konnect: Eutelsat's satellite broadband for Africa

Posta Let's Go!

konnect

CONTENT

EUTELSAT

Eutelsat : A key player in the space industry

A pioneer in space
40 years of experience

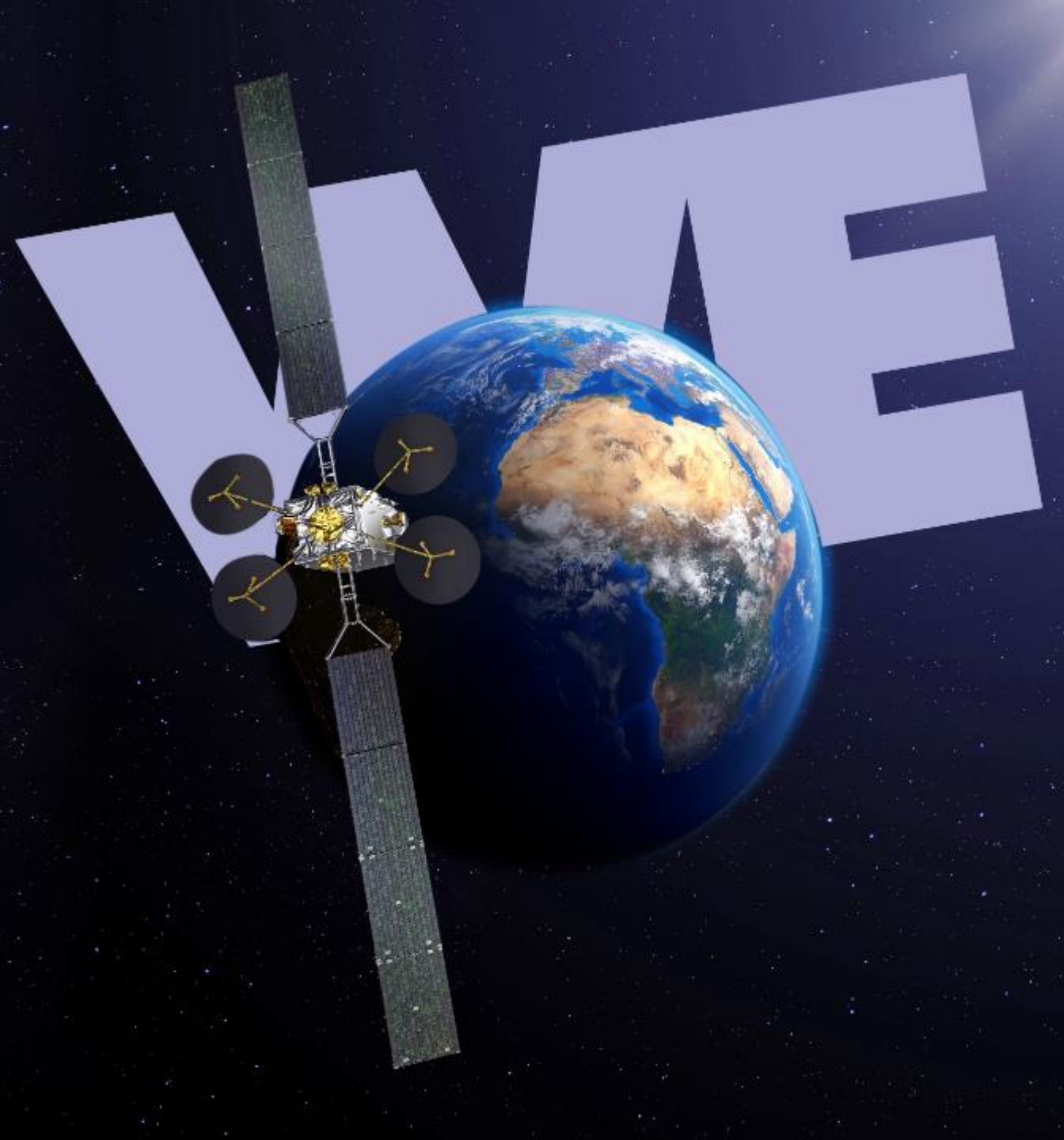**39** satellites for global coverage

Solid investment program
5 satellites to launch

1.2B € revenues in 2020

300 M TV viewers

WE konnect

KONNECT,
**for a high speed
internet access**

Satellite brings connectivity with no limits

IP BACKBONE CONNECTIVITY

MOBILE BACKHAUL

OFFSHORE CORPORATE CONNECTIVITY

DISASTER RECOVERY NGB INTERVENTIONS

GOVERNMENT AND MILITARY COMMUNICATIONS

BROADBAND CONNECTIVITY LIVE TV

BUNDLED OFFERS (TV + BROADBAND)

