



# K3 TELECOM AG

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REVOLUTIONIZING  
BROADBAND FOR MILLIONS  
OF PEOPLE

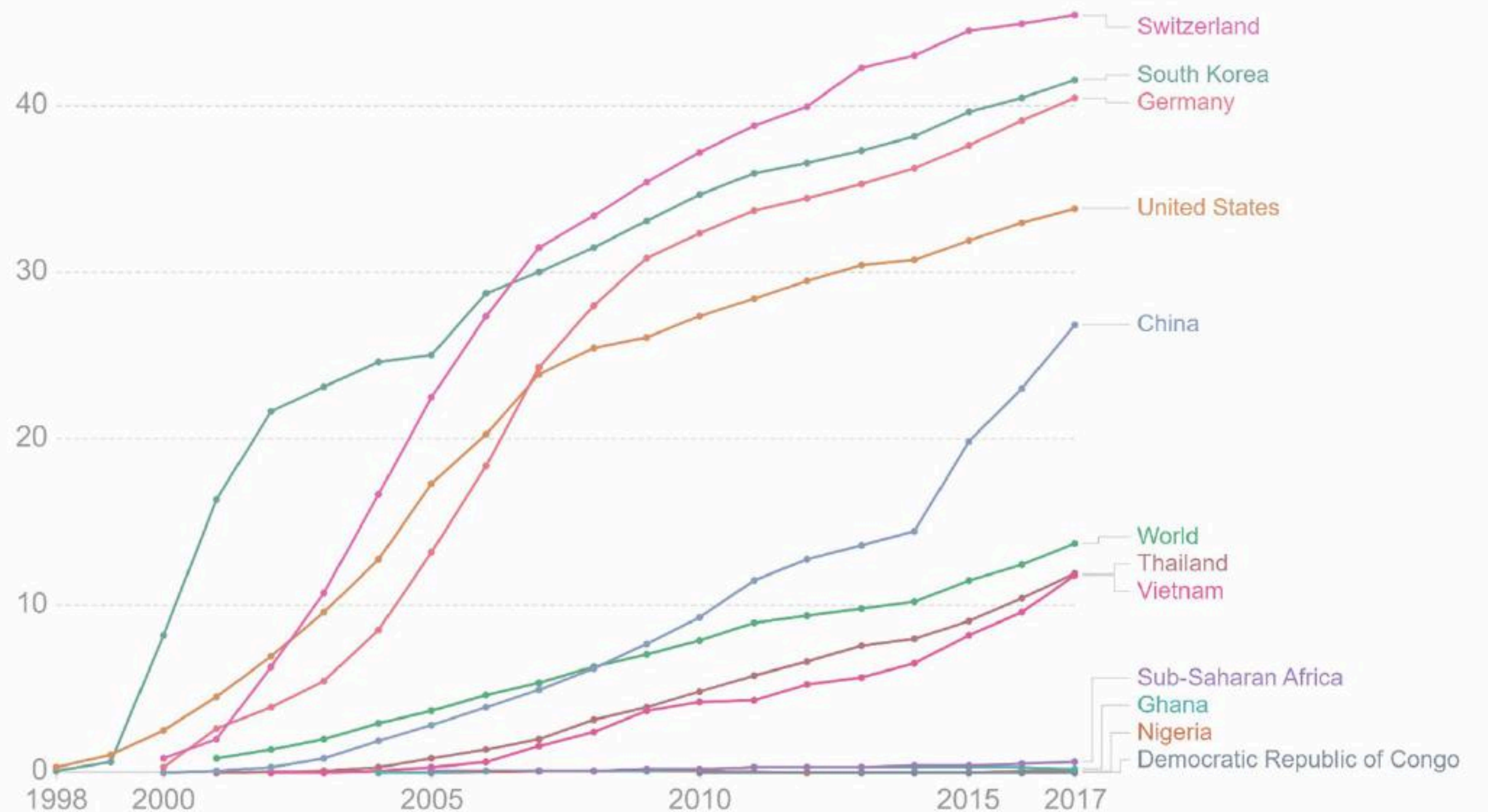


**Only 1%**  
**African population**  
**currently has**  
**broadband internet,**  
**leaving 99%**  
**with no access to**  
**modern internet**  
**and digital TV**

## Broadband subscriptions per 100 people, 1998 to 2017

Broadband subscriptions refer to fixed subscriptions to high-speed access to the public Internet (a TCP/IP connection), at downstream speeds equal to, or greater than, 256 kbit/s.

Our World  
in Data



Source: World Bank

Note: For more details on the definition see the sources tab.

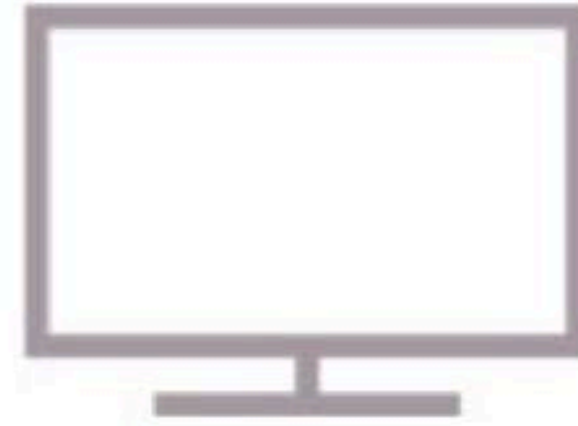
OurWorldInData.org/internet/ • CC BY







We're providing  
modern triple  
play services



## DIGITAL TV

150+ TV CHANNELS



## BROADBAND INTERNET

UP TO 900 MBPS PER USER



## IP FIXED LAND LINE TELEPHONY & PBX

# KEY PROBLEM

Fixed broadband in Africa is **non-existing** and almost **impossible to be built**

