



SUB-SAHARAN AFRICA

ERICSSON MOBILITY REPORT

NOVEMBER 2015

MARKET OVERVIEW

Key figures: Sub-Saharan Africa

	2015	2021	CAGR 2015–2021
Mobile subscriptions (million)	690	1,020	7%
Smartphone subscriptions (million)	170	690	25%
Data traffic per active smartphone (GB/month)	0.8	4	30%
Total mobile traffic (EB/month)	0.2	2.2	55%

With a population of 830 million, Sub-Saharan Africa is a dynamic region that has been experiencing strong economic growth, driven by improved political stability, a global commodity boom and greater regional integration

The macro-economic environment

In the last decade, improved international trade and an accelerated pace of foreign direct investment has led to improved living standards for many on the African continent, giving rise to a new class of consumers.

Sub-Saharan Africa's GDP growth prospects are still relatively high – projected at 4-5 percent¹ annual growth between 2015 and 2018. This is lower than earlier projections due to subdued recovery in the Eurozone and the recent economic slowdown in China, which is a major destination for commodities from the region, as well as a source of foreign direct investment.

Investment in information and communications technology (ICT) in Sub-Saharan Africa remains strong, with the total spending by telecom operators, service providers, utilities and other players on equipment and services expected to grow faster than the regional economy. A large unconnected population, increased consumer spending and a favorable regulatory environment are key drivers for the sustained investment in this sector.



By 2021, mobile penetration is estimated to reach 100 percent

Regional ICT landscape

Total mobile subscription penetration in Sub-Saharan Africa is estimated to be around 80 percent in 2015. Five years ago, mobile penetration was just above 50 percent. By 2021, it is expected to reach 100 percent in the region.² Rising urbanization levels, as well as growing investment in rural network coverage by mobile operators will drive this growth.

Due to increasing subscription volumes, operator revenues have recently risen in local currency terms, though dropped in USD terms. Average revenue per user (ARPU) levels continue to decline in the region due to stiff price competition and regulatory policy on mobile termination rates in many markets. While data ARPUs have been rising, leading to a higher contribution of data revenue to total operator revenue, this does not quite offset the drop in voice ARPU.

Capitalizing on the continent's large unconnected population, operators are aggressively pursuing growth in mobile broadband. Their effort is supported by the proliferation of lower cost devices and evolving regulatory policies. In addition to this, service providers have increased their focus on extending offerings around increasing mobile financial inclusion and media delivery. Growing smartphone ownership and a lack of fixed broadband availability has resulted in mobile broadband being the most common way to connect to the internet. 83 percent of Nigerian mobile phone subscribers rely solely on this channel.³

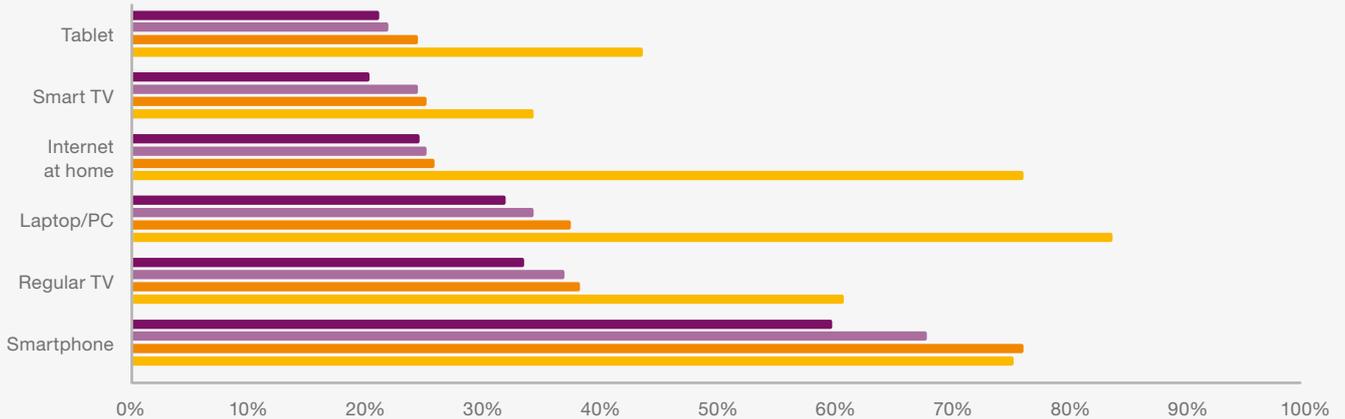
¹ World Bank, Global Economic Prospects (GEP), June 2015