NEWS GATHERING

Eutelsat a broadband pioneer

2010
KA-SAT Launch
first full Ka-Band
High-Throughput
System over
Europe & MENA

2015
Order of
KONNECT
a 2nd generation
HTS
System that cover
Europe and Africa

2016
Launch of
Konnect Africa
Brand
to deliver
broadband
connectivity in
Africa

2018
Order of KONNECT
VHTS
The most efficient
satellite system
ordered to date
over extended
Europe & MENA

2018
Order of KONNECT
satellite
a second-generation
VHTS satellite
covering Africa and
Europe

2020
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A full Ka-Band
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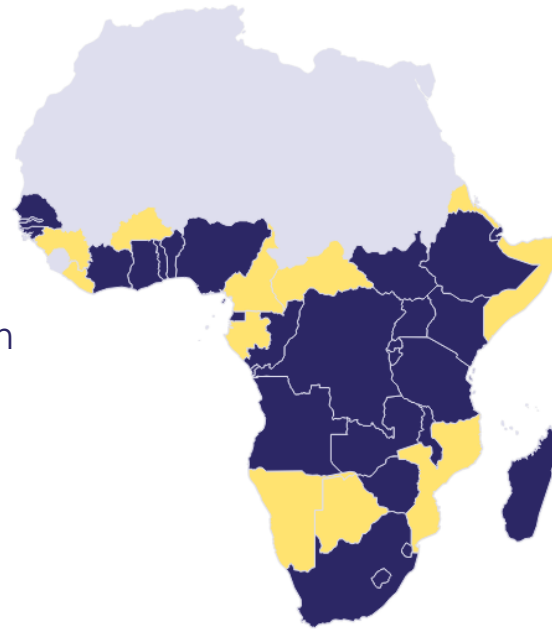# In 2020, Eutelsat KONNECT covers 38 countries in Africa

KONNECT capacity

> **39 countries** covered or partially covered in Sub-Saharan Africa

> Total capacity **62 Gbps**

> Flexibility **20 to 25%** of the capacity of a beam can be reallocated to another beam

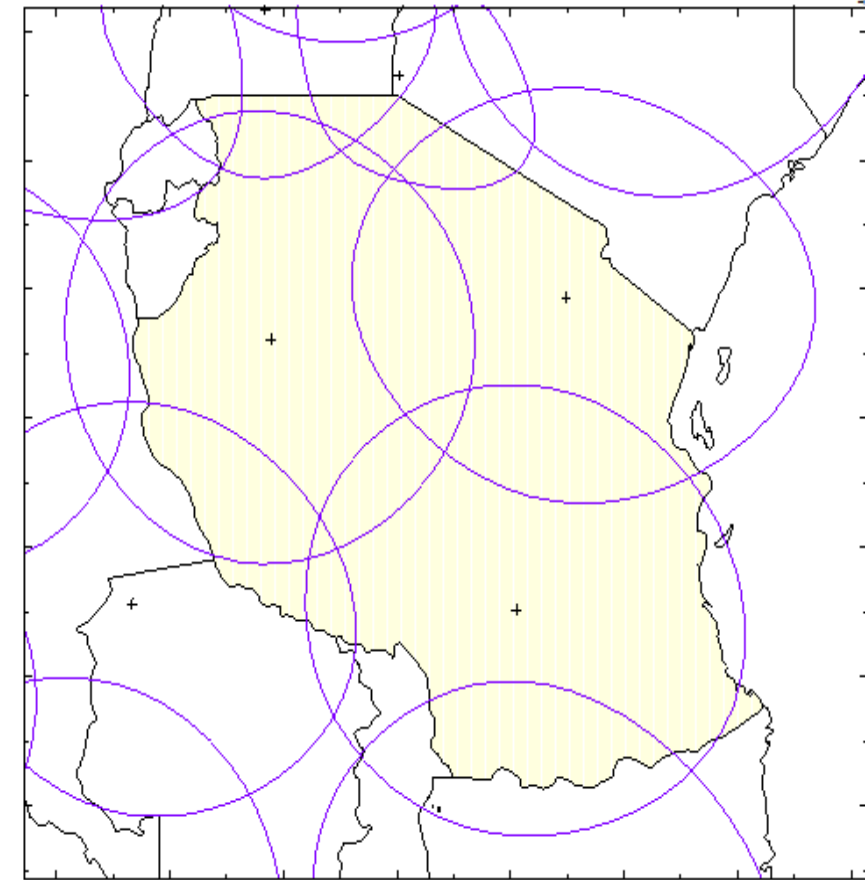> Speed **up to 100 Mbps** for B2C and B2B applications

Covered

Angola Benin Burundi
Congo Côte d'Ivoire
Djibouti DRC
Equatorial Guinea
Ethiopia Gambia
Ghana Guinea-Bissau
Kenya Lesotho
Madagascar Malawi
Nigeria Rwanda
Senegal South Africa
South Sudan Swaziland
Tanzania Togo Uganda
Zambia Zimbabwe

Partially covered

Botswana Burkina Faso
Cameroon
Central African Republic
Eritrea Gabon Guinea
Liberia Mozambique
Namibia Somalia

100% Tanzania coverage by KONNECT satellite

HOW *KONNECT* CAN HELP ACHIEVE DEVELOPMENT GOALS

How satellite can help you address your stakes?

