain.

Remote sites can be deployed rapidly, without significant Capex investment or lengthy terrestrial installations.

Satellite technology can be combined with fibre or microwave solutions to enable network operators to connect sites which are difficult to reach.

CONNECTING BASE STATIONS VIA EUTELSAT

Tailored solutions for high-capacity trunks

JD Telecom's wide range of solutions connect GSM networks rapidly and efficiently, from pure satellite capacity to fully-managed turnkey solutions for high-capacity trunks.

For pure satellite capacity requirements JD Telecom offers competitively priced raw bandwidth

To ensure a swift, seamless transition for existing networks, JD Telecom not only provides raw bandwidth at cost competitive prices, but also switch-over costs (dual illumination and remote antenna repointing).

Our fully managed solutions include the satellite-related infrastructure (hub and remote sites, RF and baseband) and associated services (operations and management, maintenance).

THE BENEFIT FOR NETWORK OPERATORS

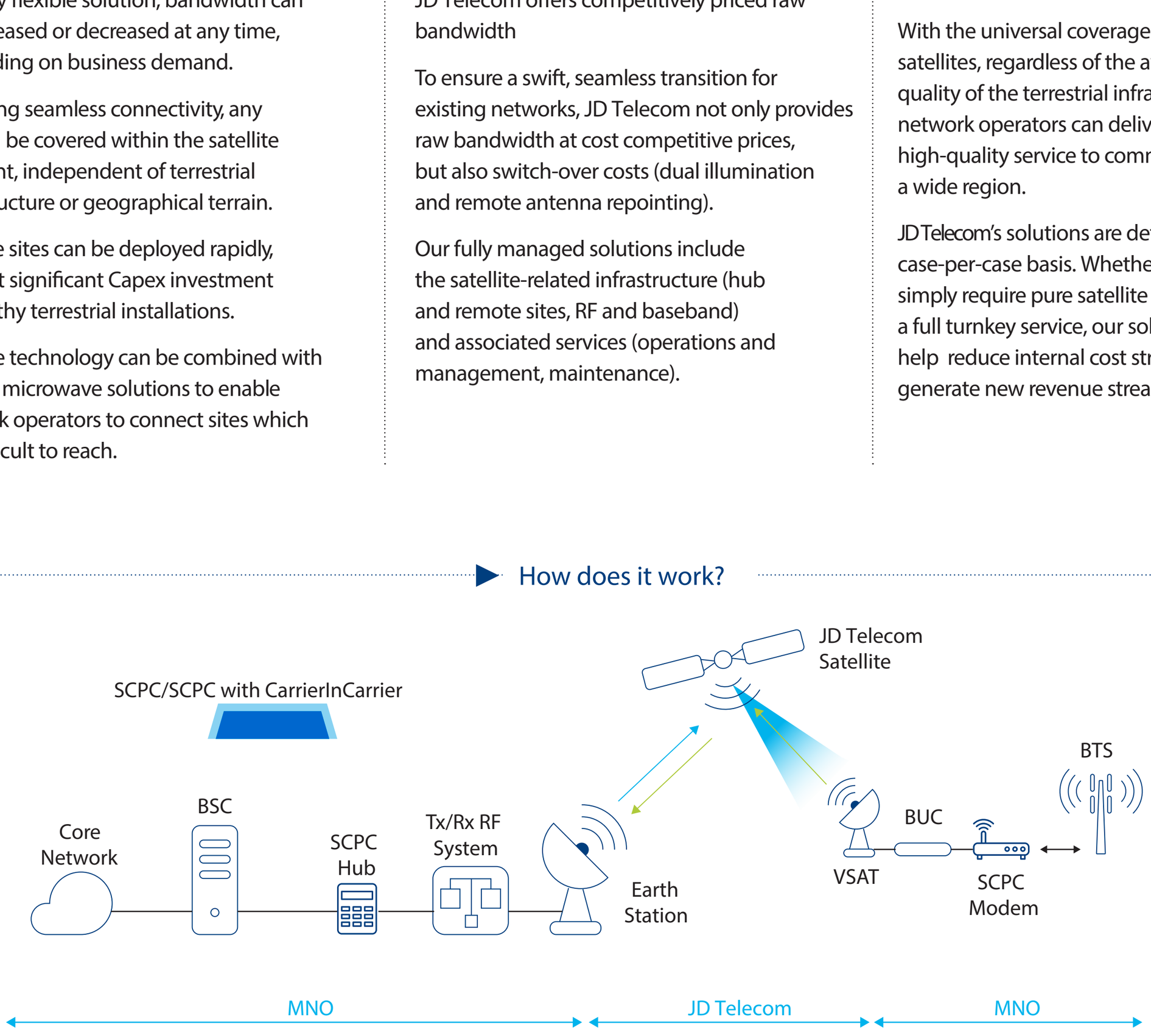
Mobile Network Operators can extend their service area, rapidly and cost-effectively

JD Telecom's GSM backhaul solutions ensure tailored connectivity for high-capacity GSM networks, allowing operators to focus on their core business, managing the traffic on their network.

