# 2013 YEAR END SUBSCRIBER/ NETWORK DATA REPORT FOR TELECOMMUNICATIONS OPERATING COMPANIES IN NIGERIA



POLICY COMPETION AND ECONOMIC ANALYSIS DEPARTMENT

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#### **COMMITMENTS**

The Nigerian Communications Commission (NCC) is committed to creating a world-class telecommunications environment for ALL in Nigeria. The Commission is driven by the three guiding principles (the 3Fs) to be fair, firm and forthright in carrying out its duties and functions as the National Telecommunications Regulator. NCC has adopted the following Vision and Mission to guide its work:

#### Vision

To be a responsive, world class communications regulatory organization.

## Mission

To support a market driven telecommunications industry and promote universal access.

## **CORE VALUES**

Professionalism and Ethical Conduct

Transparency and Integrity

Fairness and Equity

Discipline

**Effective Communications** 

**Exemplary Leadership** 

Consultation and Consensus Building

# **CREDO**

Our goal is to ensure the availability of high quality and affordable communications services to everyone and everywhere in Nigeria.

We shall strive to be fair, firm and forthright in carrying out our mandate with commitment to protect the interests of stakeholders.

We commit to provide a level playing field in the industry with integrity and transparency.

We shall work as a team with a Management that is accountable and responsive, a workforce that is hard working, loyal and committed, all bound by professionalism.

We shall be sensitive to the yearnings of our employees for whom we shall provide conducive work environment for the attainment of job satisfaction and self-actualization.

We shall treat our employees with respect and dignity; recognize and reward merit.

# OBJECTIVES OF THE NIGERIAN COMMUNICATIONS ACT (NCA 2003)

- To promote the implementation of the national communications or telecommunications policy as may from time to time be modified and amended.
- To establish a regulatory framework for the Nigerian telecommunications industry and for this purpose to create effective, impartial and independent regulatory authority.
- To promote the provision of modern, universal, efficient, reliable, affordable and easily accessible communications services and the widest range thereof throughout Nigeria.
- To encourage local and foreign investments in the Nigerian communications industry and the introduction of innovative services and practices in the industry in accordance with international best practices and trends.
- To ensure fair competition in all sectors of the Nigerian communications industry and also encourage participation of Nigerians in the ownership, control and management of communications companies and organizations.
- To encourage the development of a communications manufacturing and supply sector within the Nigerian economy and also encourage effective research and development efforts by all communications industry practitioners.
- To protect the rights and interest of service providers and consumers within Nigeria.
- To ensure that the needs of the disabled and elderly persons are taken into considerations in the provision of communications services and
- To ensure an efficient management including planning, coordination, allocation, assignment, registration, monitoring and use of scarce national resources in the communications sub-sector, including but not limited to frequency spectrum, numbers and electronic addresses, and also promote and safeguard national interest, safety and security in the use of the said scarce national resources.

#### 1. TELECOMS INDUSTRY REVIEW

## **HIGHLIGHTS OF INDUSTRY PERFORMANCE 2012 and 2013**

## 1.1 Growth in Subscriber Lines and Teledensity

The telecommunications sector in Nigeria has experienced major structural changes and growth since 2000 that has positively impacted the business, economic and social lives of Nigerians. Before 2001 and the advent of digital mobile telephony, telecommunication services were expensive to acquire, difficult to obtain and very expensive to use. Also, the total connected active lines in Nigeria before full liberalisation were just a little above 400,000 making the country one of the lowest in terms of teledensity (0.4) in the world. As at the end of December 2013, just about thirteen years after full liberalisation, Nigeria now has over 127.6 million lines with a teledensity of over 91.15 and is currently ranked as the leading telecommunications country in Africa ahead of South Africa in terms of subscriber base.

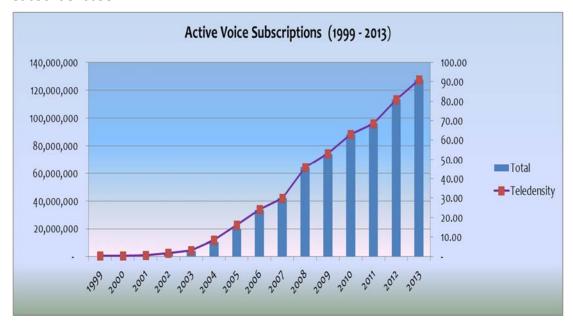


Figure 1. shows the sector evolution up to December 2013.