Satellite can cover **100% OF UNADDRESSED AREAS,** and **100% OF POPULATION.**

ECONOMICALLY MUCH MORE FLEXIBLE AND EFFICIENT than extend a fiber or 4G network in unserved and underserved areas.

INSTANT COVERAGE AND AVAILABILITY from 2020.

Help you **SEIZE ALL BUSINESS AND OPPORTUNITIES** with minimal development and **EXTEND YOUR VALUE PROPOSITION.**

How *konnect* can help achieve development goals

1. Zero Hunger

- **Improving farmers awareness** of inputs prices, and sustainable practices
- **Supporting local markets** by connecting farmers with their distributors and customers
- **Decreasing farmers financial risks** by increasing **financial inclusion**

2. Good health & well-being

- **Supporting practitioners** with e-training and access online scientific papers
- **Increasing health centers efficiency** with digital agendas, medical records and improving communication between health centers
- **Improving population medical awareness** by giving everyone access to prevention campaigns through internet

3. Quality Education

- Ensuring that all teachers have **access to the National program**
- **Enforcing teachers confidence** by giving them a continues access to internet knowledges
- **Decreasing school absenteeism** and giving parents access to the student grade with communication platforms

SUSTAINABLE
DEVELOPMENT
GOALS

The digital divide in Tanzania

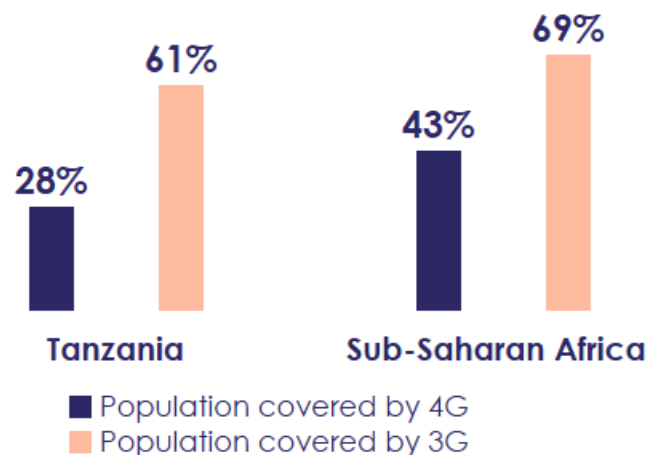## A fast growing population, young and rural

55.9 Millions of people

44% Are under 15 years old

68% Live in rural areas

81% Have a mobile subscription

38 Million of people not covered by broadband internet

- 28% — Tanzania (Population covered by 4G)
- 61% — Tanzania (Population covered by 3G)
- 43% — Sub-Saharan Africa (Population covered by 4G)
- 69% — Sub-Saharan Africa (Population covered by 3G)

■ Population covered by 4G
■ Population covered by 3G

53% of people are excluded from the financial institutions

47% Have an account with a financial institution

39% Have a mobile money account

Satellite bridges the digital divide

› **Delivering services with a high social impact** (health care, education) is often constrained by significant gaps in infrastructure.

› **Internet can field several of these gaps** by creating connections.

› **Satellite technology is available everywhere** for everyone and can significantly improve rural inclusion.

How *konnect* can help achieve development goals

4. Decent work and economic growth

> **Developing online jobs and teleworking** by connecting areas with high unemployment rate

> **Increasing SME's efficiency** by giving them better access to their market and subsidiaries with internet communication

> **Decreasing SME's financial insecurity** by enhancing financial inclusion

5. Enhance rural life quality

> **Improving education quality in rural areas** by giving everyone access to the national program and global online knowledges

> **Increasing employment** by supporting the development of SME's, online jobs and teleworking

> **Improving communication with relatives** and increasing access to entertainment

6. Partnership for the goal

> **Increasing communication channels** with the population and **give everyone access to prevention campaign**

> **Increasing census penetration** with online administrative procedures

> **Ensuring better money redistribution** with digital taxes collections and Improving awareness about public service availability

SUSTAINABLE DEVELOPMENT GOALS

konnect in Tanzania
What economic and social impact?

1. Better access to information : excellent tool for information retrieval, new innovative practice, advent of teleworking

2. Better management of the country : e-government, more equity for the population: access to the state service, more information feedback

3. More control by the central administration : centralization of information, security, border controls,...

4. Productivity improvement (agriculture, livestock, trade, etc.) : use of sectoral applications

5. Job creation in new sectors : e-commerce, mobile applications, satellite equipment maintenance technicians, traders etc.

konnect in Tanzania
What economic and social impact?