With the universal coverage provided by satellites, regardless of the availability and quality of the terrestrial infrastructure, network operators can deliver a consistent high-quality service to communities across a wide region.

JD Telecom's solutions are defined on a case-per-case basis. Whether operators simply require pure satellite capacity or a full turnkey service, our solutions can help reduce internal cost structures and generate new revenue streams.

How does it work?

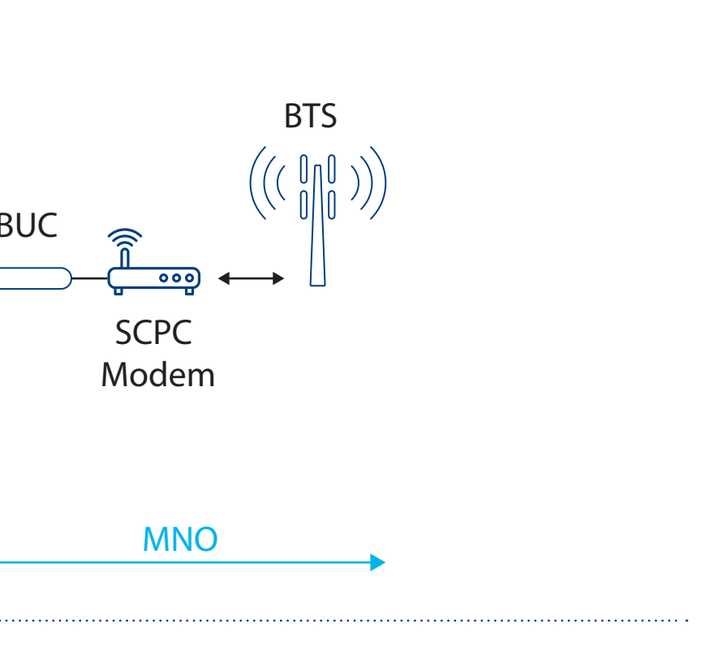


Abis links - Base Transceiver Stations (BTS) are connected to Base Station Controllers (BSC) via satellite.
Ater links - The BSC are connected to Mobile Switching Centres (MSC) via satellite links.
Typical solutions are based on SCPC/SCPC technology with CnC features (Carrier-in-Carrier) for the most optimised bandwidth utilisation.

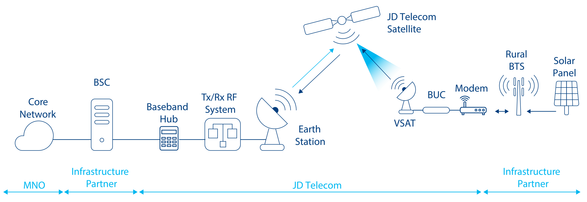
EUTELSAT 8 West B C-band downlink

EUTELSAT 3B C-band downlink

EUTELSAT 10A C-band downlink



Connect rural and remote GSM networks fast and cost-effectively



Connecting rural communities

TAILORED BACKHAUL SOLUTIONS TO CONNECT MOBILE NETWORKS IN REMOTE LOCATIONS

Mobile communications are dramatically expanding in Sub-Saharan Africa. In remote rural areas, however, where over half the population lives, they remain under-developed.

In extensive geographical regions, terrestrial infrastructure requires heavy investment over several years to link unconnected communities. This is not financially realistic for low ARPU sites.

After years of double-digit growth, mobile operators are starting to face a major slowdown in revenues as urban and suburban markets reach saturation. At the same time, however, there is increasing pressure from government bodies to include national network coverage in GSM licences, and ensure universal service coverage to entire populations.

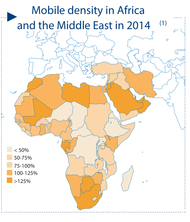
As a result, mobile network operators must now provide almost 100% coverage of countries, expanding both voice and data capabilities into previously unconnected rural areas. Sites must be self-sufficient and energy-independent. With a lack of terrestrial infrastructure, this puts network operators under incredible pressure to deliver the widest possible reach.

RURAL CONNECTIVITY GENERATES REVENUES

Whilst most African cities enjoy 3G and 4G connectivity, mobile coverage does not exist in many rural areas. There are also huge disparities in mobile density per country, with the number of SIM cards per capita ranging from 24% in South Sudan to 172% in Gabon. (1)

The population of Africa and the Middle East is growing fast, and expected to reach more than 1.5 billion people by 2019 (1). This young population, in 2014 half the population were under the age of 20, are technology-friendly, and with the increasing availability of smartphones which are affordable for a large percentage of the population, and innovative solutions such as mobile payments, the demand for mobile connectivity continues to increase.