² Ericsson (subscriptions) and World Bank Economic Forecasts, 2015 (population)

³ Ericsson ConsumerLab, TV and media report 2015, Nigeria

Device ownership and connectivity per household

Kenya Nigeria South Africa Global



Source: Ericsson ConsumerLab, TV and media report 2015, Nigeria
Base: Internet users in respective countries or regions



Mobile broadband is the preferred way to access the internet in Sub-Saharan Africa – 83 percent of Nigerians rely on this connection method

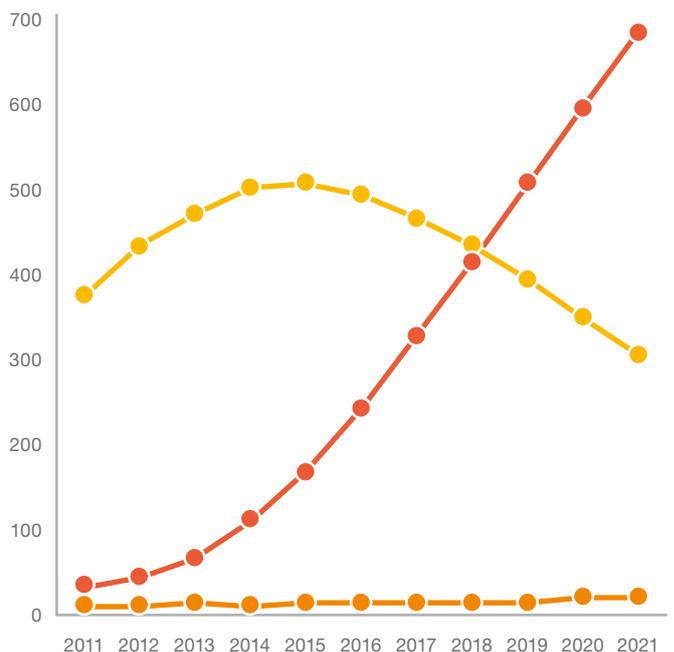
Most markets in Sub-Saharan Africa are seeing a rise in consumer spending driven by growth in economic output. The large youth population continues to drive demand for consumer goods, with their characteristic entrepreneurial mindset stimulating economic growth.

The proliferation of low cost (less than USD 50) smartphones continues in markets across the region.

Seeking to drive data traffic on their networks, operators are increasingly branding their own devices and creating smartphone purchase plans, in some cases via mobile money loan products for consumers who are unable to pay upfront. By the end of 2015, 25 percent of handsets in Sub-Saharan Africa are expected to be smartphones. This is leading to data revenue making a greater contribution to total operator revenue.

Mobile subscriptions by device, Sub-Saharan Africa (million)

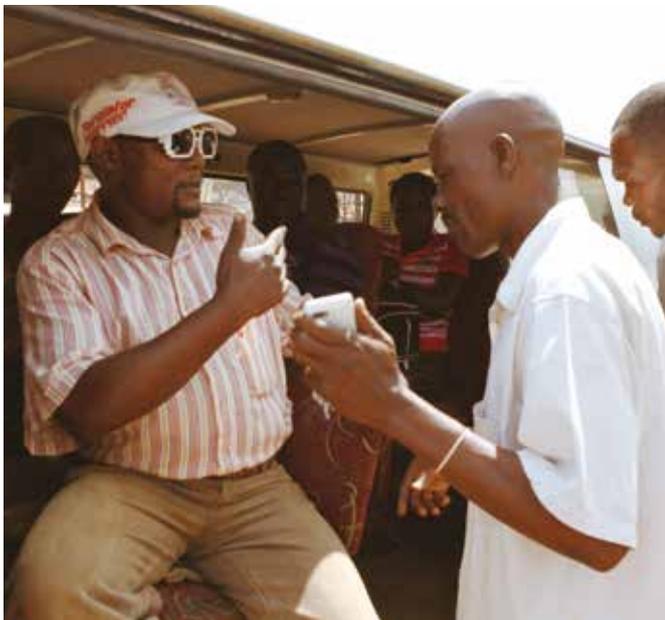
Smartphones Mobile PCs, tablets, mobile routers Basic phones