6. More financial inclusion : increasing financial literacy, better access to electronic banking, better management, savings, investment, access to micro credit

7. Increasing the quality of education : e-learning, online library, access to multiform resources

8. For companies : better communication, more sales, more figures business, access to wider markets, helps to build customer loyalty (e-mails, website, etc.), e-commerce,...), new way of working: "teleconferencing"

9. Social welfare for the population : better access to health care (teleconsultation), access to innovative services such as television, virtual visits, keeping in touch with family and friends

10. When the internet access rate increases by 10%, this leads to a 1.4% increase in economic growth (according to the World Bank)

PRODUCTS OVERVIEW

- *konnect* Standard
- *konnect* Wifi, for shared access between multiple users

WE
konnect

The Key Arguments of our Konnect Standard

Tanzania

SUPERFAST BROADBAND
from 20Mbps to **100Mbps**
maximum download speed

NON-STOP KONNECTED
Unlimited offers with Fair Use Policy according to the data consumption + high-reduced speed rate (min. 1Mbps)

SUBSIDIZED EQUIPMENT
to lower the total cost of ownership

NIGHT TIME ZONE
From 10pm to 6am at nigh, the internet traffic will not be accounted

... **with competitive monthly fee starting from Tsh 60 000** ($25)

Konnect Standard Packages

konnect B2C

1-month validity for all packages	Konnect 20	Konnect 30	Konnect 50	Konnect 75	Konnect 100
Data Volume (during the day)	Unlimited usage (with different Fair Use Policy according to the plan selected)				
Step 1°	Beyond 10GB : 3Mbps	Beyond 30GB : 5Mbps	Beyond 60GB : 10Mbps	Beyond 100GB : 15Mbps	Beyond 200GB : 20Mbps
Step 2°	Beyond 15GB : 1Mbps	Beyond 45GB : 1Mbps	Beyond 90GB : 2Mbps	Beyond 150GB : 3Mbps	Beyond 300GB : 3Mbps
Free Zone* (during the night)	Unaccounted traffic from 10 pm to 6 am* (local time)				
Maximum Speed **	20/3 Mbps	30/3 Mbps	50/3 Mbps	75/3 Mbps	100/3 Mbps
Monthly Price (including 18% VAT and 17% Excise tax)	Tsh 60 000 ($25.91)	Tsh 110 000 ($47.50)	Tsh 175 000 ($75.57)	Tsh 225 000 ($97.16)	Tsh 395 000 ($170.57)

Option Public IP	+ Tsh 15 000 ($6)
Option one SIP call	+ Tsh 5 000 ($2)

Exchange rate*** : 1 USD ($) = 2315.79 TZS

Footnotes : All data volume in GB applies to both download and upload usages
° Throttling Steps on the Unlimited Packages: When the user reaches a certain amount of GB, a Fair Use Policy will be applied as described above, until the end of the month.
* From **10pm to 6am** : the customer will have access to the maximum speed available without taking into account the throttling step
** Bandwidth profiles shown above are the maximum speed possible in best effort mode depending on the network congestion
*** Approx. average exchange rate over the last 6 months
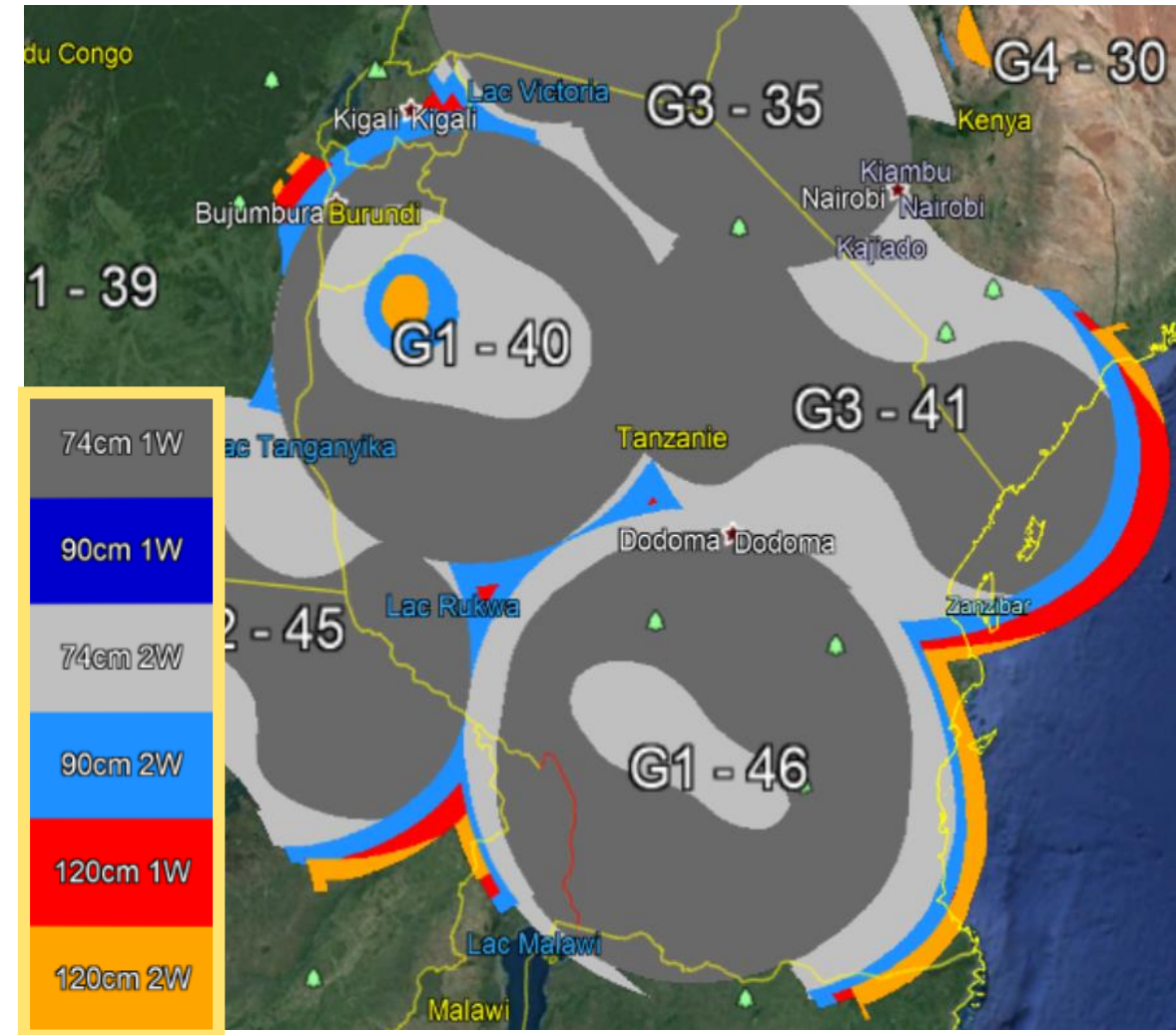
Konnect Satellite Equipment & Prices

