

Ghana's ICT and Fintech Sector

November 2022

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01

Why invest in Ghana

Why invest in Ghana

Country overview

- Formerly known as the Gold Coast, Ghana was the first sub-Saharan nation to gain independence from colonial rule in 1957.
- Ghana is credited as being one of the most stable democracies in Africa, having successfully conducted 8 national elections and recorded no incidence of a coup d'état since 1992.

Airports



- 1 international airport
- 5 domestic airports

Railway



- 3 major railway networks with a total track length of 1,300 km

Dry ports



- Tema Port
- Takoradi Port

Road network



- Main roads: 67,291 Km
- Main arteries : 12,800 Km
- Paved roads: 3,800 Km

Internal infrastructure

Total land area

Overview: Ghana has total land area of 238,537 sq.km

Ghana has 16 administrative regions and 261 district assemblies.

Electricity supply

- Ghana's electricity supply is derived from hydropower generated from the Akosombo, Bui Power and Kpong dams, and 10 thermal plants at Aboadze in Western Region.
- According to World Bank, Ghana has an 86.63% (2021) access to electricity rate.

Water supply

Water is provided to citizens through the Ghana Water Company Limited, Community Water and Sanitation Agency and private water producers.

Locational advantage

- Ghana is geographically closer than any other country to the center of the earth.
- Ghana has 2 harbors with one being the largest in West Africa, making Ghana the gateway to West Africa.



Why invest in Ghana

Investment attractions

2nd largest economy in West Africa <ul style="list-style-type: none"> Ghana has an active retail market and healthy consumption levels. Fitch reports, household spending is expected to increase from US\$55bn in 2021 to USD81bn in 2025. AfCFTA presents an opportunity for intra-regional growth by leveraging access to common markets and knowledge transfer through labour mobility, thereby attracting foreign direct investments into the region. The AfCFTA secretariat is located in Ghana. 	Rich in natural resources <ul style="list-style-type: none"> Ghana was the largest (No.1) producer of gold in Africa and 6th largest in the world in 2021. 13,000 metric tonnes of manganese reserve. 16.86 million tonnes of high-grade trihydrate bauxite mined since 1997. Newly discovered deposits of lithium in 2021 amounting to 30.1million tonnes, setting Ghana up to become West Africa's first lithium producer. 	Preferred tourism destination <ul style="list-style-type: none"> International arrivals of tourist increased from 932,579 in 2016 to 1,130,307 in 2019, however 2020 saw a reduction to 355,108 due to lockdown measures in response to Covid -19. As at September 2021, international tourist arrivals increased by 18% while domestic tourists grew by 58%. 	Youthful population <ul style="list-style-type: none"> Ghana is blessed with a very youthful population, about 67% of the population is within the ages of 15 to 64 years. Government initiative such as free basic and secondary has ensured a 69.8% literacy rate for citizens who are 6 years and older as at 2021.
Stable political environment <ul style="list-style-type: none"> Ghana is ranked the second most peaceful country in Africa and the 38th most peaceful country in the world as per the 2021 Global Peace Index. Due to provisions made in the constitution of Ghana (article 20) and Free Zones Act (Act 504) there is a reduced threat of nationalism of private businesses. 	Investor-friendly government initiatives <ul style="list-style-type: none"> Government has initiated a plethora of incentives to ensure a conducive and enabling business environment. Government incentives include tax holidays, rebates, provision of industrial parks, provision of finance through partnering agencies and interest subsidies. Ghana has double taxation agreements with the United Kingdom, South Africa and other EU countries. 	Top investment destination <ul style="list-style-type: none"> Foreign Direct Investment (FDI) has averaged \$2.72b from 2017 to 2021, suggesting stability in the inflow of capital with investment focus in oil and gas, mining (including gold and manganese), and agriculture (cocoa). Ghana attracted US\$2.65bn in FDI inflows in 2020, one of the highest amount in West Africa. 	Agrarian economy <ul style="list-style-type: none"> Ghana is endowed with vast arable lands rich in agriculture. In 2020, Ghana was the 2nd largest producer of cocoa in the world, the 4th largest producer of cassava in the world. Ghana is blessed with fertile land for the production of maize, tomato, rice among many other food crops.

02

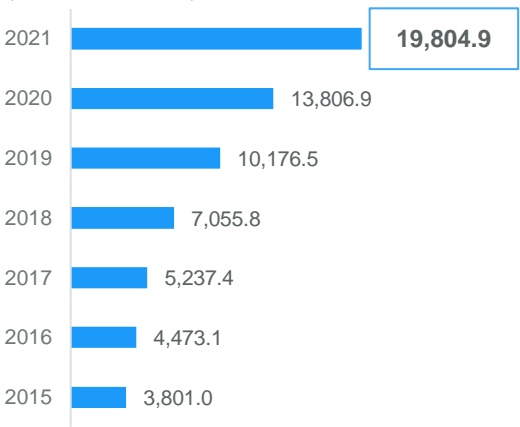
Sector overview

Sector overview

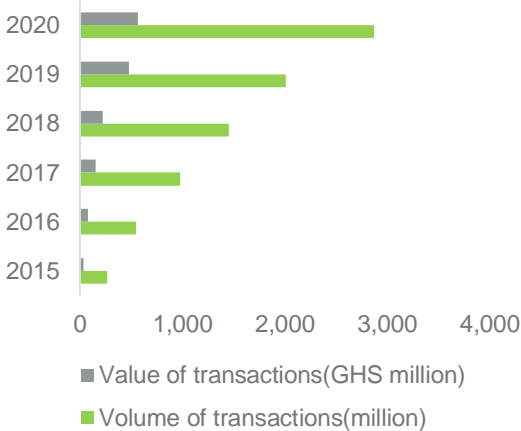
Information Communication Technology (ICT)

- ▶ Ghana's Information Communication Technology (ICT) sector continues to contribute to Ghana's broader economic growth, **adding about 5% to the overall GDP in 2021.**
- ▶ In this, industry experts estimate the ICT sector in Ghana to be \$1 billion and it is projected to grow to \$5 billion by 2030¹.
- ▶ The sector includes telecommunication service providers, internet service providers, software developers, and training institutions.
- ▶ The ICT sector is primarily regulated by the Ministry of Communications, and Digitalisation, National Communication Authority (NCA) with other supporting regulators