MOBILE SUBSCRIPTIONS

Mobile subscription growth in the region remains strong. It is driven by a number of factors, including favorable macroeconomics, an improved regulatory climate and mobile services being more central to the daily activities of users across all segments

While countries like South Africa and Ghana have long since passed the 100 percent penetration mark, other large markets like Nigeria and Kenya are still below 100 percent.



GSM/EDGE-only is still dominant, but WCDMA/HSPA is fast catching up

GSM/EDGE-only is still the most popular technology for mobile subscriptions within the region. With 500 million subscriptions by the end of 2015, it still accounts for over 70 percent of total mobile subscriptions. However, this is expected to change by 2021, when WCDMA/HSPA combined with LTE will account for almost 80 percent of subscriptions.

LTE subscriptions are growing rapidly

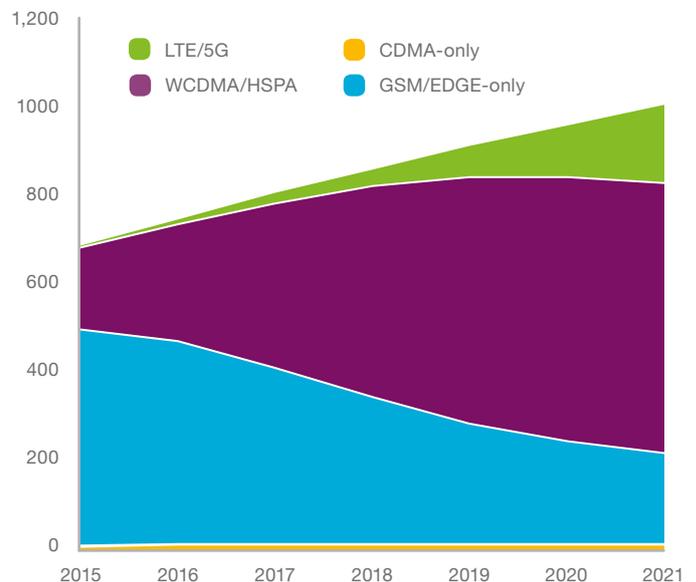
With over 30 operators having commercially launched LTE in the region and many more planning to follow suit, LTE subscriptions are projected to grow almost 28-fold in 6 years. Although LTE currently accounts for just 1 percent of total mobile subscriptions, by 2021 total LTE subscriptions are expected to be just below 20 percent. Within the same period, WCDMA/HSPA will maintain a steady growth and will account for over 600 million subscriptions, or 60 percent of the total.



By 2021, WCDMA/HSPA combined with LTE will account for almost 80 percent of subscriptions

The WCDMA/HSPA and LTE subscription growth will come from a combination of 2G users migrating to other technologies, new subscribers and an increased number of connected devices per user.

Mobile subscriptions by technology, Sub-Saharan Africa (million)



Key drivers for future subscription growth

Subscription growth within the region will continue to be driven by a number of factors, including better network coverage in rural areas and remote locations, ownership of multiple SIMs, the reduced cost of devices and call rates, and M2M. Even with the projected subscription growth, operators' revenue will be challenged largely because of reduced ARPU and slower subscription uptake.