## WHY?

Current internet is **slow, expensive and unreliable**

Extremely high cost of laying cables in cities

Decade long deployment

Congested and chaotic environment





**K3 TECHNOLOGY  
SOLVES THE PROBLEM  
WITHOUT LAYING  
CABLES**



**MAKING BUILDING  
BROADBAND INTERNET  
IN AFRICA POSSIBLE**

LOW COST COMPARED TO TRADITIONAL BANDWIDTH SYSTEMS

END USER CONNECTIONS WITHIN A DAY

WORKING IN ANY WEATHER CONDITION

PROPRIETARY TECHNOLOGY

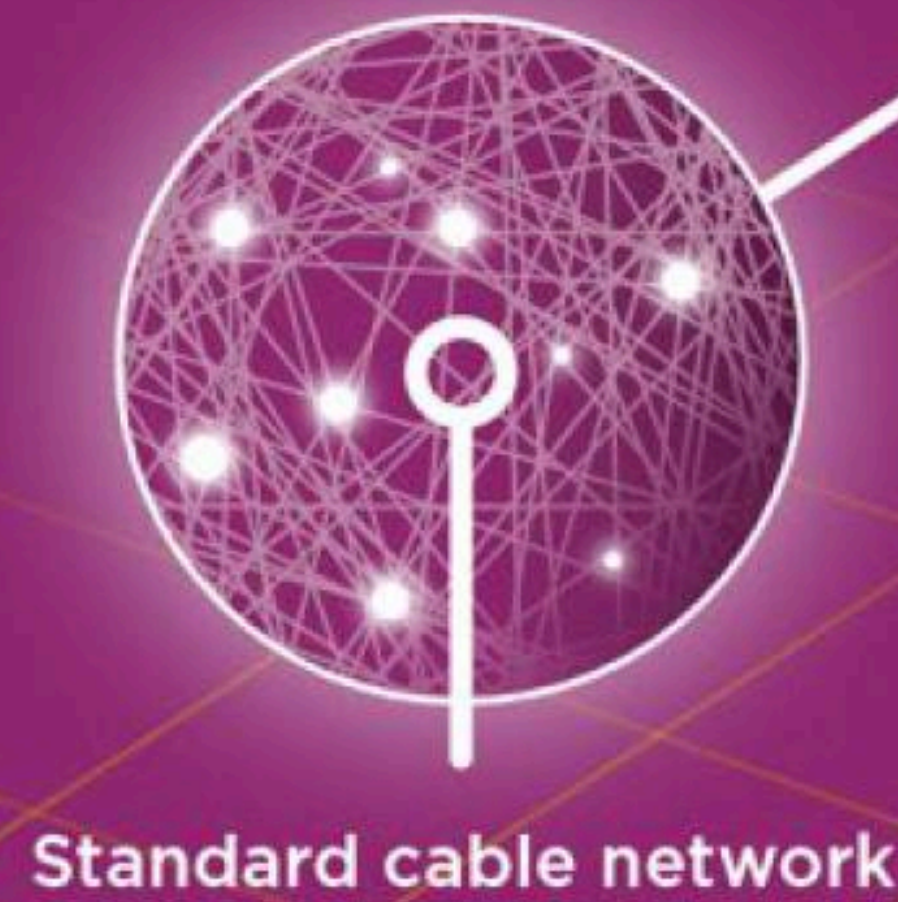
FIBER OPTICS PERFORMANCE OVER AIR

TIME TO MARKET WITHIN 6 MONTHS

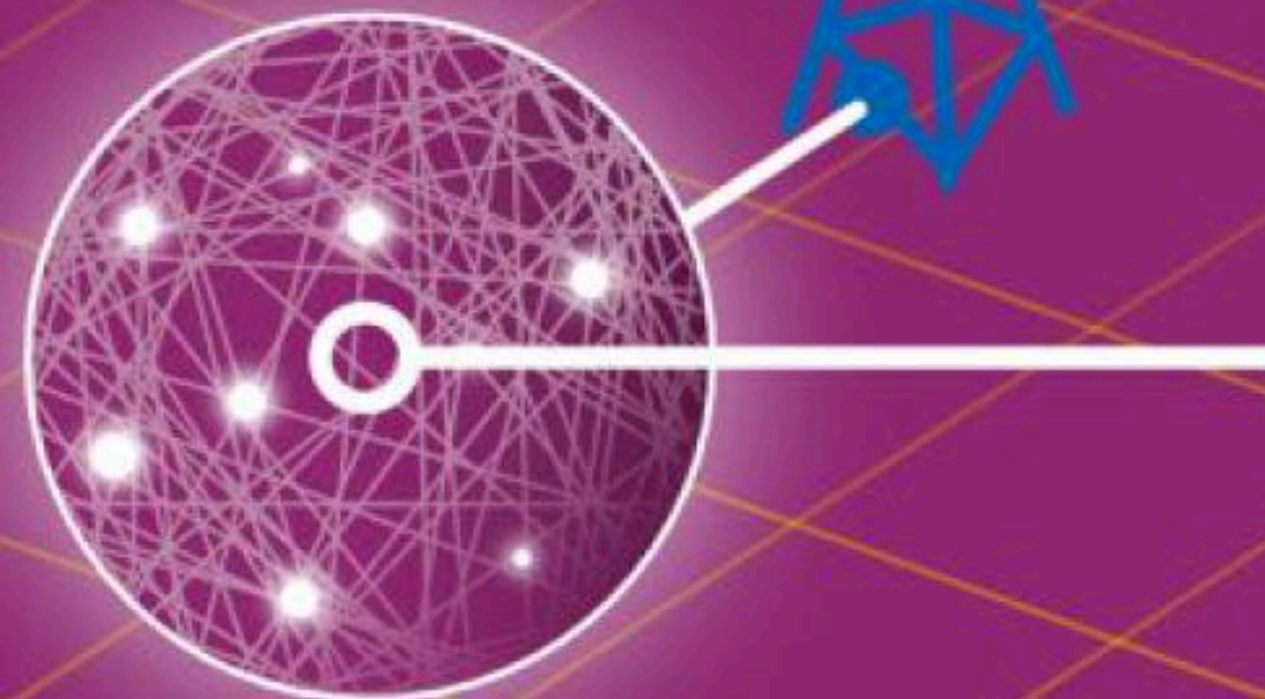
NO QUALITY COMPROMISES NEEDED



K3 IS EFFECTIVELY SOLVING THE "LAST MILE" SOLUTION. THERE IS NO CABLE INFRASTRUCTURE PRESENT IN AFRICA'S CITIES AND LAYING CABLES IS PRACTICALLY IMPOSSIBLE.



K3 IS A "CABLE IN THE AIR"!