End-User Konnect equipment depends on End-user location. Refer to the map

ANTENNA SIZE	TRANSCEIVER	IDU MODEM	UNIT SELLING PRICE DDP DAR ES SALAM (USD) (VAT incl.)	UNIT SELLING PRICE DDP DAR ES SALAM (TZS) (VAT incl.)
74 cm	HA200, 1W (refurbished)	HT2000 (Refurbished)	$149	345 000
74 cm	HB210, 2W	HT2000 or HT2010	$240	555 000
90 cm	HA200, 1W (refurbished)	HT2000 (Refurbished)	$204	475 000
90 cm	HB210, 2W	HT2000 or HT2010	$280	650 000
98cm*	HA200, 1W (Refurblished)	HT2000	$333	770 000
98cm*	HB210, 2W	HT2000	$453	1 050 000
120 cm	HA200, 1W (refurbished)	HT2000 (Refurbished)	$651	1 500 000
120 cm	HB210, 2W	HT2000 or HT2010	$699	1 620 000

*Antenna size 98cm available depending on remaining stock. No longer supplied by HNS. Those prices do not include the mast.

Map legend:
- 74cm 1W
- 90cm 1W
- 74cm 2W
- 90cm 2W
- 120cm 1W
- 120cm 2W

*** *Approx. average exchange rate over the last 6 months*

Exchange rate*** : 1 USD ($) = 2315.79 TZS

Exampe of Kit

Konnect Express WiFi : broadband for underserved areas

› A plug & play satellite broadband **WiFi hotspot** (managed via a tailored and dedicated platform) enabling you to deploy broadband in **underserved** & **rural areas** outside of the MNOs' reach.

› **A flexible business model** requiring no hardware investment for end-users whom are now able to access fast, reliable and affordable broadband even in the most remote areas.

STORE

Perfect for:

Shops

Restaurants

Bars

Mobile Money Agents

Mines

…

Konnect Express WiFi : main characteristics

Deployable anywhere

Powered by satellite, Konnect Express WiFi can be deployed even in the **most remote areas**

→ Reach markets that no one else can

Simple set-up

All necessary hardware & software are **included** and **easy to use**

→ Any interested and rural based (no 3G/4G) retailer can participate

Fair prices

The Konnect Express WiFi datapacks are adaptable to all budgets and markets

→ Rural populations should not pay extra for Internet

konnect

Konnect Express WiFi : the value chain

Clients

- Finally able to access **high speed internet**;
- A **qualitative** and **affordable** solution, with prices similar to those available in urban areas, tailored to my needs and **without any commitment**;
- The only prerequisite: having a **Smartphone**.

Retailer

- **New revenue stream**;
- More **traffic** on my point of sale and **clients that stay longer**;
- A better image thanks to the provision of a value added service;
- **No initial hardware investment** required.

Distributor

- Participating in a **high potential revenue-generating** project;
- Benefit from a plug&play product with a dedicated, prepaid and tailored platform;
- **No financial risk**, the kits are financed by Konnect.

Konnect

- **Finances** the hardware and satellite capacity;
- Owns the **ISP licence**;
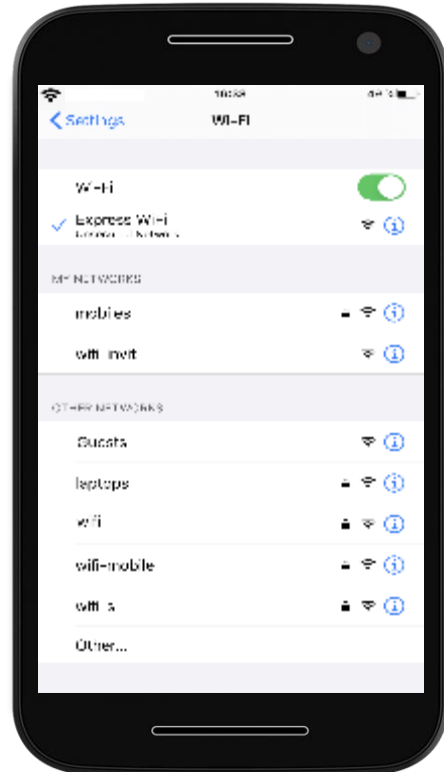- **Supports** the Distributor on a daily basis.