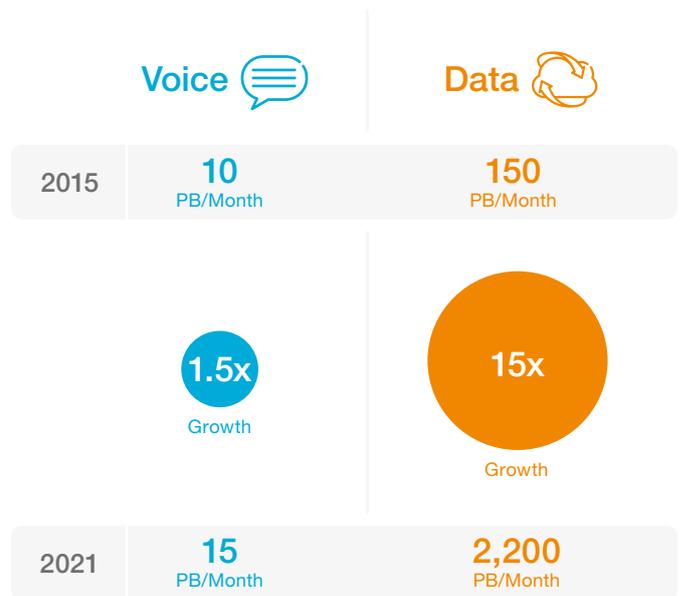
MOBILE TRAFFIC

Rising mobile data traffic is attributable to a number of factors, including the affordability of smartphones and other devices, more video traffic, and the increasing popularity of data-intensive apps

Increasing mobile data traffic

Mobile data traffic continues its steady growth within the region. With the increasing spread of LTE, this trend is expected to continue. It is projected that between 2015 and 2021, mobile data traffic will grow 15 times. With enhancements in international connectivity following the upgrade of mobile data networks and expansion of fiber optics, the prices of data subscriptions will decrease and in turn encourage even more mobile broadband subscriptions. As governments within the region have adopted LTE radio frequency spectrum policies, operators are readying themselves to build next-generation networks to cater for the ever-growing data demand.

By the end of 2021, monthly mobile data traffic in Sub-Saharan Africa is expected to be almost 2,200 Petabytes (PB). Smartphones will account for almost 95 percent of mobile data traffic by 2021, up from close to 80 percent in 2015. Voice traffic over the same period will only marginally increase.



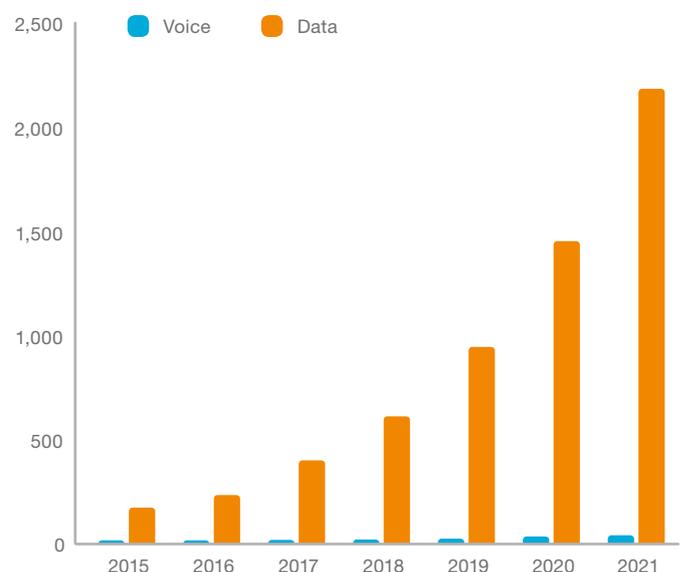
50% LTE networks will cover 50 percent of the population in 2021

3G and 4G population coverage, Sub-Saharan Africa

In 2014, population coverage of WCDMA/HSPA networks in Sub-Saharan Africa was just above 25 percent, compared to global population coverage of around 65 percent. In 2021, WCDMA/HSPA coverage is expected to triple to approximately 75 percent, while LTE will cover around half of the population.

Coverage of GSM networks – which enable the provision of basic mobile telephony services such as voice, SMS and low-speed data – is high at around 70 percent. The implication is that even with a lack of access to mobile broadband, the population is still able to access a variety of services, a major example being SIM-based mobile financial services.

Mobile traffic, Sub-Saharan Africa (monthly PetaBytes)



INDUSTRY TRANSFORMATION

Before the mobile telephony era, Sub-Saharan Africa had limited access to telecommunication services. In the past decade, investment by operators, governments and other players has enabled mobile network coverage to be offered to large swathes of the African population

Mobility as a driver for industry transformation in Sub-Saharan Africa

There are two basic ways in which ICT acts as a change agent across industries: **efficiency improvements** and **service disruption**. The introduction of mobile data services has enabled access to even more services that not only benefit individuals, but change industries as well.