wireless technology for broadband data transfer over great distances



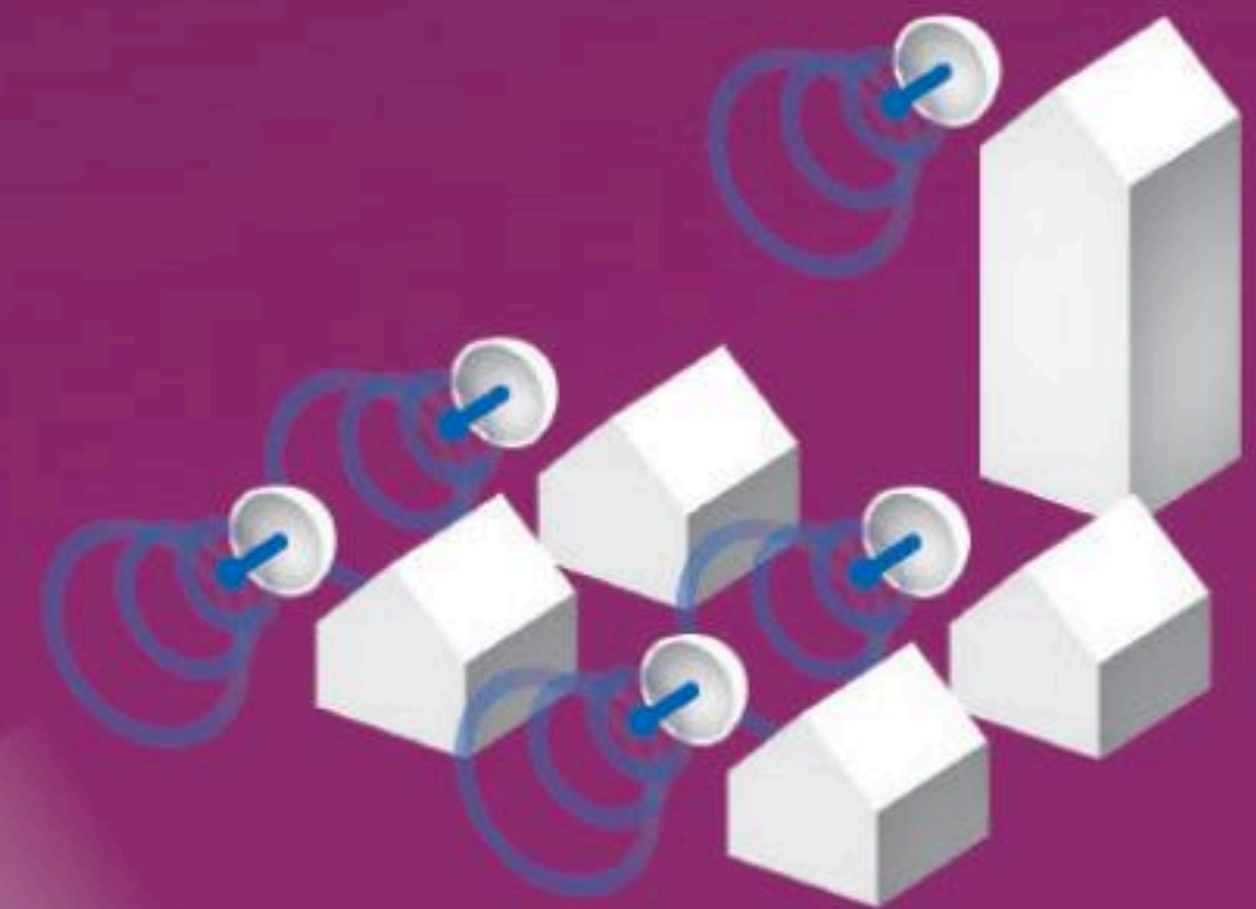


**Up to 17.112 Mbps**  
**per Base station delivered.**

**Up to 15.000** users/customers  
**per base station served.**

**Up to 1.000 Mbps**  
**per end user/customer.**

50 km  
or more



K3 Transceiver





# Sierra Leone

Success on the **hardest possible terrain and weather**

Freetown population 1 million

Works started in August 2018 (**6 months to market**)

First connected users in February 2019

Over 80 dedicated employees

1500 paying users with \$127 average revenue per use.

\$17 million current valuation

PROOF OF CONCEPT  
SIERRA LEONE

**Not only a concept.  
A working solution!**

K3 model proved to be  
**successful in Sierra Leone,**  
presented by the **fast**  
**growth in monthly revenue.**





EXPERIENCED TEAM OF 80+ EMPLOYEES IN SIERRA LEONE AND DEDICATED SUPPORT FROM EUROPE



Strong Sierra Leone management with successful telecom experience



Supported by Technology and Telecom professionals from Europe



Each person highly motivated and proud to be a part of K3





# K3 EXPANSIONS

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Bringing broadband to  
whole Africa!



An aerial photograph of a city with a large red arrow pointing towards the text. The text is overlaid on the image.

# \$97bn

**Africa's annual broadband REVENUE  
POTENTIAL with 12% market penetration**





in coordination with



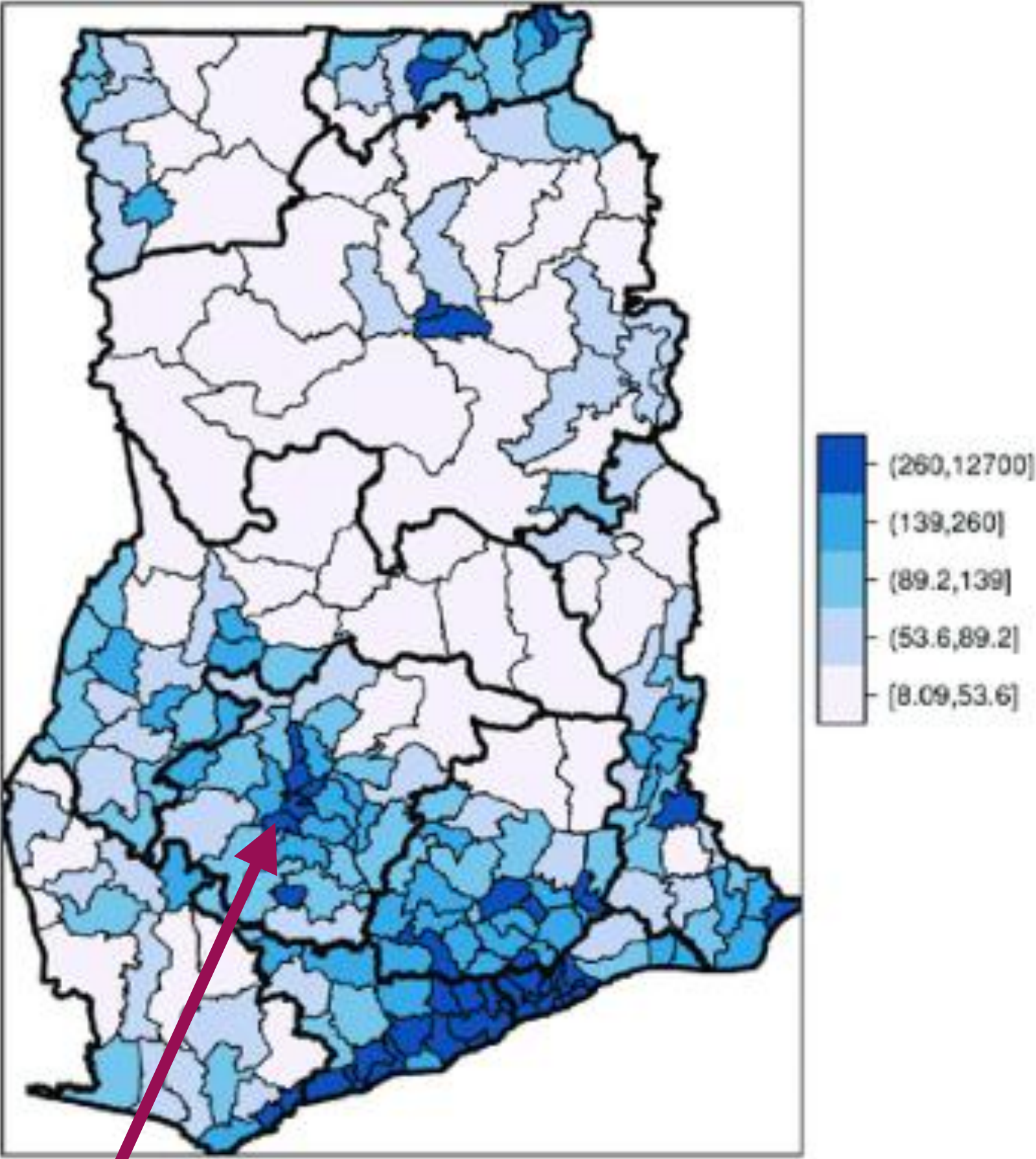
expansion to GHANA:



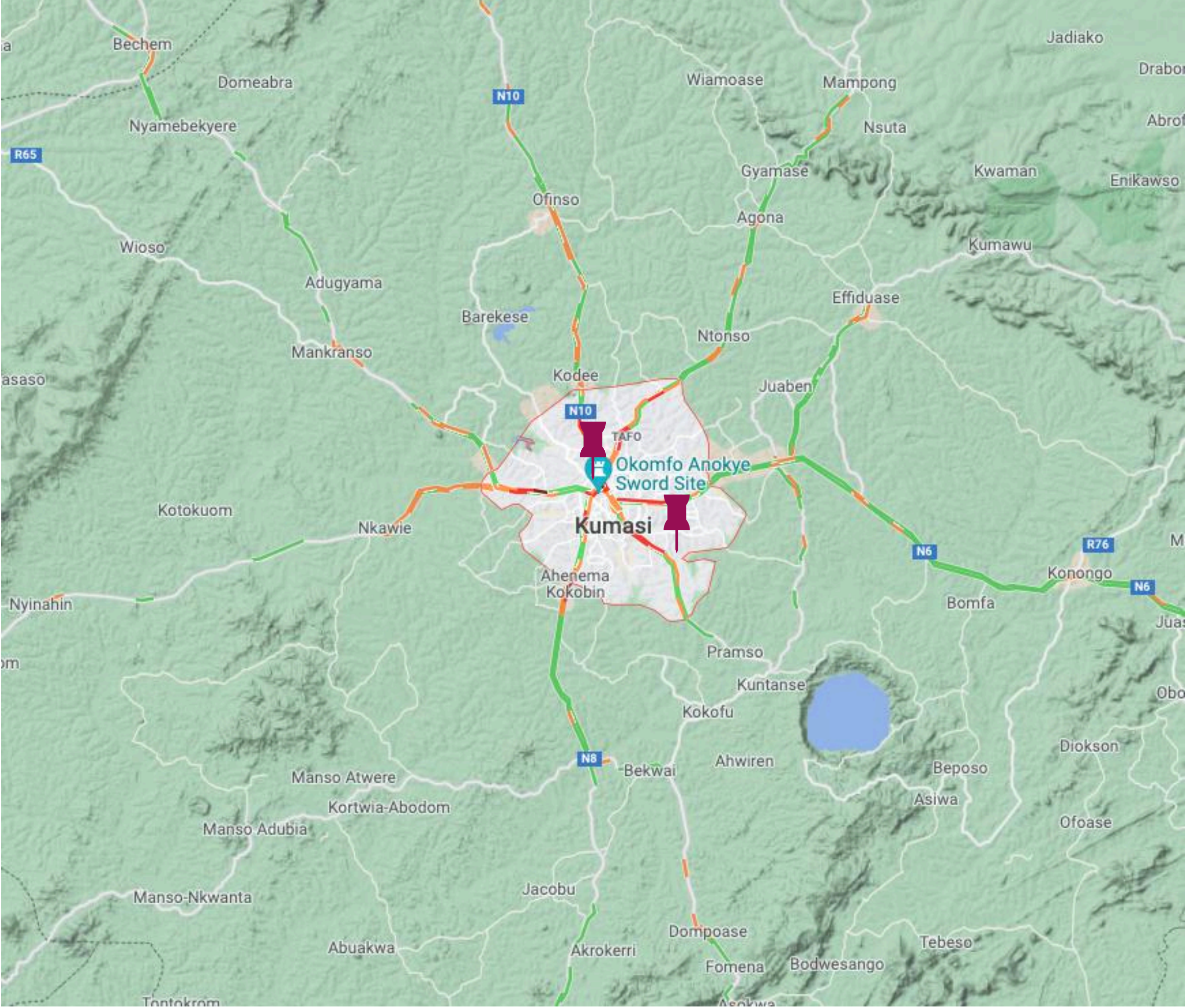
# K3 Ghana KUMASI

Terrain in Kumasi, around 3.500.000 Population

Population density of Ghana



**KUMASI**

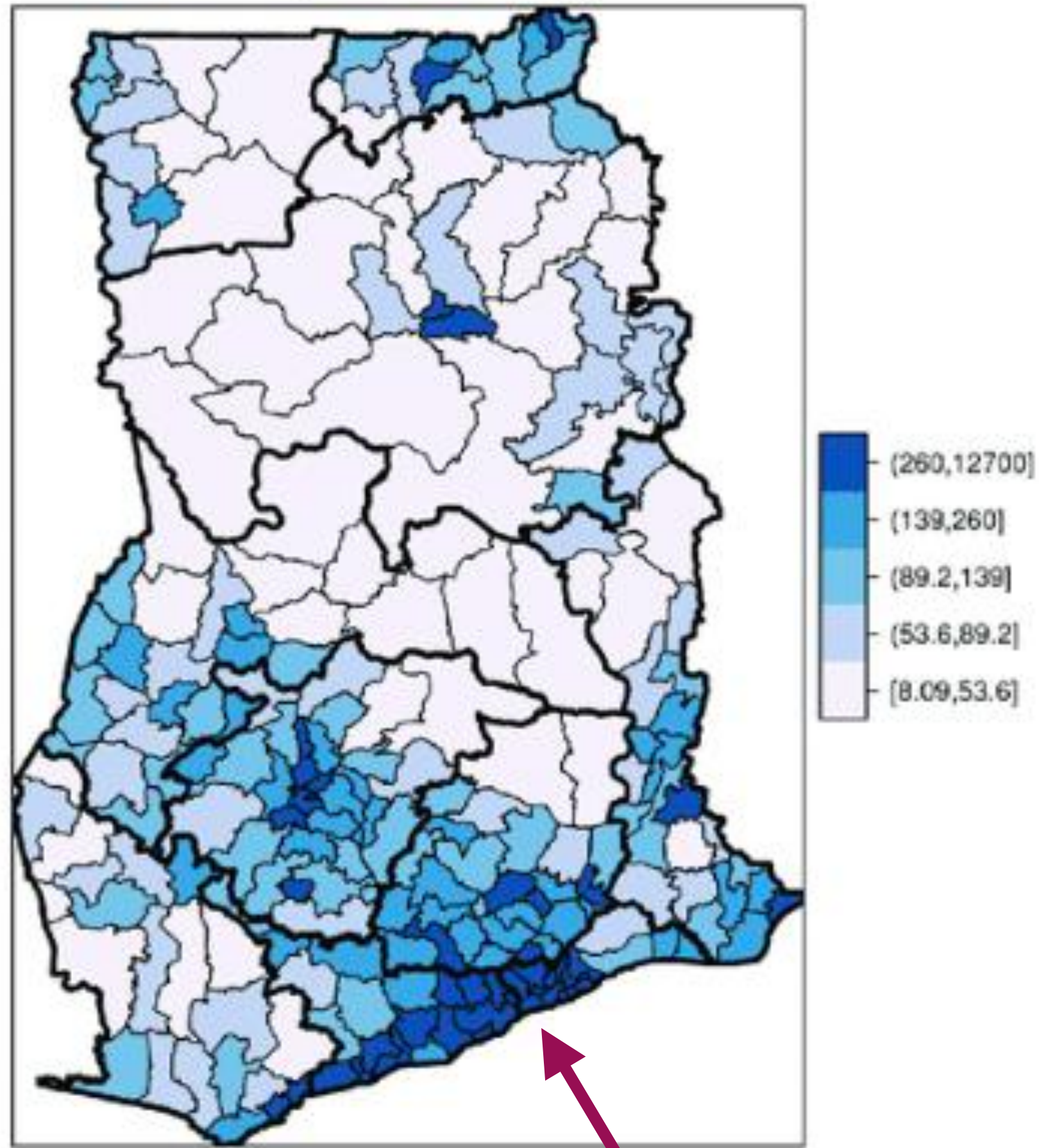


 Potential base station locations



# K3 Ghana ACCRA

Population density of Ghana



**ACCRA**

Terrain in Accra, around 4.000.000 Population

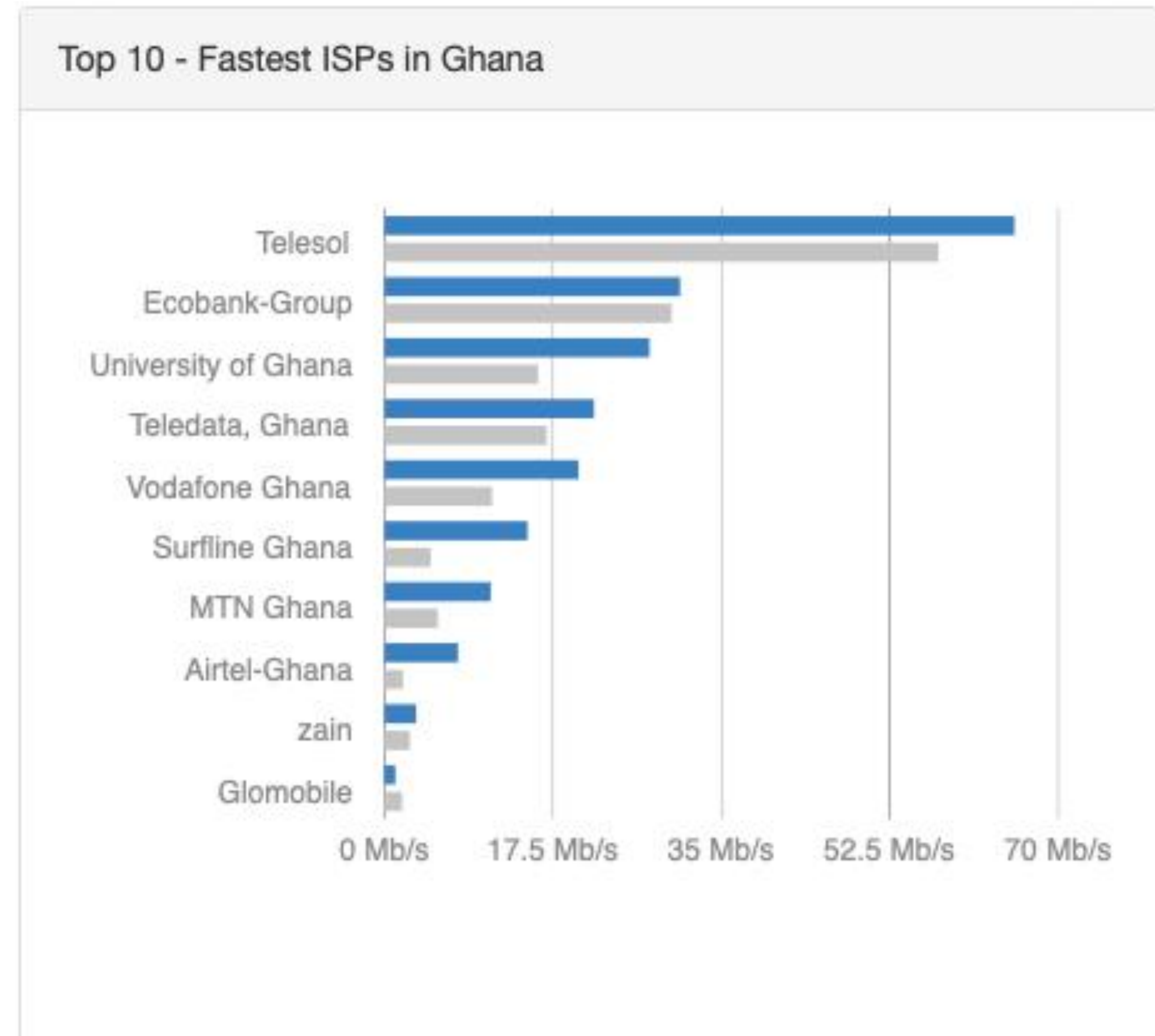


 Potential base station locations














# Internet Service Providers Mobile and Broadband

Browse by ISP we track coverage		
Provider Name	Download Speed	Number of Tests
Airtel-Ghana	7.64 Mb/s	28
Ecobank-Group	30.72 Mb/s	8
Glomobile	1.13 Mb/s	6
MTN Ghana	11.04 Mb/s	227
Surflin Ghana	14.86 Mb/s	82
Teledata, Ghana	21.77 Mb/s	21
Telesol	65.46 Mb/s	6
University of Ghana	27.53 Mb/s	6
Vodafone Ghana	20.16 Mb/s	428





# Broadband Internet Providers:

* ▲	Name ⇅	Download ⇅	Upload ⇅	Type ⇅	Price USD ⇅
	VSAT Satellite Broadband	100 Mbit/s	100 Mbit/s	Satellite & VSAT	\$price on request
	NSS -12/Arabsat 5C satellite Internet	0.5-10 Mbit/s	0.25-1 Mbit/s	Satellite & VSAT	\$335 to 25 206
	AfricaSat-1a C-BAND	0.5-5 Mbit/s	0.25-2 Mbit/s	Satellite & VSAT	\$403 to 15 552