Konnect Express WiFi : Client UX

*We have a **Free** Konnect Express WiFi **App** available on **Android** !*

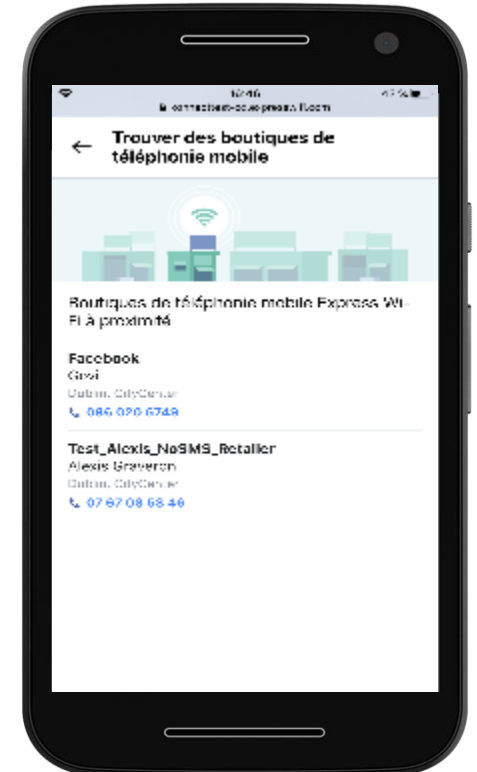| **WiFi Network**	**Account**	**Home Page**	**Buy Data Packs**	**Find Retailers**
Go to your Smartphone's settings, go to WiFi, activate it and then select the SSID with the name **Konnect Express WiFi.**	On the Login Page which will be automatically loaded on your smartphone browser, sign-up with your Name and click **Next.**	Note **your Client Code** on the top page (to be communicated to Retailers for future recharges) and enjoy **Free Data of 100 MB/day for 3 days**. You can check in real-time your consumption on the Home page.	Buy a Data Pack from the Retailer by providing your Client Code. The list of Data Packs is presented in the Home page. Data Packs are available in multiple prices, duration and volume.	Find Retailer locations on the Home page in the related section.

Konnect Express WiFi : Revenue share

	CAPEX	OPEX	Revenue share
konnect	› Develops and finances the kit › Finances the solar solution (if relevant) › Finances the logistics up until the hub(s) of the Distributor › **Owns the ISP license**	› Finances the bandwidth › Manages the Konnect Express WiFi platform › Builds and finances the marketing plan › Manages high-level after-sales service via ticketing (through the platform) › Validates the locations of the hotspots to be deployed with the Distributor	**60%**
Distributor	› **Finances the installation as well as the « last-mile » logistics** › Tops-up his wallet	› Recruits and manages the Retailers network › Promotes service via the Retailers network › Manages the financial flow with the Retailers › Manages Level 1 after-sales service (with the support of the Retailers) and relays for level 2 to Konnect via ticketing system › Handles the maintenance on the hotspots	**25%**
Retailer	› Tops-up his wallet	› Sells datapacks to the clients › Makes sure the hotspot is working properly, powered and available during clients consumption timeframe › Manages level 1 after-sales service (with the support of the Distributor)	**15%**

Konnect Express WiFi : site selection

Our target

Main criteria

- **No 3G/4G** (or of very bad quality);
- **Populous area;**
- A retailer that is **interested and motivated,** located in a site with a **lot of traffic**.

Secondary criteria

- Areas with **sources of employment** around (mining areas, agriculture…);
- **Non electrified areas;**
- **No 2G.**

Site selection process

Process

- Konnect and the partner **jointly select** the sites to be deployed during the weekly deployment follow-up session.

How? Two options:

- **Konnect** (thanks to Geo Konnect & Facebook data) offers a list of **high potential sites** to the **Distributor** whom is then able to choose preferred locations.
- The **Distributor** sends a list of high-potential sites to **Konnect** for **validation**.

Konnect Express WiFi : our offer, the Tanzanian example

Datapacks	50MB	1GB	100MB	300MB	500MB	700MB	1GB	2GB	5GB	10GB
Validity		1 Day		3 Days		7 Days		30 Days		
Price (TSH, vat inc)	300	2,000	500	1,000	1,500	2,000	2,500	4,500	10,000	18,000
Price per MB (TSH)	6	2	5	3.33	3	2.86	2.5	2.25	2	1.8
USD price (indicative, vat inc)	**0.13**	**0.86**	**0.22**	**0.43**	**0.65**	**0.86**	**1.08**	**1.94**	**4.32**	**7.77**

Example of town in DRC (Punia and Maniema) connected by Konnect Wifi

› **In Punia, Maniema,** our **reseller Malka** provided a Konnect wifi Kit to an airtime shop

› **The equipment is free**, our distributor only pays activation fees $50

› The shop's owner sales vouchers and then **shares the revenue** with Rura and Konnect.