Transformation of financial services

With so much innovation taking place in the mobile space, m-commerce in Africa is one of the great unique success stories on the continent. It has allowed the 70 percent³ of unbanked and marginalized segments to start to see the promise of financial inclusion as mobile money services take form across Africa. Mobile operators have also been beneficiaries of this revolution – leading operators in the region are deriving up to 20 percent of their revenue from mobile commerce services, improving business prospects even as voice revenue growth slows.

Starting from basic person-to-person money transfers, many platforms now provide savings, insurance and credit applications. This has further progressed to mobile commerce and stock management solutions. Purchasing goods and services is increasingly done via a mobile phone.

According to the World Bank⁴, Sub-Saharan Africa transfers more money domestically via mobile money than any other region in the world. In 2014, up to 28 percent of the population had received a domestic remittance. By comparison, only 4 percent of the population in South Asia did so in the same period.

The next wave of services in Sub-Saharan Africa within the mobile commerce eco-system will include more mature offerings such as micro-insurance and advanced subscriber-subscriber/subscriber-merchant solutions. In Kenya, arguably the most developed mobile commerce market in the region, a leading operator has recently opened up its platform to application developers, enabling design and integration of third party solutions.

³Ericsson ConsumerLab, M-Commerce study, 2015

⁴World Bank Global Findex Database, 2014

⁵World Bank Economic Forecasts, 2015



Starting from basic person-to-person money transfers, many platforms now provide savings, insurance and credit applications

An improving regulatory environment is also serving to enable the development of mobile money in Africa, as governments increasingly realize that the widespread availability of payment and other financial services is a key pillar in socio-economic development.

Mobility improving healthcare

Sub-Saharan Africa has faced challenges in the provision of basic health services. Mobile solutions are, however, enabling the delivery of basic health services to underserved populations across the region by successfully addressing important challenges, such as reducing infant mortality rates and combatting infectious diseases remotely.

Mobile technology proved to be extremely useful during the 2014-2015 Ebola crisis that afflicted parts of West Africa. In order to combat the spread of the disease, volunteer doctors collaborated with government agencies to set up helplines and social media accounts which informed and provided response on Ebola risks. This approach was particularly effective in Nigeria, which became Ebola-free within a few months.



Mobile solutions are enabling the delivery of basic health services

Optimizing agriculture – Sub-Saharan Africa's economic backbone

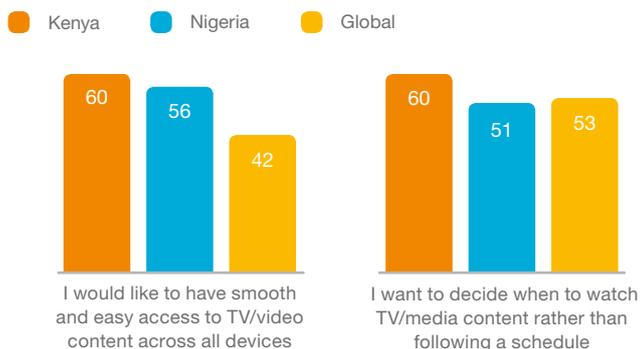
Use of mobile solutions is helping farmers in Africa to minimize economic risk by knowing when to plant their crops, as well as reduce the time it takes to get crops to the market. Considering that agriculture employs more than half of Sub-Saharan Africa's workforce and accounts for a third of its GDP,⁵ mobile-based solutions will go a long way towards improving the socio-economic environment in the region.

Changing media viewing habits

As more of Sub-Saharan Africa's population become owners of smart and digital devices, new modes of content consumption are increasingly being explored. Viewing habits are moving away from conventional devices. In Nigeria for instance, 51 percent prefer to watch TV and video at their convenience, while 56 percent want access to video content across all devices⁶.