Also, this significant growth as evidenced by the growth in the number of telecom subscribers as well as infrastructural development to mention a few.

- ❖ The Nigerian telecoms industry in August, 2011 celebrated a decade of telecom revolution and more significantly the introduction of Global System of Mobile Communications (GSM) in August, 2001.
- ❖ Prior to the liberalization of the Nigerian Telecom industry, there were just 400,000 lines with a teledensity of 0.4; In December 2012 total active subscriptions witnessed a significant improvement, it increased to 113,195,951 with teledensity at 80.85.
- ❖ The Commission has recorded significant increased telecom subscribers in the years 2012 − 2013. This achievement has increased the total active subscriptions to

- As at December 2013 total active subscriptions stood at 127,606,629 with teledensity at 91.15.
- ❖ Total Active Internet subscriptions has also increased to 64,417,110 as at December, 2013 with the wireless broadband (3G) connections of 17,531,781 as at December 2013.
- ❖ Following the launch of Mobile Number Portability (MNP) service by the Commission in April 2013, the cumulative total number of ported lines (both incoming and outgoing) as at December, 2013 was 157,432.
- ❖ Installed capacity as at December 2013 was 248,353,725 while total connected lines stood at 169,676,545. The total number of Base Transceiver Stations (BTS) sites increased to about 30,000 for both the GSM and CDMA telecoms Operators.
- ❖ The Nigerian telecom industry is primarily driven by the Mobile (GSM) market segment as this segment accounts for 97.83% of the entire telecoms market while the Mobile (CDMA) and Fixed/ Fixed Wireless segments account for about 1.88% and 0.29% respectively.
- This has shown an increased telecoms penetration throughout the country that is better, well connected with wider coverage despite the challenges of quality of service provided by the telecoms operators.

Following the conclusion and analysis of the annual collections and collation of the 2013 Year End Telecoms Subscribers and Network Data from the responses of the telecoms operating companies in Nigeria to the questionnaires administered, the detailed data and graphical representations of the summary reports of the submissions by the companies: please find below a report on the data collated, the reviews of the submissions of the telecoms operating companies and their comments as at 2013 Year End.

## Section 1.

**a.** <u>Total Number of Active Voice Subscriptions</u>: As at December, 2013 total active voice subscriptions were 127,606,629 while Teledensity was 91.15. This indicates that there was a 13% increase from 2012 when total active voice subscriptions was 113,195,951 and Teledensity was 80.85.

This growth in active voice subscriptions was primarily driven by the growth in the Mobile (GSM) market segment. While the Mobile (GSM) market segment accounted for 97.83% of the entire market, the Mobile (CDMA) and Fixed Wired/ Wireless segments merely accounted for 1.88% and 0.29% respectively of the entire market as at December, 2013.

Table 1:Total Active Voice Subscriptions (2009-2013)						
	2009 2010 2011 2012 2013					
Total Active Subscriptions	74,518,264	88,348,026	95,886,714	113,195,951	127,606,629	
Teledensity	53.23	63.11	68.49	80.85	91.15	

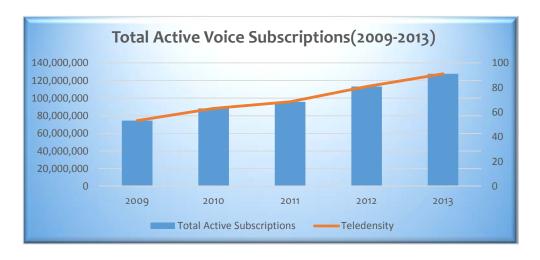


Figure 2: Subscriber Data- Active Voice Subscriptions & Teledensity (2009 - 2013)

# b. Market Share of Mobile GSM Operators

As at December, 2013 the total number of active voice subscriptions for all market segments was 127,606,629 while Teledensity was 91.15. The Mobile GSM Operators recorded a total of 124,841,315 active voice subscriptions indicating that it accounted for 97.83% of the entire market. A further break down shows that MTN; GLO; AIRTEL & EMTS respectively had 56,766,085; 25,933,867; 24,847,567; & 17,035,276 active voice subscriptions thereby indicating that MTN; GLO; AIRTEL & EMTS each had 45%; 21%; 20% &14% share of the Mobile GSM market. The Mobile CDMA and the Fixed Wired/ Wireless market segments each accounted for 1.88% and 0.29% share of the entire market.



