Connect GSM Networks nationwide and extend your services
Communications requirements are dramatically expanding in Africa, fuelled by growing public demand for new services and smart devices. As a result, mobile network operators are facing increasing pressure to provide backhaul connectivity for GSM networks.

With a rising population, expected to surpass 1.5 billion people by 2019, Sub-Saharan Africa is predicted to become the principal source of global population growth, and represent a large labour force. With the increasing availability of affordable smartphones, and innovative solutions such as mobile payments facilitating economic development, the demand for mobile connectivity continues to rise.

The African continent has benefited from the massive roll-out of fibre to its coast and has seen the creation of networks within countries. However, many areas do not have the terrestrial infrastructure in place to connect these networks and keep pace with the rising demand for bandwidth, whether due to practical or financial reasons.

Across Africa, there are still areas where only satellite technology can allow mobile network operators to backhaul GSM networks and connect base transceiver stations, base station controllers and mobile switching centres.

HUGE MARKET POTENTIAL FOR MOBILE SERVICES IN AFRICA

In Sub-Saharan Africa, mobile ownership rates at the end of 2014 were only 71% for a population of almost one billion. Although South Africa accounts for 20% of the region’s telecom revenue, its growth is slowing as the market nears maturity. For the rest of Sub-Saharan Africa, however, growth rates are estimated at 4% for the next few years, with an additional 300 million SIM cards expected in the market by 2019. Usage is also increasing. By 2021 the average smartphone user in Africa is predicted to consume 6 GB of data per month, up from 1 GB in 2015. 70% of this will be used for video.

An estimated one-third of the population in Sub-Saharan Africa is not covered by any access network, and in many instances, satellite remains the only means of accessing the internet.

Backhauling solutions connect mobile network base stations fast and cost-effectively, bringing bandwidth to remote areas, providing redundancy for landlines, and offloading traffic during peak times. They also provide crucial back-up solutions for mobile network operators to recover critical voice and international connectivity systems should the main line go down.

A growing telecom market

<table>
<thead>
<tr>
<th></th>
<th>North Africa (a)</th>
<th>Sub-Saharan Africa</th>
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<tbody>
<tr>
<td>Number of mobile SIM cards in 2014 (millions)</td>
<td>204</td>
<td>703</td>
</tr>
<tr>
<td>Number of mobile SIM cards in 2019 (millions)</td>
<td>230</td>
<td>981</td>
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<td>Telecom market in 2014 (millions)</td>
<td>13</td>
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<td>Telecom market in 2019 (millions)</td>
<td>14.5</td>
<td>54.6</td>
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(1) Idate 2016, Digiworld Yearbook for Africa and the Middle East
(2) Ericsson 2016
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

Eutelsat’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 Eutelsat offers competitively priced raw bandwidth

To ensure a swift, seamless transition for existing networks, Eutelsat 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

Eutelsat’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.

Eutelsat’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.
Powerful cross-regional coverage

- **EUTELSAT 8 West B C-band downlink**
- **EUTELSAT 10A C-band downlink**
- **EUTELSAT 3B C-band downlink**