› Punia is a mining town **without internet connectivity before Konnect**. Workers now benefit from broadband internet after their working day.

› **140 persons benefit from Punia Konnect Wifi** every day in average.

konnect

Konnecting Congo's rural areas

LUBUTU, MANIENA

SANKURU, KASAÏ

KANANGA, KASAÏ

USE CASES

konnect WE

How *konnect* can help schools

› **High speed internet,** available even in **remote areas**

› **Tailored products range** for schools

› **Customized data plans**, adapted to each school pocket

› **Customized business models** to support schools' connectivity cost

› **Bundle solutions with an education platform :**

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schoolap

A digital educational platform, developed by a startup based in Kinshasa, it offers :

› **National online programs;**

› Exercises and homework platform;

› Schoolap TV with learning content;

› School management platform, to manage attendance and pay scholarship payments.

"konnected" schools in DRC

A bundle tailored solution

1. We provide *konnect antennas* installed by our partner FLASH;

2. We provide **connectivity service,** with a tailored product range;

3. Schoolap provides an **educational platform;**

Schoolap

A platform tailored to improve education

❯ National online programs;

❯ Exercises and homework platform;

❯ Schoolap TV with learning content;

❯ School management platform, to manage attendance and pay scholarship payments.

Deployment

2,000 private schools to be connected by June 2021

600,000 children will have access to internet

30,000 teachers will benefit from Schoolap partnership

Deployment yet to come

❯ **20,000 schools** in DRC to be connected

❯ **1,300** in Zimbabwe

❯ **300** in Benin

Use cases in agriculture

Connected household farms in Morocco :

Objectives	**Supporting households farmers by providing them internet access. Improving farmers awareness** of inputs prices, and sustainable practices and **supporting local markets** by connecting farmers with their distributors and customers.
Deployment	**30 sites** connected by Eutelsat. We provided the terminals and antenna. Our partner financed connectivity service for one year.
Benefits	30 farms have now access to satellite broadband services. They can use e-commerce applications, plus office connectivity and easy management of suppliers.

Connected cows and sheep in Tunisia and Morocco :

Objectives	**A dairy cooperation** was looking for solution to increase farm efficiency and to decrease cattle losses in large farms not connected to terrestrial network.
Deployment	**Tens of dairy farms have been connected to Eutelsat network.** They use Eutelsat's partner telemetry solutions to monitor the dietary health and behavior of cows through wearable sensors
Benefits	Eutelsat enables farmers to control and increase the milk production through Satellite IoT technology. Livestock farmers in Tunisia & Morocco also use this technology

How *konnect* can help in case of crises

❯ **Wide broadband coverage in Sub-Saharan Africa :**
Satellite connectivity doesn't need terrestrial infrastructure. Broadband internet is available everywhere, even in areas affected by crises.

❯ **Self and fast installation :**
konnect equipment are easy to install. *konnect* also provides video training program and technical assistances.

❯ **Dedicated bandwidth solutions :**
konnect guarantees a fast and stable connection anytime, even in case of congestion.

❯ **Dedicated platform for coordination:**
Our partners provides coordination of all technologies and emergency workers.

Our partners today :

United Nations

CDEMA
CARIBBEAN DISASTER EMERGENCY MANAGEMENT AGENCY
Resilient States · Safer Lives

tsf
TELECOMS SANS FRONTIÈRES
Communications for life

WFP
World Food Programme

NETHOPE

Supporting Mozambique government after a cyclone

Objectives	**Supporting Mozambique institutions** after infrastructure have been affected by the Tropical Cyclone Idai, in 2018.	
Deployment	**17 sites immediately connected** in the most affected areas.	
Benefits	**More than 1,000 humanitarians** enable to **coordinate** and ramp up swift emergency telecommunications.	

Our main partner :

WFP World Food Programme

Eutelsat is partner of UN and of the world food programme.

Supported by the Emergency Telecommunications Cluster Eutelsat helps Governments and NGOs by deploying internet network in areas where infrastructures have been destroyed.

Our partnership :

› **Eutelsat provided internet solution with antennas and self-installation equipment.** Humanitarians had also access to online video training and technical assistance.

› **Eutelsat offered internet service to 17 institution sites, for free.**

Benefits :

› **Eutelsat provided vital internet connectivity services and technical assistance to thousand humanitarians**

› Supported coordination in accommodation centers, health centers and medical relief distribution points.