Figure 3: Percentage of Market Share of Mobile GSM Operators as at December, 2013

TABLE 2: MARKET SHARE OF MOBILE GSM OPERATORS 2013						
MTN GLO AIRTEL EMTS MTEL						
56,766,085	25,933,867	24,847,567	17,035,276	258,520		
45%	21%	20%	14%	0%		

TABLE 3: PERCENTAGE OF MARKET SHARE OF SERVICE DEPLOYMENT BY TECHNOLOGY 2013			
MOBILE(GSM)	MOBILE(CDMA)	FIXED WIRED/ WIRELESS	
97.83%	1.88%	0.29%	

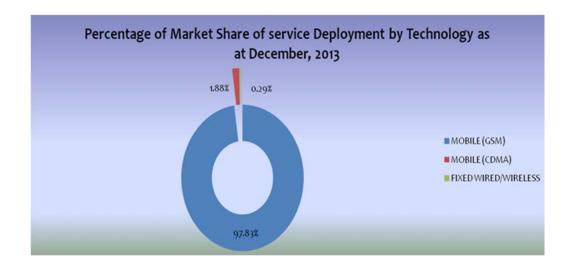


Figure 4: Percentage of Market Share of service deployment by technology as at December, 2013

c. Total Number of Active Internet Subscriptions: As at December 2013, the total active internet subscription for all market segments was 64,417,110. The four (4) Mobile GSM operators recorded 64,229,097 active internet subscriptions indicating that the Mobile GSM operators accounted for 99.71% of total active Internet service subscriptions. The Fixed Wired/Wireless market segment only accounted for 0.29% of total active internet subscriptions.

BLE 4: TOTAL ACTIVE INTERNET SUBSCRIPTIONS DEC 2012 - DEC 2013				
DEC - 12	31,143,861			
JAN - 13	32,223,569			
FEB - 13	32,527,348			
MAR - 13	34,637,158			
APR - 13	35,081,005			
MAY - 13	38,278,971			
JUN - 13	48,344,280			
JUL - 13	50,593,576			
AUG - 13	52,767,667			
SEPT - 13	56,261,344			
OCT - 13	57,840,299			
NOV - 13	59,894,564			
DEC - 13	64,417,110			

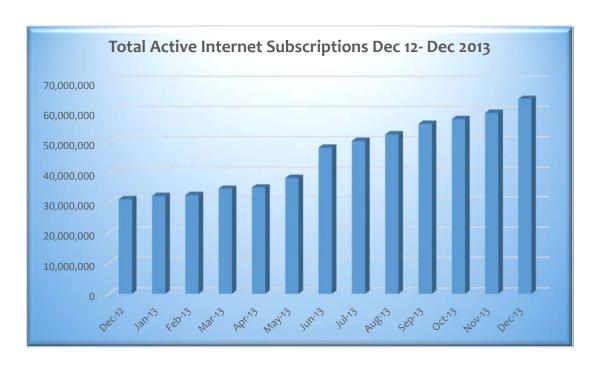


Figure 5: Total Active Internet Subscriptions Dec 2012 - Dec 2013

**d.** <u>Total Numbers Ported- Incoming and Outgoing:</u> The cumulative total number of ported lines (both incoming and outgoing) as at December, 2013 was 157,432. A breakdown reveals that 84,777 lines were ported from other networks (incoming) while 72,655 lines were ported to other networks (outgoing).

TABLE 5:TOTAL NUMBERS PORTED DECEMBER 2013					
	Incoming	Outgoing			
MTN	4,908	29,452	34,360		
GLO	9,830	10,139	19,969		
AIRTEL	46,457	26,019	72,476		
EMTS	23,582	7,040	30,622		
TOTAL PORTING ACTIVITIES THROUGH ALL NETWORKS	84,777	72,650	157,427		