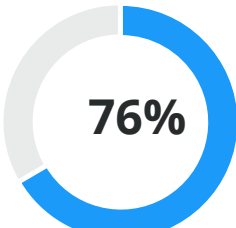
ICT Sector Contribution to GDP (GHS'million)



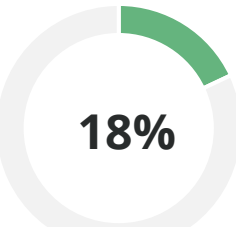
Ghana's Mobile Money Market



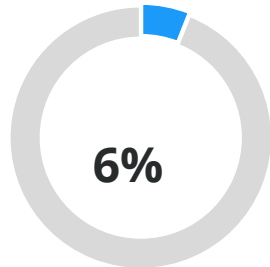
Mobile Money Market: Breakup by Technology (in %)



USSD*

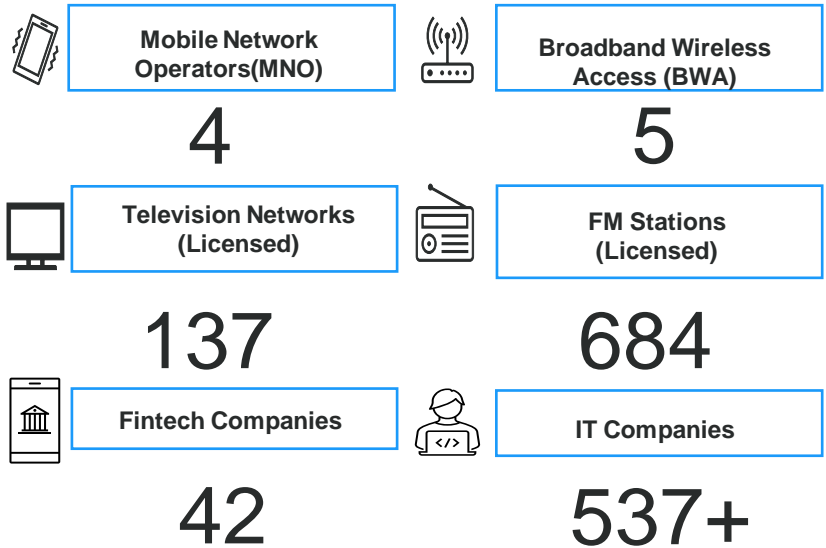


Mobile Wallet

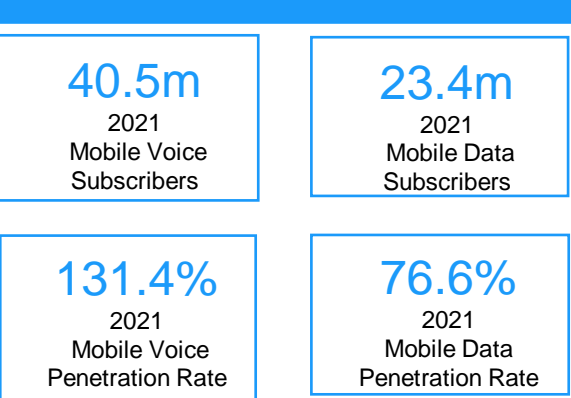


Others

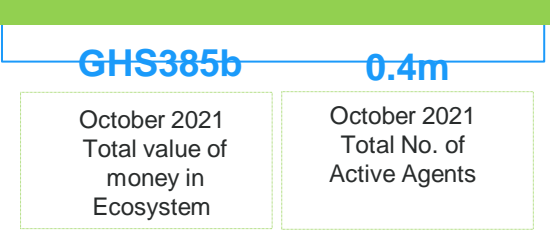
At a Glance



Mobile Voice & Data

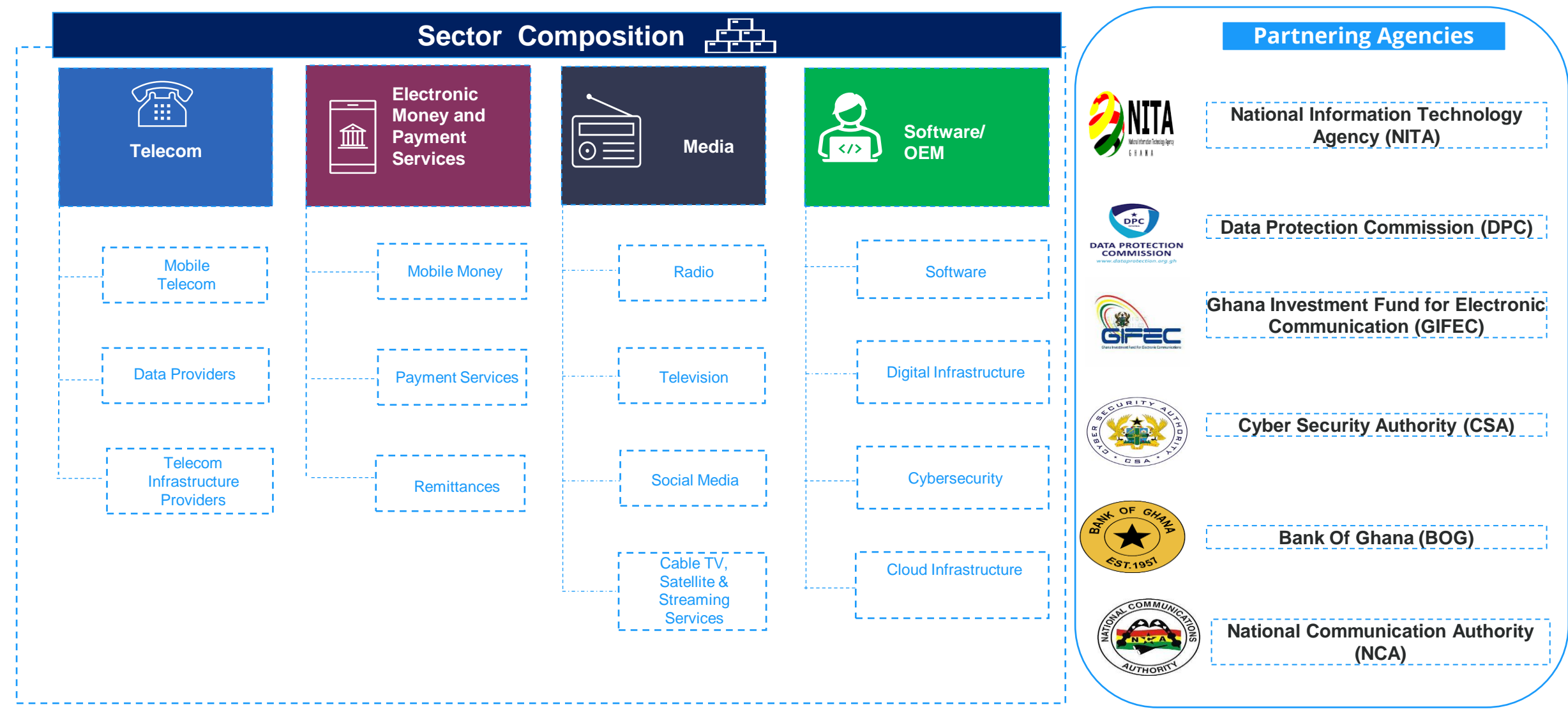


Fintech



Sector overview

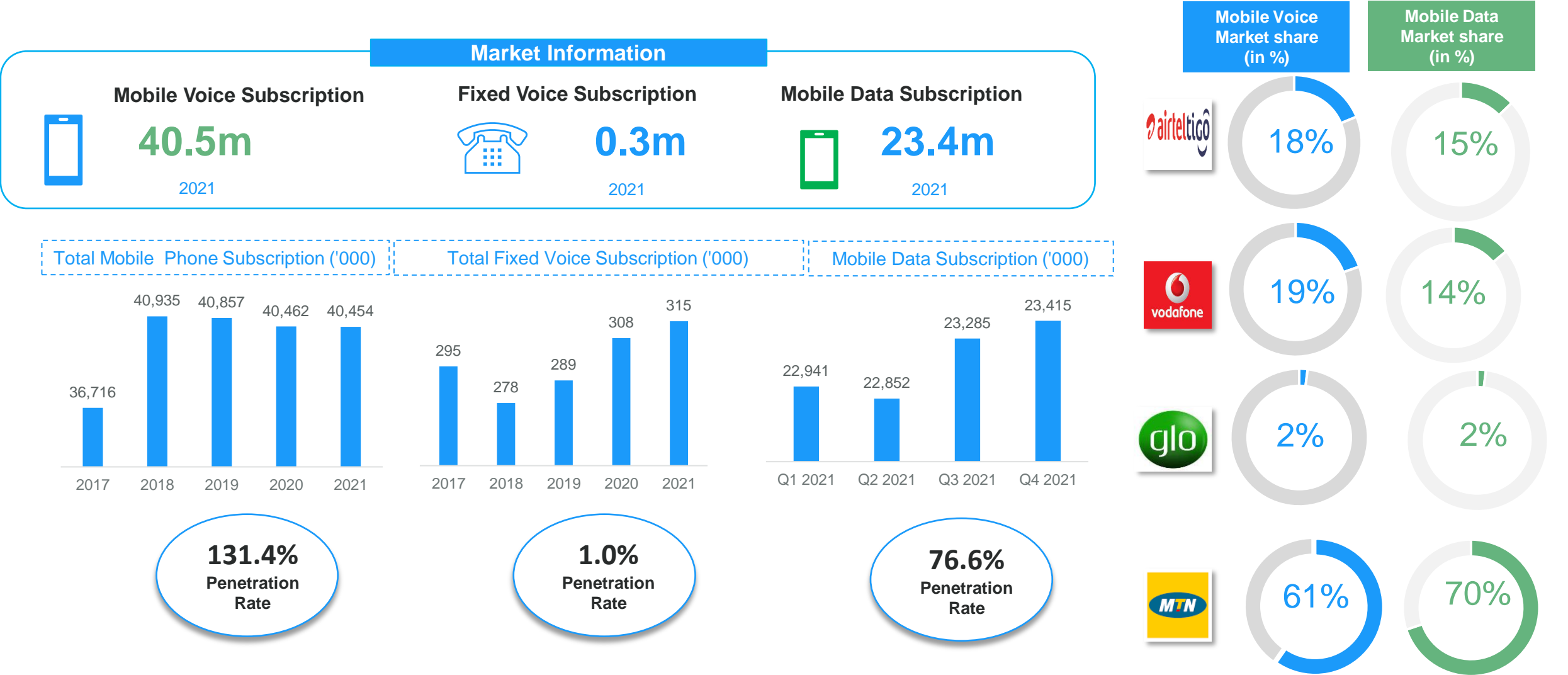
Information Communication Technology (ICT)