Supporting the fight against Covid-19 in DRC, Nigeria and South Africa

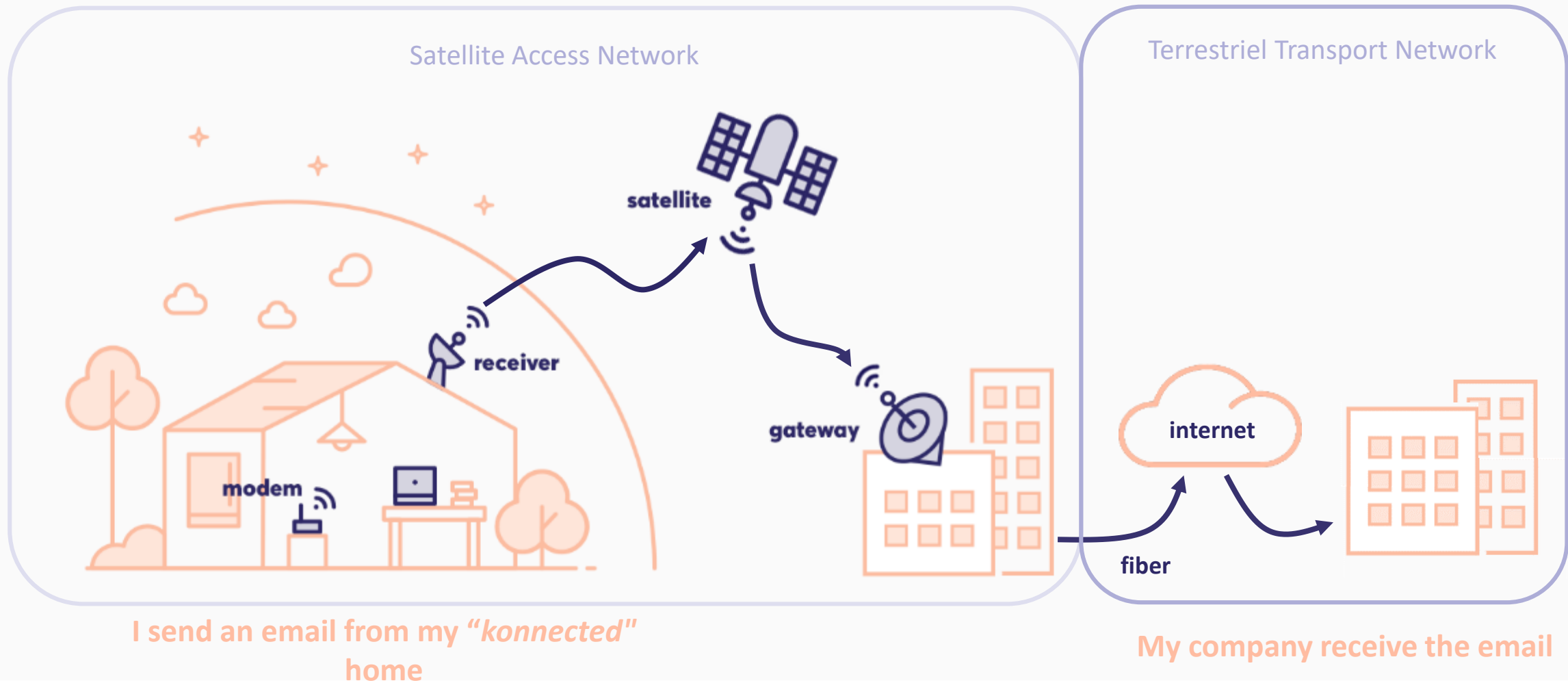| **Congo, Kinshasa** Connect the coordination offices in charge of the fight against the Covid-19	**In DRC, *konnect* offers a high-speed internet connection to all the coordination offices in charge of the response against Covid-19** (INRB, INPS, COTEX, UNIKIN, les zones de santé Gombe, Kintambo, Binza Ozone, Limete, Lingwala, Barumbu, Kinshasa, Meteo, Delvaux). The coordination teams benefit from free equipment, installation and 6 months of *konnect* Pro100 packages
Nigeria High speed internet in all Sokoto quarantine Centers	***konnect* provides free broadband connection to quarantine centers in the Sokoto region**. Internet allows a more efficient coordination in the face of the virus, thanks to a real-time connection between centers and the development of telemedicine.
South Africa Eight connected clinics in the Mpumalanga region	***konnect* provides free broadband connectivity to eight clinics in the Mpumalanga region.** These clinics, which are not connected to terrestrial networks, now benefit from 300GB of data per month. *konnect* provides equipment, installation and initial upgrades free of charge.

ANNEXES

How do I transmit a signal with broadband satellite?

Satellite Access Network

Terrestriel Transport Network

satellite

receiver

gateway

internet

fiber

modem

I send an email from my *"konnected"* home

My company receive the email

WE konnect   It's that simple.

CONTACTS:

Michel Azibert
Deputy CEO
Eutelsat
Tel: + 33 1 53 98 46 02
E-mail: mazibert@eutelsat.com

Obafemi Agbanrin
Sales Director
Konnect Broadband Tanzania
Tel : +33 1 53 98 44 09, + 33 7 88 07 92 10
E-mail : oagbanrin@eutelsat.com

Philippe Baudrier
General Manager
Konnect Africa
Tel: + 33 1 53 98 48 31, + 33 6 77 04 71 19
E-mail: pbaudrier@eutelsat.com