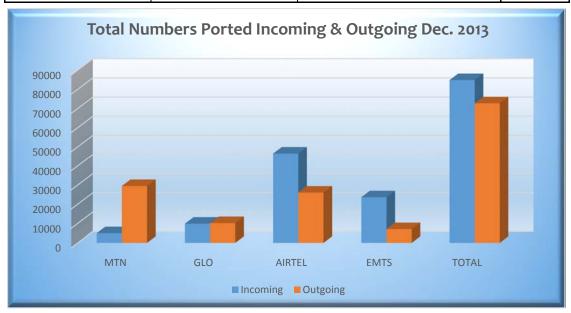


Figure 6: Total Number Ported Incoming & Outgoing as at Dec 2013

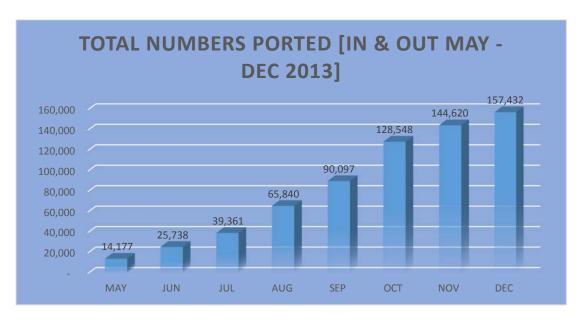


Figure 7: Trend of Total Number Ported Incoming & Outgoing from May - Dec 2013

## SECTION 2.

# Infrastructure Deployment.

# A. Base Transceiver Stations (BTS) Sites:

As at December 2013, the installed capacities for (MTN, GLO, AIRTEL and EMTS) were 80,000,000; 39,396,740; 58,000,000 and 40,000,000 respectively. Active voice subscriptions increased from the year 2012, active voice subscriptions increased to 56,766,085; 25,933,867; 24,847,567; and 17,035,276 for MTN, Glo, Airtel and EMTS respectively.

MTN, GLO, Airtel and EMTS had 11,551; 6,305; 5,997 and 4,436 base stations. Mobile [GSM] operators owned a total of **28,289** base stations which is an increase from **23,105** base stations recorded by Mobile [GSM] in December, 2012 thereby indicating an increase of **22.44**%.

**Table 6: Installed Capacities, Active Voice Subscriptions & Number of Base Stations (GSM)** 

2012	MTN	GLO	AIRTEL	EMTS
Installed	72,000,000	37,150,107	41,790,000	30,000,000
Capacity				
Active Voice	47,440,991	24,124,716	23,092,195	14,912,801
Subscriptions				
No. of Base	8,467	5,836	3,660	5,142
Stations				
2013	MTN	GLO	AIRTEL	EMTS
Installed	80,000,000	39,396,740	58,000,000	40,000,000
Capacity				
Active Voice	56,766,085	25,933,867	24,847,567	17,035,276
Subscriptions				
No. of Base	11,551	6,305	5,997	4,436
Stations				

<sup>\*</sup>These figures submitted are as at December 31st of each year (2012 & 2013)

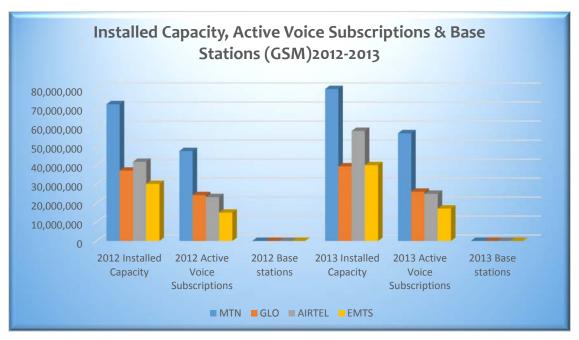


Figure 8: Installed Capacity, Active Voice Subscriptions & Base Stations (GSM) 2012 - 2013

As at December 2013 the installed capacities for Visafone and Multilinks were 6,700,000 and 5,100,000. Visafone and Multilinks had steady installed capacities through 2012 and 2013 experienced a constant decline in active voice subscriptions. Active Voice subscriptions for Visafone and Multilinks were 2,101,520 & 66,444 as at December 2013. As at December 2013, Visafone and Multilinks recorded a total of 641 base stations and when compared with the year 2012, this shows a decline for the Mobile CDMA segment when Starcomms was in operation and the Mobile CDMA reported a total of 1,622 base stations.