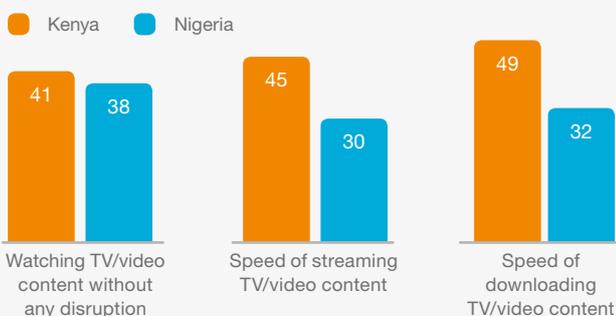
Consumers in the region increasingly want to pick and choose payment and subscription methods of digital media. For example, recent research found that 55 percent of Nigerians indicate that they would like to select the media channels that they subscribe to.⁶

Consumers who want freedom and flexibility when watching TV and video (percent)



Source: Ericsson ConsumerLab, TV and media in Nigeria, TV and media in Kenya, 2015
Base: TV/Media users in respective countries or regions

Satisfaction with TV/media delivery across mobile devices (percent)



Source: Ericsson ConsumerLab, TV and media in Nigeria, TV and media in Kenya, 2015
Base: TV/Media users over internet in respective countries

⁶Ericsson ConsumerLab, TV and media report 2015, Nigeria

Even as mobile broadband networks become increasingly accessible across Africa, satisfaction levels are low, which indicates that consumers in some places are in need of higher speeds and better quality connections. In Nigeria for example, only 38 percent of consumers surveyed recently are satisfied that they can watch TV/media content without any disruption.

Mobile is a key enabler in Africa's growth

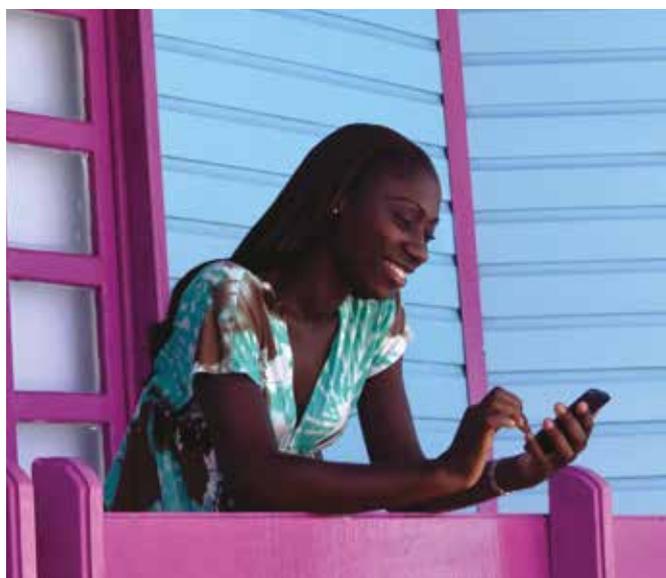
Sub-Saharan Africa's economic potential remains strong, with low internet penetration, a rapid rise in consumer spend and a significant unbanked population. Players in the mobile eco-system in the region aim to support socio-economic empowerment and inclusion.

At the core of this is enabling mobile broadband access to the unconnected population through increased 3G and 4G network deployment. This will drive uptake of services such as m-commerce and infotainment, enabling service providers to differentiate their revenue streams and at the same time offer higher value services to their customers.

With more consumers gaining access to connectivity, and consumer behavior subsequently changing, ICT will have a far reaching impact. While the past decades of ICT progress have shown significant promise, it has only laid the foundation for what is set to come in Africa.



The smartphone is increasingly becoming the main device used at home



Ericsson is the driving force behind the Networked Society – a world leader in communications technology and services. Our long-term relationships with every major telecom operator in the world allow people, business and society to fulfill their potential and create a more sustainable future.

Our services, software and infrastructure – especially in mobility, broadband and the cloud – are enabling the telecom industry and other sectors to do better business, increase efficiency, improve the user experience and capture new opportunities.

With approximately 115,000 professionals and customers in 180 countries, we combine global scale with technology and services leadership. We support networks that connect more than 2.5 billion subscribers. Forty percent of the world's mobile traffic is carried over Ericsson networks. And our investments in research and development ensure that our solutions – and our customers – stay in front.