Sector overview

Telecom industry

The market's four mobile network operators are investing heavily to spur the uptake of advanced mobile services, with MTN carrying out site upgrades for its 5G launch in 2022.



Sector overview

Telecom industry

Telecom

E-Money

Media

Software/OEM

Broadband Wireless Access (BWA) operators provide broadband data access through wireless media to consumer and business markets.

Market Information



Broadband Wireless Access (BWA)

53,043

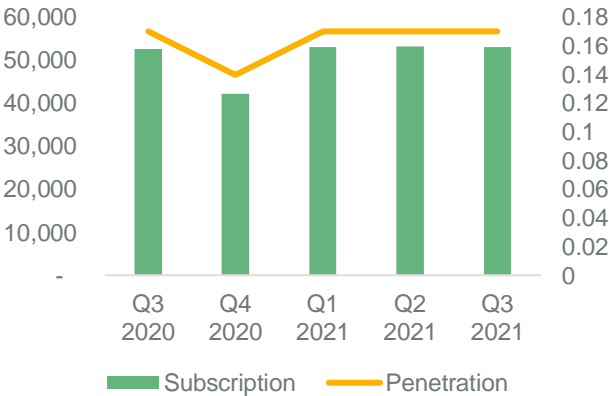
September 2021

BWA Data Traffic (million MB)