	SES4 - Internet over Africa, Europe and Americas	0.5-2 Mbit/s	128-512 kbit/s	Satellite & VSAT	\$165 to 1 827,50
	T11N iDirect Evolution service for Africa	0.13-2 Mbit/s	0.06-1 Mbit/s	various	\$130 to 7 490
	Akwasi Asare	150 Mbit/s	50 Mbit/s	Business Internet	\$3 500
	Surflink 4GLTE	150 Mbit/s	50 Mbit/s	Business Internet	\$150
	TeleData ICT Broadband	9.77-29.3 Mbit/s	9.77-29.3 Mbit/s	Fiber to the home	\$31 to 111
	Limited packages	2-20 Mbit/s	2 Mbit/s	Satellite & VSAT	\$price on request
	Businesscomm's Dedicated Network	10 Mbit/s	10 Mbit/s	Satellite & VSAT	\$price on request
	Unlimited packages	0-4 Mbit/s	0.13-1 Mbit/s	Satellite & VSAT	\$price on request
	C-Band Packages	0.5-2 Mbit/s	128-512 kbit/s	Satellite & VSAT	\$120 to 4 800
	Ku-Band Packages Residential, Small Business, Large Business, Enterprise Business	0.5-2 Mbit/s	128-512 kbit/s	Satellite & VSAT	\$110 to 4 400
	One Way Broadband Internet Access	2 Mbit/s	64 kbit/s	Satellite & VSAT	\$130 to 250



## 2. Teledata ICT Limited

Teledata is one of the best Internet and Telephone service companies in Ghana with over 2,000 businesses as customers and 45,000 plus individual users.