Table 7: Installed Capacities, Active Voice Subscriptions & Number of Base Stations (CDMA)

2012	VISAFONE	STARCOMMS	MULTILINKS
Installed	6,700,000	6,720,000	5,100,000
Capacity			
Active Voice	2,294,426	417,762	308,635
Subscriptions			
No. of Base	606	743	275
Stations			
2013	VISAFONE	MULTILINKS	
2013 Installed	<b>VISAFONE</b> 6,700,000	<b>MULTILINKS</b> 5,100,000	
Installed			
Installed Capacity	6,700,000	5,100,000	
Installed Capacity Active Voice	6,700,000	5,100,000	

<sup>\*</sup>These figures submitted are as at December 31st of each year (2012, & 2013)

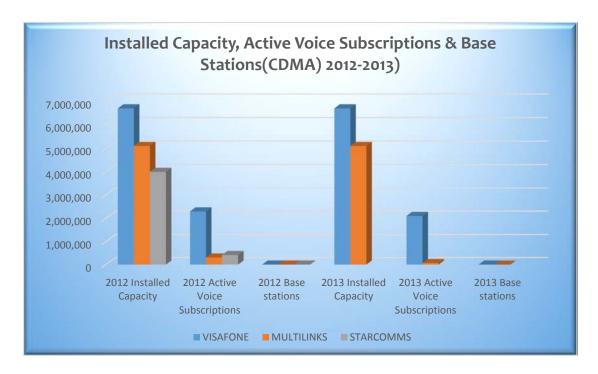


Figure 9: Installed Capacity, Active Voice Subscriptions & Base Stations (CDMA) 2012-2013.

## **Conclusions:**

In general comparison of the trends for installed capacities, active subscriptions & base stations from 2012-2013 showed that the Mobile GSM operators had a steady pattern of growth. Also, there was an increase of number of the base stations deployed by the various operators. While the Mobile CDMA segment had a decline in active voice subscriptions and number of base stations which is also as a result of Starcomms non-operational status and the closure of several base stations by Multilinks during the year.

ISP'S including IS Internet Solutions Limited, Ngcom Limited, Swifttalk Limited, Vodacom Business Africa Nigeria Limited, Entouche Networks Nigeria Limited, and Layer 3 Limited had a total number of 29 Points of Presences (POPs) with several base stations in Nigeria as at December, 2013.

Phase3 Telecom, Vodacom Business Africa (Nig), Backbone Connectivity Network (Nig), Interconnect Clearing House (Nig), Tycil Telecom, IHS Nigeria, Breeze Micro Limited, Niconnx Communications Limited and Cyberspace Limited had a total number of 126 coverage locations in Nigeria. As at December, 2013, Phase3 Telecom, Vodacom Business Africa (Nig), Backbone Connectivity Network (Nig), Interconnect Clearing House (Nig), Tycil Telecom, IHS Nigeria, Breeze Micro Limited, Niconnx Communications Limited and Cyberspace Limited had a total number of 11, 32, 1, 3, 37, 37, 2, 1 & 2 coverage locations respectively across the 36 states of the federation including the Federal Capital Territory.

IHS Nigeria PLC reported a total of **1,481 BTS** Collocation Sites in 2013 which is an increase from **981** BTS Collocation Sites in 2012, indicating an addition of **500** new sites or a 51% increase in 2013.

# B. Fibre Optics Deployment in Kilimeters:

**Fibre Optics:** As at December, 2013, the telecoms operating companies (GSM and CDMA/Fixed telephony Operators) had deployed a combined total of **68,124km** of Fibre optics. This is an increase from **56,505**km deployed as at December, 2012.

TABLE 8: FIBRE OPTICS- LAND & SUBMARINE (In km)				
	2012		2013	
	On-			
	land	Submarine	On-land	Submarine
MTN	10,450	-	18,142	-
GLO	16,244	19,200	18,569	19,200
AIRTEL	4,632	10	6,109	23
EMTS	137	_	249	_
LIVIIS	1)/		243	
MULTILINKS	5,789	N/A	5,789	N/A
VISAFONE	43	0	43	0
TOTAL	37,295	19,210	48,901	19,223

A further analysis of the fibre optics data showed that of the **68,124 km** deployed as at December, 2013, **48,901 km** was on-land while **19,223**km was submarine. GLO had the largest on-land and submarine with **18,569 km & 19,200km** respectively. MTN had submarine of 18,142km, Multilinks had deployed **5,789km** of on-land Fibre Optics, Visafone deployed **43km**.