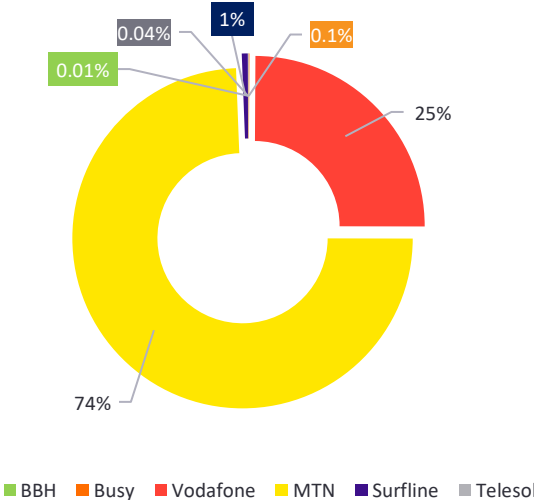
7,360

September 2021

Subscription and Penetration Rate



4G Network Subscription by Operators

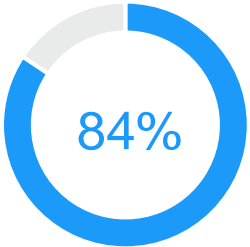
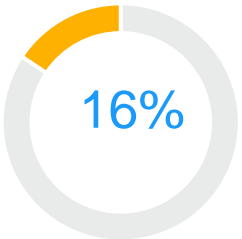