Teledata was founded 16 years ago in 2004 to solve all data-related issues.

<b>NAME</b>	<b>SPEED</b>	<b>VOLUME</b>	<b>PRICE (1 Month)</b>	<b>Price (3 Months) Bulk Payment</b>	<b>Price (One Year) Bulk Payment</b>
<b>Internet Plus</b>	<b>10 Mb/s</b>	<b>Unlimited</b>	<b>219 Cedis</b>	<b>208 Cedis Per Month</b>	<b>175 Cedis Per Month</b>
<b>Internet Essential</b>	<b>12 MB/s</b>	<b>Unlimited</b>	<b>307 Cedis</b>	<b>292 Cedis Per month</b>	<b>246 Cedis Per month</b>
<b>Internet Preferred</b>	<b>15MB/s</b>	<b>Unlimited</b>	<b>395 Cedis</b>	<b>376 Cedis per month</b>	<b>316 Cedis per month</b>
<b>Internet Priority</b>	<b>20 MB/s</b>	<b>Unlimited</b>	<b>440 Cedis</b>	<b>418 Cedis per month</b>	<b>352 Cedis Per Month</b>
<b>Internet Premium</b>	<b>30 MB/s</b>	<b>Unlimited</b>	<b>771 Cedis</b>	<b>732 Cedis Per Month</b>	<b>617 Cedis Per Month</b>

1 CEDIS = 0.16 USD

35 \$

48 \$

62 \$

69 \$

121 \$



# TELEDATA Fiber Internet Coverage Map



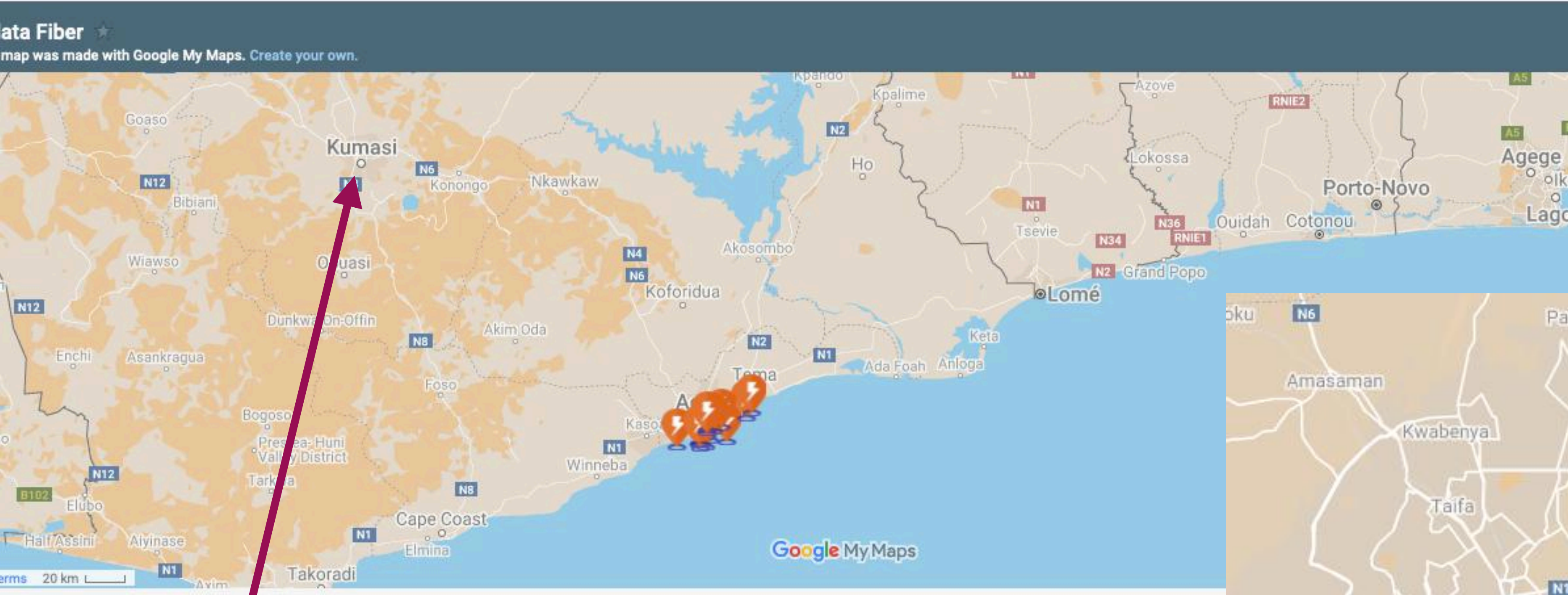
## Current Fiber Service Locations

If you're near one of these pins on the map, then there's a good chance you can get Fiber Internet. Contact us to confirm.