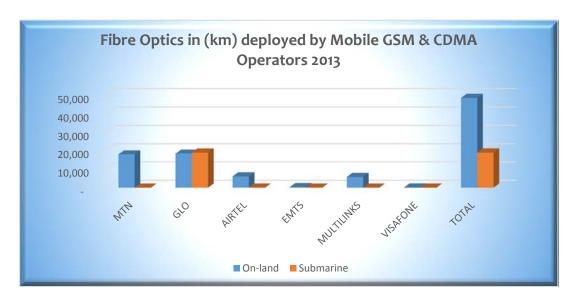


Figure 10: Fibre Optics deployed by Mobile GSM &CDMA Operators in 2013

Fibre optics for other category of operators; Backbone had a total of 150km which was an increase from 120km reported in 2012. Similarly, Cyberspace has a total of 50km as at December, 2013 which was an increase from 30km stated in 2013 and Niconnx had a total of 13.121km which was an increase from 10.7km reported in 2012. On the other hand, Breeze Micro reported a total of 30km as at December 2013 as the company started operation in 2012.

## C. Microwave Radio:

As at December, 2013 the Mobile GSM&CDMA operators had deployed total microwave radio links of 134,718 km thus indicating an increase of 21,767km from 112,951km reported for 2012.

TABLE 9: MICROWAVE RADIO (In km)				
Operator	2012	2013		
MTN	11,553	11,500		
GLO	65,256	75,044		
AIRTEL	11,869	13,174		
EMTS	21,675	32,780		
VISAFONE	2,400	2,000		
21st CENTURY	198	220		
TOTAL	112,951	134,718		

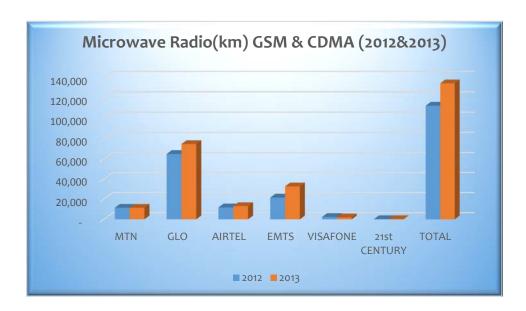


Figure 11: Microwave Radio (km) GSM & CDMA 2013

# D. Number of Gateways in Use:

A total of **80** Gateways were in use by Mobile GSM and CDMA operators in 2013 compared to 73 in use in 2012.

TABLE 10 : NUMBER OF GATEWAYS IN USE				
Operator	2012	2013		
MTN	21	22		
GLO	3	3		
AIRTEL	16	16		
EMTS	27	33		
VISAFONE	4	4		
21st CENTURY	2	2		
TOTAL	73	80		

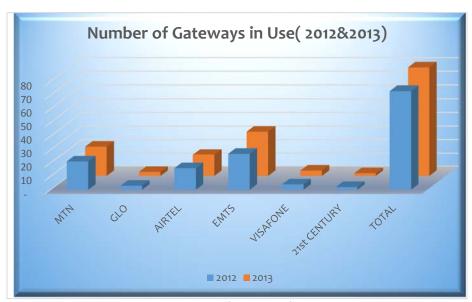


Figure 12: Number of Gateways in Use (2012 72013)

<u>Trunks in Use:</u> For the CDMA/Fixed telephony Operators: Multilinks, Visafone and 21<sup>st</sup> Century had a total of **2,388** Trunks (E1) in use as at December, 2013 indicating an increase from **2,187** Trunks (E1) they reported for 2012. While Multilinks had **327**, Visafone and 21<sup>st</sup> Century had **1,900** and **161** respectively.

Number of Trunks (E1) in use for other category of operators; Interconnect had a total of **2495** Trunks (E1) in use as at December, 2013 indicating an increase of 490 Trunks (E1) as there was 2005 Trunks (E1) in use as at December 2012. Niconnx also recorded a total of 422 Trunks (E1) in use as at December, 2013 indicting an increase of 78 Trunks (E1) as there was 344 Trunks (E1) in use as at December 2012. Breeze Micro reported a total of 238 Trunks (E1) in use as at December, 2013.

# Section 3

# Staff Profile

As at December, 2013 the four (4) Mobile GSM operators collectively had **9,031** staff directly employed in their organisations. Of the **9,031** staff; **6,112** were male while **2,919** were female indicating that 67.68% of the total staff were male while 32.32% were female.

Of the total 9,031 direct staff employed in this market segment, 8,783 were Nigerians while 248 were Expatriates. A further breakdown shows that 5,871 were Nigerian male staff and 2,912 were Nigerian female staff while 241 were male expatriats and 7 were female expatriates.