Market Information

Estimated number of towers nationwide

6,500+

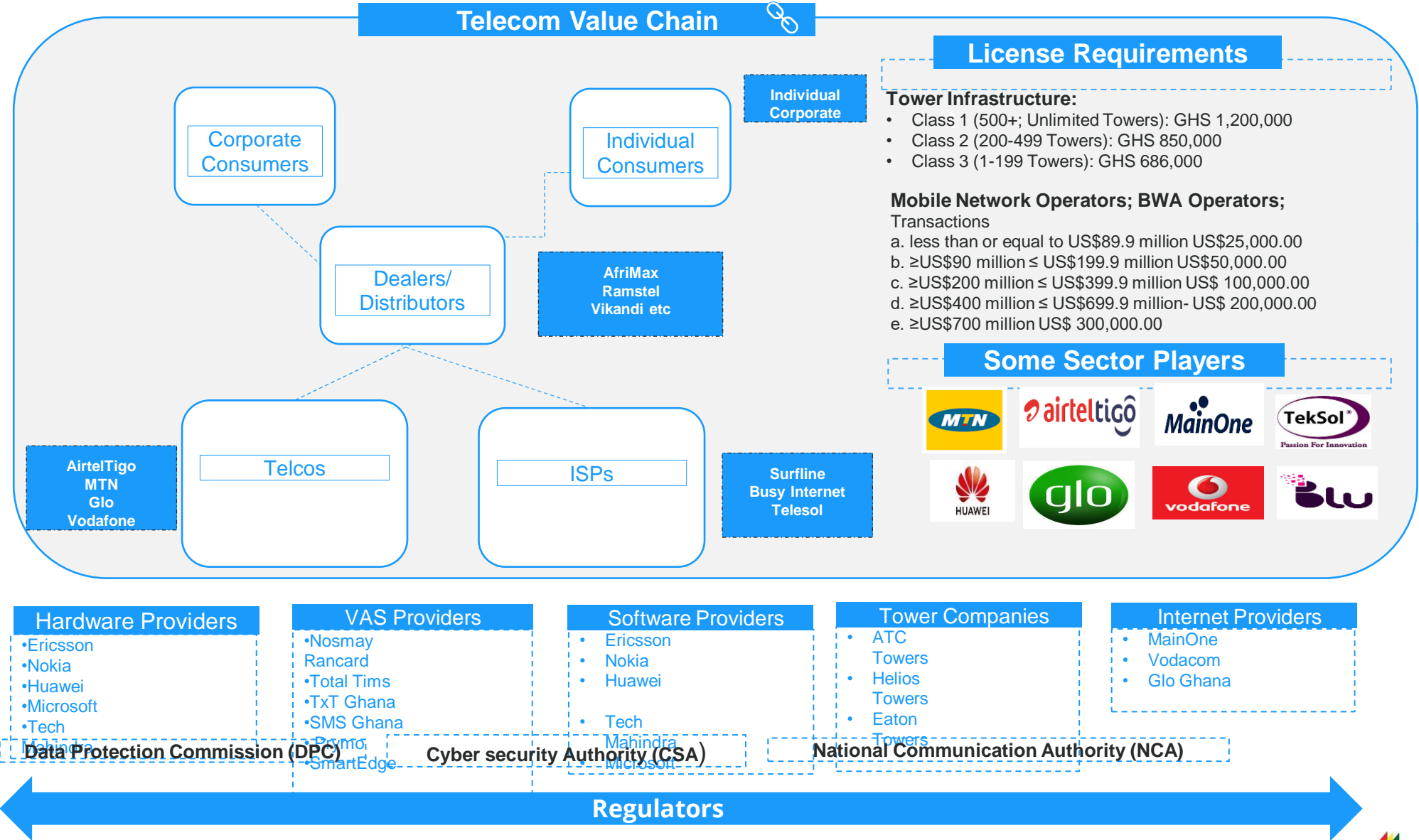
Tower Provider market share



Sector overview

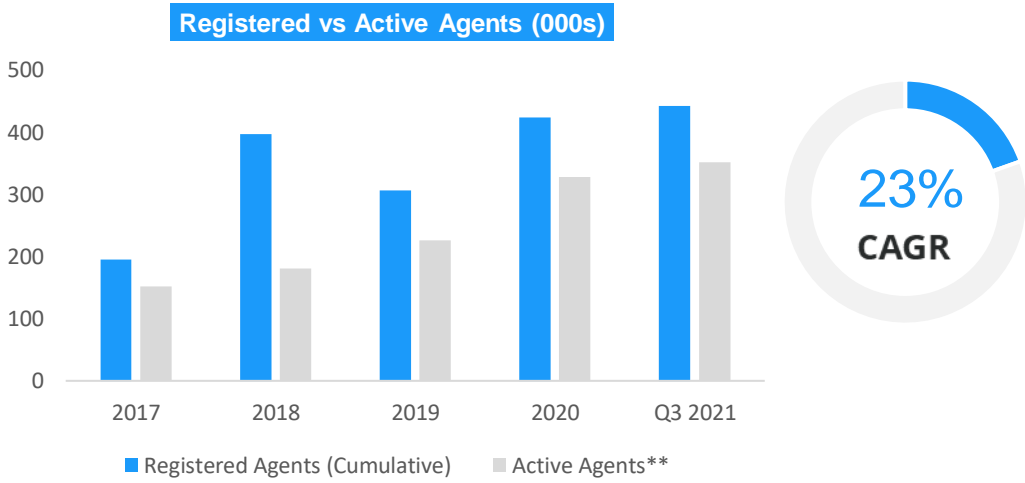
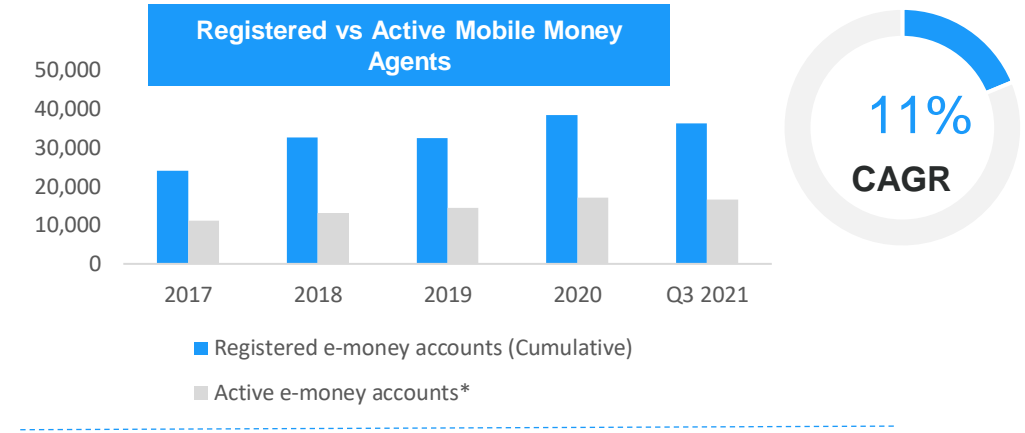
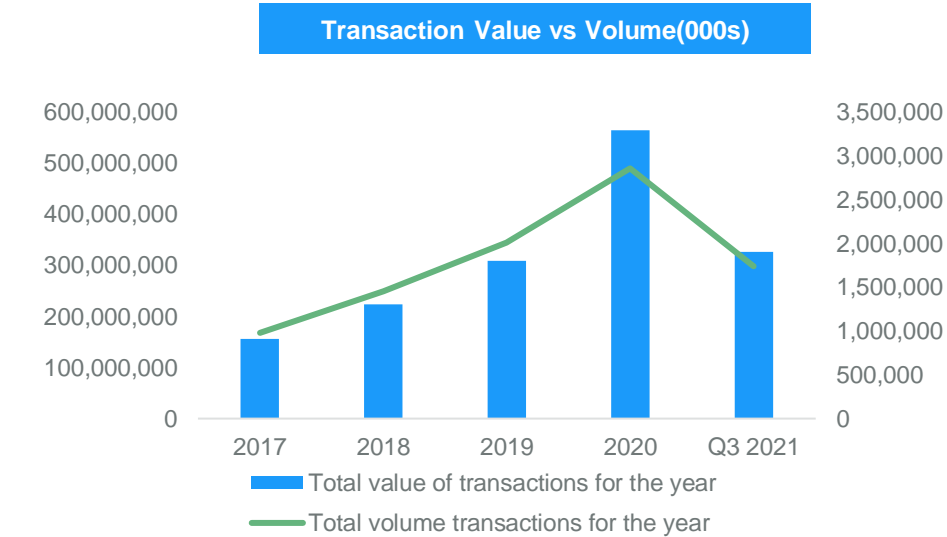
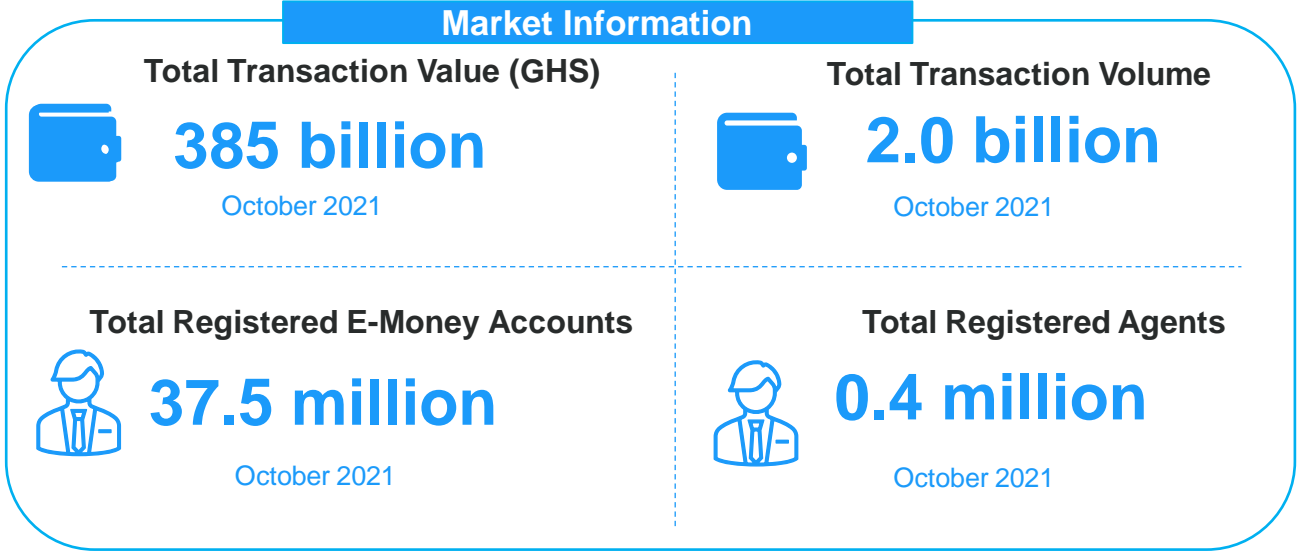
Telecom industry

1. Hardware providers supply the MNOs with the infrastructure required.
2. VAS providers provide MNOs with value-added services such as Caller Back Tune, and SMS Messaging Services.
3. Software providers offer tools to manage the hardware. Infrastructure.
4. Tower companies provide tower mast hosting of satellites and microwaves.
5. Internet providers supply MNOs with bulk internet data.