Mobile density in Africa and the Middle East in 2014 (1)

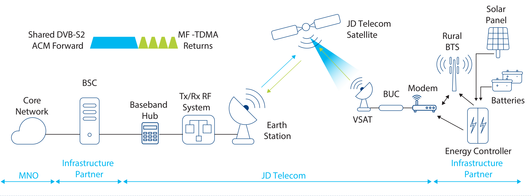


Network deployment is often considered uneconomical in areas with lower population density, due to low ARPU and the prohibitive costs of macro site infrastructure and terrestrial backhaul connectivity.

With micro site infrastructure, however, where satellite backhauling enables extensive geographic coverage, and solar energy powers sites, deployment of rural communications networks is very viable.

Reducing the digital divide provides opportunities for mobile network operators, governments and rural populations to develop services, revenues and structure society. Furthering economic development, mobile connectivity enables basic day-to-day requirements for faster and easier communication and trade, and facilitates electronic payments. It also brings health services, education, government services and entertainment to benefit entire populations within countries.

How does it work?



BACKHAULING RURAL GSM NETWORKS VIA SATELLITE

Satellites are flexible, scalable, cost-effective and offer unlimited reach

Wide, cross-regional coverage areas enable all the sites of a network to be connected within the same satellite footprint.

> Shared dynamic point-to-multipoint links optimise bandwidth usage

Unlike fibre, which only allows dedicated point-to-point links, satellite enables shared dynamic point-to-multipoint links ensuring bandwidth usage is optimised. It can be shared amongst all sites depending on requirements, and increased or decreased any time on demand.

These flexible networks enable micro sites to be deployed rapidly as network and business demands evolve, for a seamlessly optimised service.

Remote sites which are not sufficiently profitable can be redeployed to a new location. And those which are very profitable can be upgraded to macro sites with terrestrial backhaul, and the micro site infrastructure quickly and cost-effectively redeployed.

JD TELECOM'S RURAL CONNECTIVITY SOLUTIONS

Enhanced turnkey solutions via satellite extend 2G and 3G connectivity to rural areas

With comprehensive, turnkey solutions, JD Telecom combines extensive satellite coverage with expertise in telecom infrastructure deployment, including building, providing electrical power and maintaining towers for mobile telephony networks.

Covering the entire communication chain, irrespective of the location of the various sites, the fully-managed solution includes the satellite link, management of the satellite network, and roll-out and maintenance of the micro remote site (both passive and active infrastructures, including satellite backhaul).

> Combining extensive satellite coverage with expertise in telecom infrastructure deployment

Optimised for rural connectivity, the solution has been developed in partnership with a well-established GSM infrastructure integrator in Africa and regional teleport operators, giving you immediate access to our satellites from almost any geographic location worldwide.

THE BENEFIT FOR NETWORK OPERATORS

Extending services to communities beyond the reach of terrestrial networks

Ensuring connectivity for rural communities, satellites provide universal coverage, enabling network operators to extend their service area regardless of the availability and quality of the terrestrial infrastructure. Delivering a consistent high-quality service across a wide region, operators can meet universal service obligations to connect entire populations.

> Consistent high-quality service across wide regions enables operators to meet universal service obligations

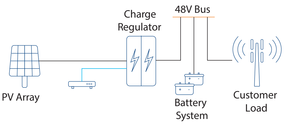
The low maintenance, energy-independent solutions are solar powered and environmentally-friendly, and are designed for 72 hours autonomy at the remote station. This eliminates the cost and logistics of refuelling equipment and the associated security issues.

With JD Telecom's turnkey solution, mobile network operators can focus on their core business, managing the traffic on their network, while JD Telecom and partners manage the rural backhaul network.

Energy independent solutions

Renewable energy
- 100% solar powered
- Long lifetime components
- More than 12 years' experience, 600 sites installed

Reliable power
- 24 VDC or – 48 VDC
- 3 days autonomy sizing
- 24/7 monitoring
- Close to ZERO Opex solution



Quick to deploy

4 legged mast, 30m , 160 km/h
- Hot galvanized steel
- Fencing
- Footprint 10m x 10m
- Recessed depth -1,50m: without concrete
- Suitable for rural requirements
  - + Photovoltaic support from 2.5 to 5.6 KW peak
  - + Omnidirectional or sectorial antennas (1.5m/15dBi max)
  - + Easy logistic & fast installation
  - + ZERO Opex Solution



Antenna options for rural coverage
- 2x Omnidirectional: 9 dBi
- Sectorial up to 15 dBi / 65° Horizontal aperture, 1.5m
- Abiso IP Compact RAN Base station
  - + 2 TRX integrated (Up to 2/2/2 in site TRX cluster)
  - + GSM900 or GSM1800
  - + Low power consumption (32w 1x5wTRX, to 84w 2x10w TRX)
  - + TRX Integrated iPCU (Reduced latency for Data)
  - + GPRS CS1-4, EDGE MCS1-9
  - + BTS power saving
  - + Best-in-class satellite bandwidth optimisation