TABLE 11: TOTAL NUMBER OF MOBILE GSM STAFF (2013)					
	Nigerian		Е	xpatriate	
	Male Female		Male	Female	
MTN	1,569	649	16	2	
GLO	2,673	1,187	191	4	
AIRTEL	507	226	27	-	
<b>EMTS</b>	1,122	850	7	1	
Total	5,871	2,912	241	7	



Figure 13: Total Number of Mobile GSM Staff (Male & Female/ Nigerian & Expatriate)

Also, as at December, 2013, Multilinks, Visafone, VGC and 21<sup>st</sup> Century had a total number of **3,119** staff, **36** of which were Expatriates while **3,083** are Nigerians. A further breakdown reveals that **2,056** of the Nigerian Staff were Male while **1,027** were female.

TABLE 12: TOTAL NUMBER OF CDMA STAFF (2013)							
	Nige	rian	Expatriate				
	Male	Female	Male	Female			
MULTILINKS	95	24	4	-			
VISAFONE	242	315	6				
VGC	1,569	649	16	2			
21st CENTURY	150	39	8				
TOTAL	2,056	1,027	34	2			

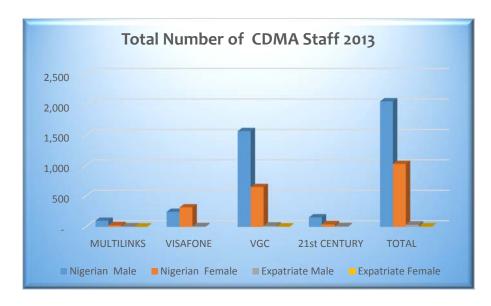


Figure 14: Total Number of CDMA Staff (Male & Female/ Nigerian & Expatriate) 2013

As at December, 2013, IS Internet Solutions Limited, Ngcom Limited, Swifttalk Limited, Vodacom Business Africa Nigeria Limited, Entouche Networks Nigeria Limited, and Layer 3 Limited had a total staff base of **390** staff, **and 4** are Expatriates while **386** are Nigerians. A further breakdown reveals that **293** of the Nigerian Staff are Male while the outstanding **97** are female.

Table 13: Number of Staff ISP'S (2013)					
	Nige	erian	Expatriate		
	Male	Female	Male	Female	
Is internet solutions	53	15	1	0	
Ngcom limited	15	7	0	0	
Swifttalk limited	35	8	0	0	
Vodacom business a	137	52	3	0	
Entouche networks	8	1	0	0	
Layer 3 limited	41	14	0	0	
Total	289	97	4	0	

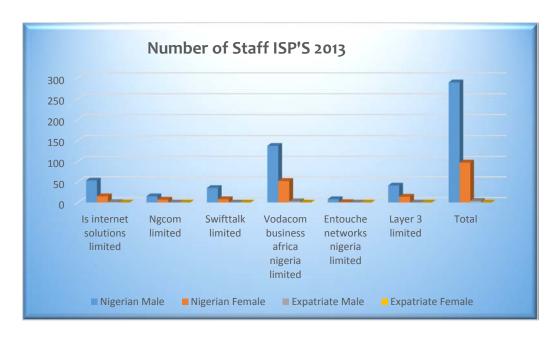


Figure 15: Total Number of CDMA Staff (Male & Female/ Nigerian & Expatriate) 2013

## **COMMENTS BY THE DIFFERENT TELECOMS OPERATORS FOR THE YEAR 2013**

## MTN

The industry has continued to be plagued by serious ecosystem issues, the intensity of which heightened in 2013. The heightened state of insecurity in some parts of the country, the vandalization of telecommunications infrastructure, as well as the persistent damage to infrastructure (often by agencies of State, Federal & Local Governments) seeking to exert inordinate taxes, and the high operating costs (MTN spent over N34 billion on diesel to power its cell sites in 2013, for instance) all combine to create a rather difficult operating environment.

# GLO

GLO is currently engaged in aggressive network expansion which would aid customer acquisition and retention. GLO recommends improved relationship between telecommunications Operators and NCC through mutual symposiums and workshops. Ample notice should be given by NCC to operators for implementation of NCC directives to Operators. NCC should leave room for collective bargaining in decisions taken against defaulting operators and leave room for negotiation and dialogue in resolving challenging issues raised by operators or regulatory bodies.