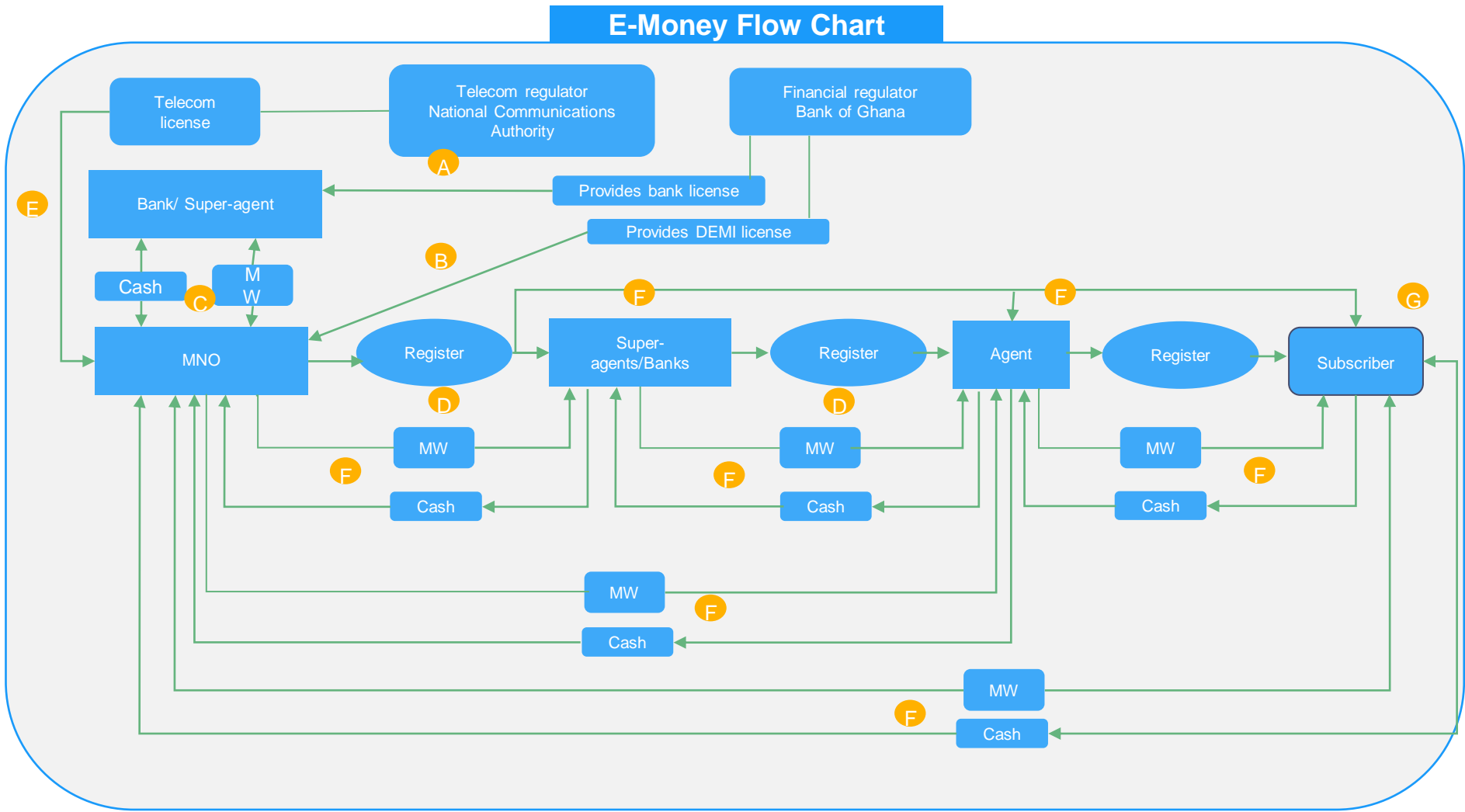
Sector overview

Electronic Money and Payment Industry



Sector overview

Electronic Money and Payment Industry



License Requirements

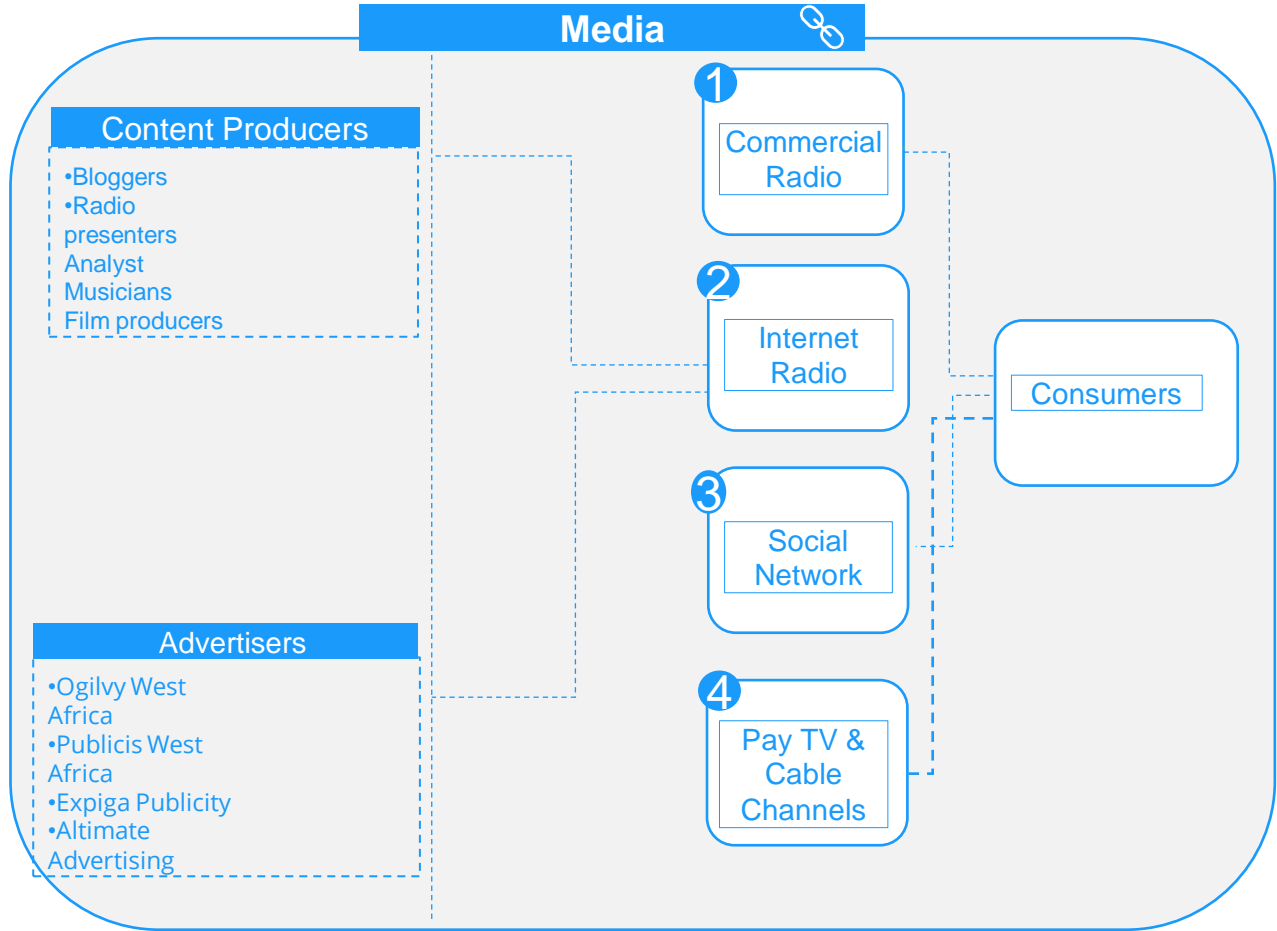
- Dedicated Electronic Money License Type-**GHS20m**
- PSP(Scheme) License Type-**GHS8m**
- PSP(Enhanced) License Type -**GHS2m**
- PSP(Medium) License Type -**GHS0.8m**
- PSP(Standard)-**No Capital Required**