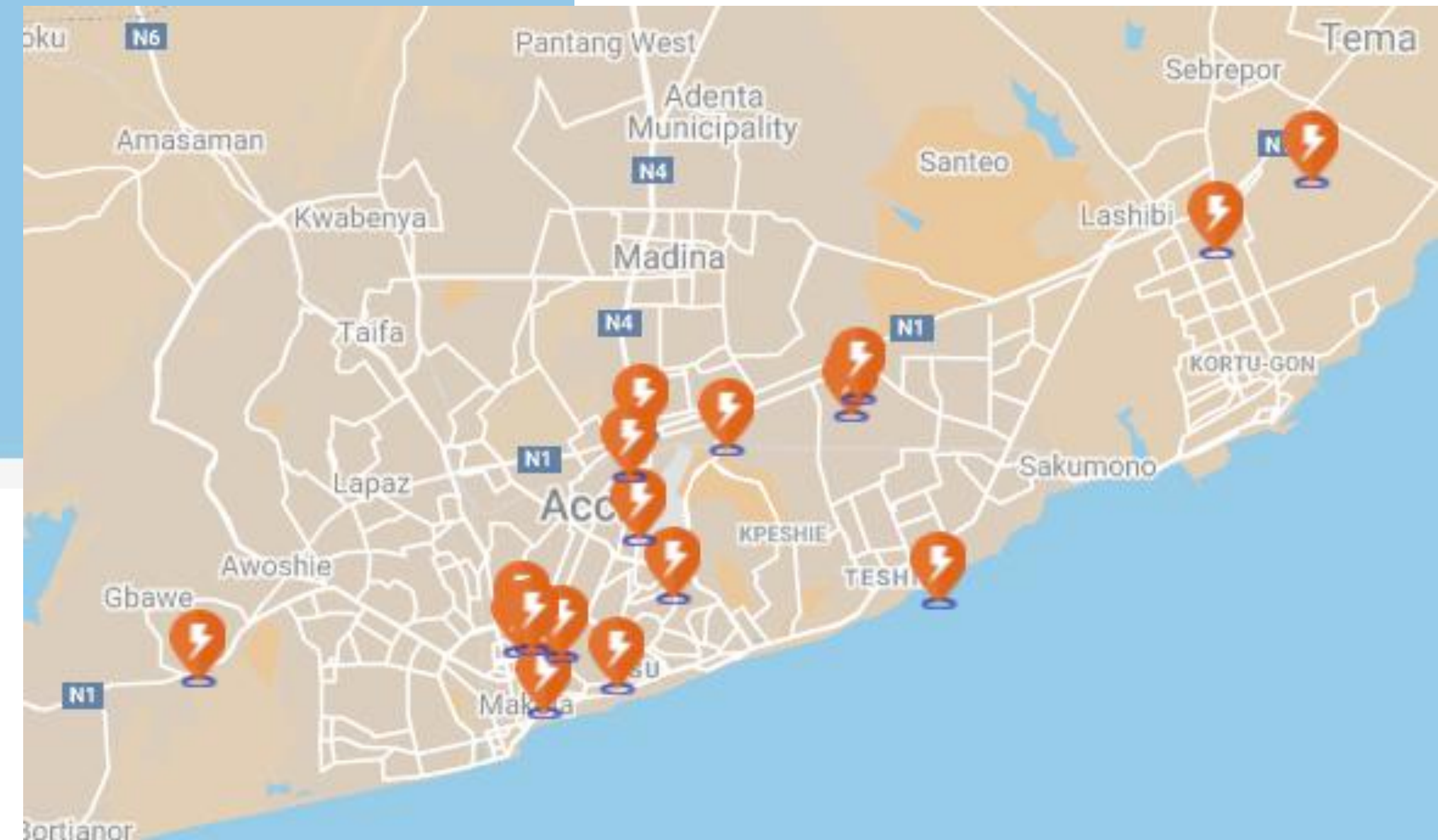


## Planned Fiber Service Locations

Fiber is coming! We're planning on opening a service location here shortly. Contact us to get on the early bird list.



Kumasi is not covered with TELEDATA Fiber





## Profit and Loss Statement

	Year 1	Year 2	Year 3	Year 4	Year 5
<b>Total Number Of Users by Period-End</b>	2,526	11,937	23,824	35,710	52,500
<b>Total Number Of Base Stations</b>	3	4	7	10	14
<b>Revenues</b>					
Service Revenue	850,217	9,109,868	24,255,623	39,946,189	59,771,821
Connection fee	277,906	1,035,142	1,307,547	1,307,547	1,961,337
<b>TOTAL REVENUES</b>	<b>1,128,123</b>	<b>10,145,009</b>	<b>25,563,170</b>	<b>41,253,736</b>	<b>61,733,158</b>
<b>Direct Cost of Sales</b>					
CPE Costs	728,120	1,503,000	2,004,000	2,004,000	2,004,000
Base Station Operational Costs	640,080	1,651,000	2,256,000	2,400,000	2,592,000
Internet Costs	107,054	752,096	960,096	960,096	960,096
OTT Solution	45,684	195,448	520,393	857,027	1,282,377
TMS System (BSS, billing, provisioning, ticketing, CRM)	79,481	237,928	562,873	899,507	1,324,857
TV Transcoding	23,660	40,560	40,560	40,560	40,560
Softswitching	15,610	26,760	26,760	26,760	26,760
TV Program Rights	-	-	-	-	-
<b>TOTAL DIRECT COSTS OF SALE</b>	<b>1,639,689</b>	<b>4,406,792</b>	<b>6,370,683</b>	<b>7,187,951</b>	<b>8,230,650</b>
<b>General &amp; Admin costs</b>					
Base Station Tower Rent	21,000	37,000	63,000	99,000	147,000
Electricity Costs	18,000	36,000	36,000	36,000	36,000
Employee Salaries	329,238	762,552	1,029,778	1,206,567	1,624,079
Backoffice Support & Network Maintenance Support	480,600	515,713	947,495	1,490,212	2,200,595
Travel Expenses	110,360	58,080	58,080	58,080	58,080
Frequency License Fee	300,000	300,000	300,000	300,000	300,000
Core Network Rent	180,000	180,000	180,000	180,000	180,000
Vehicle Costs	13,260	27,980	37,240	42,400	61,220
Office Costs	80,764	166,104	190,868	190,868	250,302
Marketing	356,000	180,000	180,000	180,000	180,000
Legal Costs	60,000	60,000	60,000	60,000	60,000
Other Costs	60,000	60,000	60,000	60,000	60,000
<b>TOTAL GENERAL AND ADMINISTRATION COSTS</b>	<b>2,009,222</b>	<b>2,383,428</b>	<b>3,142,461</b>	<b>3,903,127</b>	<b>5,157,276</b>
<b>EBITDA</b>	<b>(2,520,788)</b>	<b>3,354,789</b>	<b>16,050,027</b>	<b>30,162,658</b>	<b>48,345,232</b>
<b>Terminal value at 8x EBITDA multiple</b>					<b>386,761,855</b>
Interest					
Depreciation (5 years)	325,940	638,005	1,206,451	2,085,908	3,093,396
Corporate Tax	-	245,019	2,968,715	2,968,715	9,050,367
<b>Net Income</b>	<b>(2,846,728)</b>	<b>2,471,765</b>	<b>11,874,860</b>	<b>25,108,034</b>	<b>36,201,468</b>

## Statement of Cash Flows

	Year 1	Year 2	Year 3	Year 4	Year 5
Beginning cash	-	1,032,611	2,498,201	11,445,813	32,368,261
Cash flows from Operations	(4,967,389)	1,465,590	8,947,611	20,922,448	32,841,145
Cash flows from Investing	6,000,000	-	-	-	-
<b>Ending Cash Balance</b>	<b>1,032,611</b>	<b>2,498,201</b>	<b>11,445,813</b>	<b>32,368,261</b>	<b>65,209,405</b>