# AIRTEL

The National Broadband Plan, 2013 – 2018 published by the Ministry of Communications Technology is a pragmatic step to attract investment and drive the next phase of the industry. The licensing of Infraco (National Broadband [NBN] across the six geographical zones and Lagos is expected to support the attainment of the National Broadband Plan target. It is Airtel's expectation that Operators-Regulator relationships would improve, when operators' suggestions and submissions in respect of NCC's proposed Regulations and Guidelines are reflected in the finalized Regulations and Guidelines.

## EMTS

Nigeria's large, young and fast growing population, strong GDP growth, level of literacy and other key indicators make the country attractive for telecoms business, however, the high cost of doing business, particularly due to infrastructure challenges and multiple taxation/regulation pose significant challenges. The consumption trends of telecoms services shows significant opportunities even as Mobile voice services have become an integral part of working and living in Nigeria and there is also a significant demand for high-speed data access at affordable rates. Although there were significant regulatory interventions in 2013, greater effort is required to achieve desired levels of competition.

And the industry will benefit from increased monitoring for compliance of the obligations imposed in the retail mobile voice tariff market segment.

#### MULTILINKS

Multilinks is currently in an on-going transition which it expects will close shortly. It has not undertaken any project during this phase of the transition given current business challenges.

Constraints: Increased Operating expenditure, Illegal Taxes charged by some State/Local Government Authorities and their Agencies, Closure of 650 Base Stations around Nigeria, Constant Harassment, Arrests and Detention of Staff, Customer Churn, Breach of Service Levels and attendant consequences, Security Risks and Implications, etc. Multilinks recommends the harmonization of regulation on taxation and expedite the implementation of a legislation guiding the protection of telecoms infrastructure.

## VISAFONE

Maintenance if Quality of Service thresholds prescribed by the Commission, Sustenance of Quality customer care delivery and affordable products and services.

Challenges: As at December 2013, the highest challenges encountered by the Fixed and CDMA Service providers were Multiple Taxation, Poor National Infrastructure, High duty & tariffs on imports and Customer Churn (Migration to other Networks) while insufficient trunks (E1s/ leased lines) and knowing what users want were amongst the lowest challenges encountered.

## IS Internet Solutions Limited

Business outlook is bright. MPLS VPN gives connectivity across the nation and many companies are taking advantage of this medium of communication.

# Ngcom

Business outlook is gloomy because frequency allocation issues; pricing war and poor public infrastructure.

## Entouche Networks Nigeria Limited

Business outlook is bright. However high cost of bandwidth subscription to the backbone and high cost of generating power for operations is a major challenge.

# Phase 3 Telecom

Business outlook is bright. With Governments efforts at ensuring improved Broadband in the country, more people, offices and homes are beginning to see the need to have internet access everywhere around them. This certainly promotes more clients for providers.

#### Breeze Micro Limited

Business outlook is bright however, there are still challenges such as power and right of way issues that impede growth. It is suggested that meetings between stakeholders be convened from time to time.

## Niconnx Communications Limited

Business outlook is bright however, power outage results in huge cost of maintaining equipment to achieve 100% uptime. There are no more frequent meetings between operators and interconnect exchanges as against just mere POI data collection.

# Tycil Telecoms Limited

Business outlook is bright. With regards to vehicle tracking and fleet management, many Nigerians have started realizing the need for security in the present world order.

# Cyberspace Limited

Lack of regular interactions with service providers to share industry challenges per time. It is recommended that NCC should organize bi-annual sessions with operators to discuss issues and challenges.

# Interconnect clearinghouse Nigeria Limited

Business outlook is bright. Regular interactive sessions advocated. Responsiveness of other operators to requests for service even in the face of disagreement over issues. Advocates having private sessions with networks and discrete sessions at that.

## IHS Nigeria PLC

Business outlook is bright. The company's operation (collocation) is gradually becoming the next phase of the telecoms sector. Stakeholders in the telecoms sector now appreciate the danger multiple taxation poses to the development of the sector and there is an improved cooperation between the regulatory bodies in the federal, state and local levels to ensure that permits and approvals for the deployment of BTS are no longer subjected to prolonged delays due to bureaucratic processes. The Commission should assist in abating the multi taxation levied on companies by various regulators and also ensure that NESREA does not keep locking their sites and levying huge fees on IHS.