Some sector players

MW-Mobile Wallet
MNO-Mobile Network Operator
PSP-Payment Service Provider

Guidelines to the Mobile Money Flow Chart

- A** Bank of Ghana Agreement provides banking licenses to banks who also act as Super Agents of the MNOs in the MM market. Banks and super agents provide liquidity such that cash-in/cash-out transactions are carried out and MNOs maintain the mobile wallets of their super agents. MNOs are both agents and partners with the banks and provide technology platform for receipt and transfer of cash
- B** Bank of Ghana provides digital e-money issuer licenses to MNOs which allows MNOs to issue e-money that is backed by physical cash. MNOs can also be licensed as financial service providers and offer 'branchless' banking
- C** The Mobile Money Operators (MMOs) provides mobile infrastructure, customer base, and agents' network. The MMOs are profit-maximizing entities that issue electronic money which is held in the banks. Banks provide infrastructure for the flow of money between two parties and therefore provide physical custody of the electronic money. Every unit of electronic money that is issued by the Mobile Network Operators (MNO) is backed by an equivalent amount of Bank of Ghana notes and coins held in a bank to ensure equilibrium in the Mobile Money market.
- D** MNOs operate the mobile wallets for the partner banks. MNOs recruit and define the roles super-agents and agents in the agency network.
- E** National Communication Authority only regulates communication services. (NCA) oversees security of customers' data; and integrity of MM technologies. It regulates and oversees the activities of the Mobile Network Operators which own the Mobile Money Companies.
- F** MNOs, super agents, agents and subscribers can all conduct transactions with each other directly. The Mobile Money Operators' agents facilitate cash-in (converting cash into electronic form) and cash-out (issuing cash on demand) to ensure convertibility between MM and cash. Agents are effectively liquidity managers in the MM sub-sector.
- G** Merchants and retailers accept MM payments in exchange for different products and services. Fintech companies also provide a wide array of support services including mobile phone manufacturing, network equipment vendors and software.



License Requirements

- FM Radio Broadcasting FM Urban - **GHS30,000**
- FM Sub-Urban –**GHS 20,000**
- FM Rural - **GHS5,000**
- All TV Broadcasting Services 50% of the Authorisation Fee or 1% of the transaction value, whichever is higher.

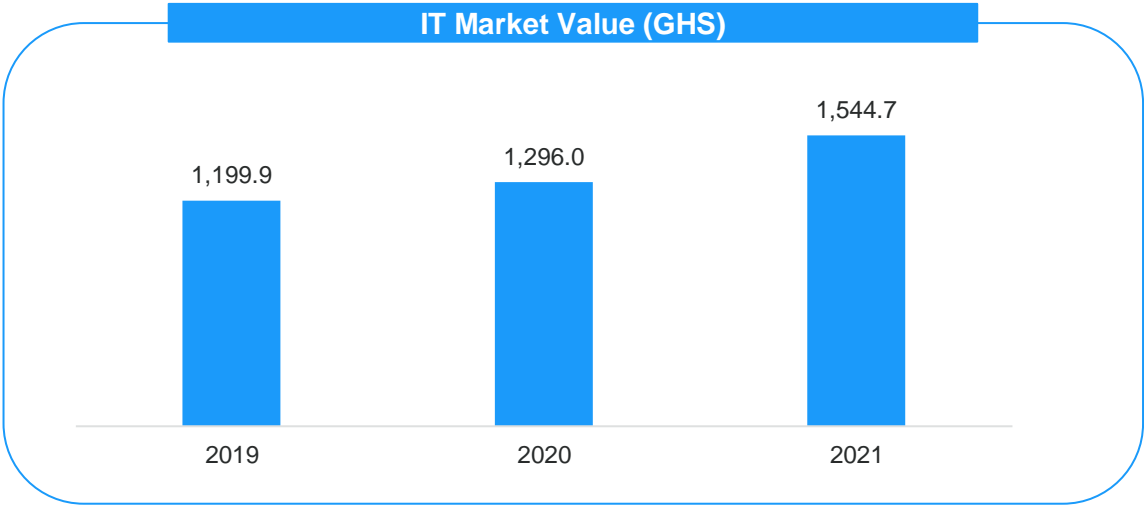
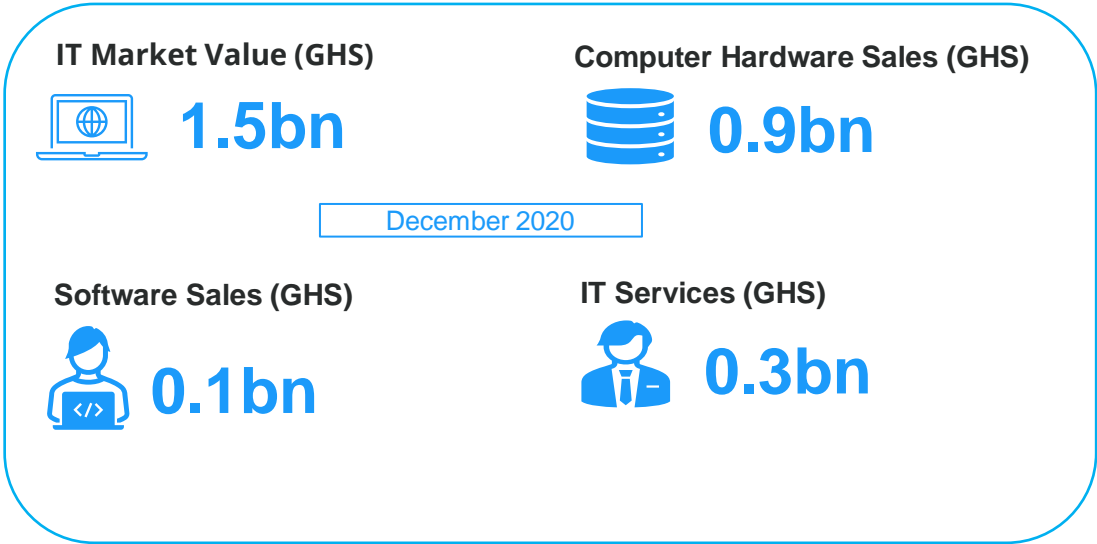