## PROJECT IRR 147%

INVESTMENT	FCF 1	FCF 2	FCF 3	FCF 4	FCF 5 + Ter. Value
(6,000,000)	-	1,465,590	8,947,611	20,922,448	419,602,999



## Profit and Loss Statement

	Year 1	Year 2	Year 3	Year 4	Year 5
<b>Total Number Of Users by Period-End</b>	3,588	17,031	34,012	50,993	75,000
<b>Total Number Of Base Stations</b>	3	5	9	14	19
<b>Revenues</b>					
Service Revenue	1,200,453	12,985,811	34,622,604	57,037,698	85,362,387
Connection fee	394,651	1,478,774	1,867,925	1,867,925	2,801,926
<b>TOTAL REVENUES</b>	<b>1,595,104</b>	<b>14,464,585</b>	<b>36,490,528</b>	<b>58,905,623</b>	<b>88,164,313</b>
<b>Direct Cost of Sales</b>					
CPE Costs	925,180	1,670,000	2,004,000	2,004,000	2,004,000
Base Station Operational Costs	807,080	1,842,000	2,360,000	2,564,000	2,820,000
Internet Costs	132,052	880,096	960,096	960,096	960,096
OTT Solution	50,954	278,605	742,812	1,223,718	1,831,411
TMS System (BSS, billing, provisioning, ticketing, CRM)	86,995	321,085	785,292	1,266,198	1,873,891
TV Transcoding	23,660	40,560	40,560	40,560	40,560
Softswitching	15,610	26,760	26,760	26,760	26,760
TV Program Rights	-	-	-	-	-
<b>TOTAL DIRECT COSTS OF SALE</b>	<b>2,041,531</b>	<b>5,059,105</b>	<b>6,919,520</b>	<b>8,085,332</b>	<b>9,556,718</b>
<b>General &amp; Admin costs</b>					
Base Station Tower Rent	21,000	43,000	89,000	140,000	204,000
Electricity Costs	18,000	36,000	36,000	36,000	36,000
Employee Salaries	376,873	968,164	1,351,058	1,603,615	2,203,760
Backoffice Support & Network Maintenance Support	480,600	616,142	1,327,316	2,101,769	3,107,529
Travel Expenses	110,360	58,080	58,080	58,080	58,080
Frequency License Fee	300,000	300,000	300,000	300,000	300,000
Core Network Rent	180,000	180,000	180,000	180,000	180,000
Vehicle Costs	15,260	36,320	49,620	56,940	78,600
Office Costs	91,377	206,434	241,811	241,811	326,717
Marketing	356,000	180,000	180,000	180,000	180,000
Legal Costs	60,000	60,000	60,000	60,000	60,000
Other Costs	60,000	60,000	60,000	60,000	60,000
<b>TOTAL GENERAL AND ADMINISTRATION COSTS</b>	<b>2,069,471</b>	<b>2,744,140</b>	<b>3,932,885</b>	<b>5,018,215</b>	<b>6,794,686</b>
<b>EBITDA</b>	<b>(2,515,898)</b>	<b>6,661,340</b>	<b>25,638,123</b>	<b>45,802,076</b>	<b>71,812,908</b>
<b>Terminal value at 8x EBITDA multiple</b>					<b>574,503,267</b>
Interest					
Depreciation (5 years)	387,754	1,248,254	2,965,043	5,101,098	7,734,121
Corporate Tax	-	719,439	4,534,616	4,534,616	12,815,758
<b>Net Income</b>	<b>(2,903,651)</b>	<b>4,693,646</b>	<b>18,138,464</b>	<b>36,166,362</b>	<b>51,263,030</b>

## Statement of Cash Flows

	Year 1	Year 2	Year 3	Year 4	Year 5
Beginning cash	-	754,502	425,202	11,398,989	38,601,330
Cash flows from Operations	(5,745,498)	(329,300)	10,973,787	27,202,340	43,409,571
Cash flows from Investing	6,500,000	-	-	-	-
<b>Ending Cash Balance</b>	<b>754,502</b>	<b>425,202</b>	<b>11,398,989</b>	<b>38,601,330</b>	<b>82,010,900</b>

## PROJECT IRR 161%

INVESTMENT	FCF 1	FCF 2	FCF 3	FCF 4	FCF 5 + Ter. Value
(6,500,000)	754,502	(329,300)	10,973,787	27,202,340	617,912,838



# Yearly Financial Summary

## Profit and Loss Statement

	Year 1	Year 2	Year 3	Year 4	Year 5
<b>Total Number Of Users by Period-End</b>	7,170	34,225	68,399	102,574	150,938
<b>Total Number Of Base Stations</b>	6	10	18	27	38
<b>Revenues</b>					
Service Revenue	2,382,499	26,067,120	69,611,165	114,721,542	171,730,547
Connection fee	788,666	2,976,032	3,759,198	3,759,198	5,638,817
<b>TOTAL REVENUES</b>	<b>3,171,165</b>	<b>29,043,152</b>	<b>73,370,363</b>	<b>118,480,741</b>	<b>177,369,365</b>
<b>Direct Cost of Sales</b>					
CPE Costs	1,289,240	2,004,000	2,004,000	2,004,000	2,004,000
Base Station Operational Costs	1,280,160	2,340,000	2,692,000	3,104,000	3,632,000
Internet Costs	238,050	960,096	960,096	960,096	960,096
OTT Solution	73,715	559,258	1,493,476	2,461,299	3,684,401
TMS System (BSS, billing, provisioning, ticketing, CRM)	112,355	601,738	1,535,956	2,503,779	3,726,881
TV Transcoding	23,660	40,560	40,560	40,560	40,560
Softswitching	15,610	26,760	26,760	26,760	26,760
TV Program Rights	-	-	-	-	-
<b>TOTAL DIRECT COSTS OF SALE</b>	<b>3,032,790</b>	<b>6,532,412</b>	<b>8,752,848</b>	<b>11,100,493</b>	<b>14,074,698</b>
<b>General &amp; Admin costs</b>					
Base Station Tower Rent	42,000	84,000	172,000	275,000	407,000
Electricity Costs	18,000	36,000	36,000	36,000	36,000
Employee Salaries	542,214	1,667,855	2,438,379	2,946,650	4,151,103
Backoffice Support & Network Maintenance Support	552,600	1,093,895	2,599,711	4,159,022	6,189,681
Travel Expenses	110,360	58,080	58,080	58,080	58,080
Frequency License Fee	300,000	300,000	300,000	300,000	300,000
Core Network Rent	180,000	180,000	180,000	180,000	180,000
Vehicle Costs	21,960	64,540	91,320	106,080	148,260
Office Costs	163,197	390,548	461,745	461,745	632,618
Marketing	635,000	562,500	562,500	540,000	486,000
Legal Costs	60,000	60,000	60,000	60,000	60,000
Other Costs	60,000	60,000	60,000	60,000	60,000
<b>TOTAL GENERAL AND ADMINISTRATION COSTS</b>	<b>2,685,331</b>	<b>4,557,418</b>	<b>7,019,735</b>	<b>9,182,577</b>	<b>12,708,742</b>
<b>EBITDA</b>	<b>(2,546,956)</b>	<b>17,953,322</b>	<b>57,597,781</b>	<b>98,197,670</b>	<b>150,585,925</b>
<b>Terminal value at 8x EBITDA multiple</b>					<b>1,204,687,398</b>
Interest					
Depreciation (5 years)	628,778	1,604,824	3,417,821	5,487,414	7,749,575
Corporate Tax	-	2,948,552	10,835,992	10,835,992	28,567,270
<b>Net Income</b>	<b>(3,175,734)</b>	<b>13,399,946</b>	<b>43,343,968</b>	<b>81,874,264</b>	<b>114,269,079</b>

## KUMASI & ACCRA

- 7.5 M Investment
- 6 Month go to market
- 150.000 connected clients after 5 years
- 1.2 B Evaluation after 5 years

## Statement of Cash Flows

	Year 1	Year 2	Year 3	Year 4	Year 5
Beginning cash	-	(79,882)	8,482,169	44,879,877	114,712,596
Cash flows from Operations	(7,579,882)	8,562,050	36,397,709	69,832,719	110,519,075
Cash flows from Investing	7,500,000	-	-	-	-
<b>Ending Cash Balance</b>	<b>(79,882)</b>	<b>8,482,169</b>	<b>44,879,877</b>	<b>114,712,596</b>	<b>225,231,671</b>

## PROJECT IRR 210%

INVESTMENT	FCF 1	FCF 2	FCF 3	FCF 4	FCF 5 + Ter. Value
(7,500,000)	-	8,562,050	36,397,709	69,832,719	1,315,206,473