Regulator - National Communication Authority(NCA)

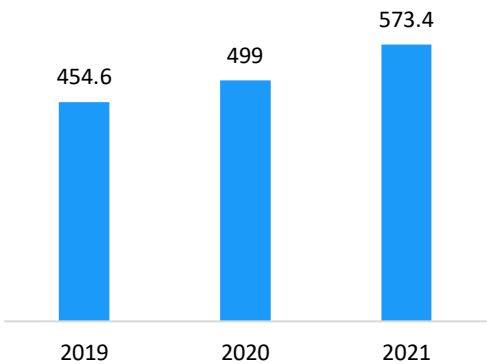
Sector overview

Software/OEM Industry

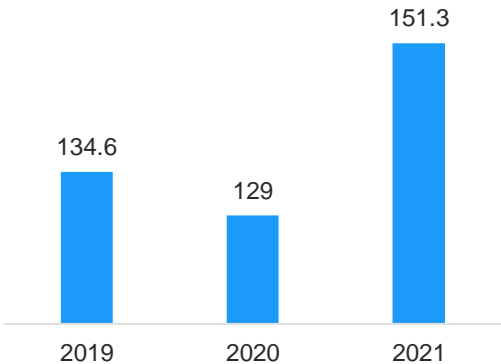
Ghana's IT sector has proven to be one of the country's fastest-growing industries in recent years, with key market players offering more innovative products. With a growing market, the IT market is estimated to be valued at **GHS1.8b in 2022**.



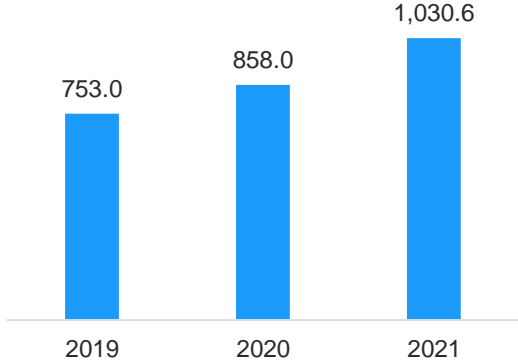
Personal Computer Sales (GHS'MN)



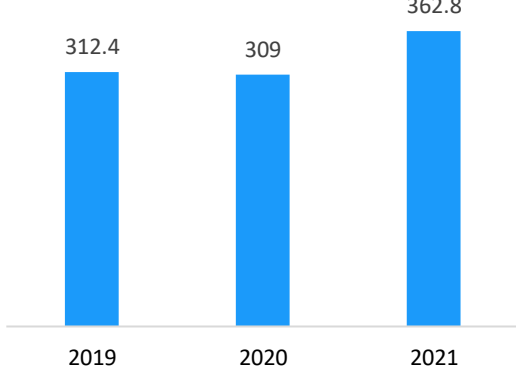
Software Sales (GHS'MN)



Computer Hardware Sales (GHS'MN)

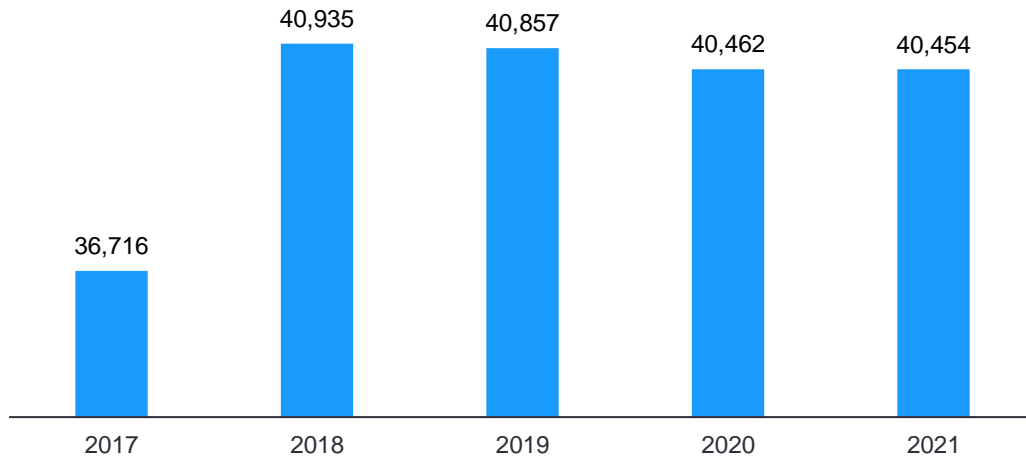


Services Sales (GHS'MN)

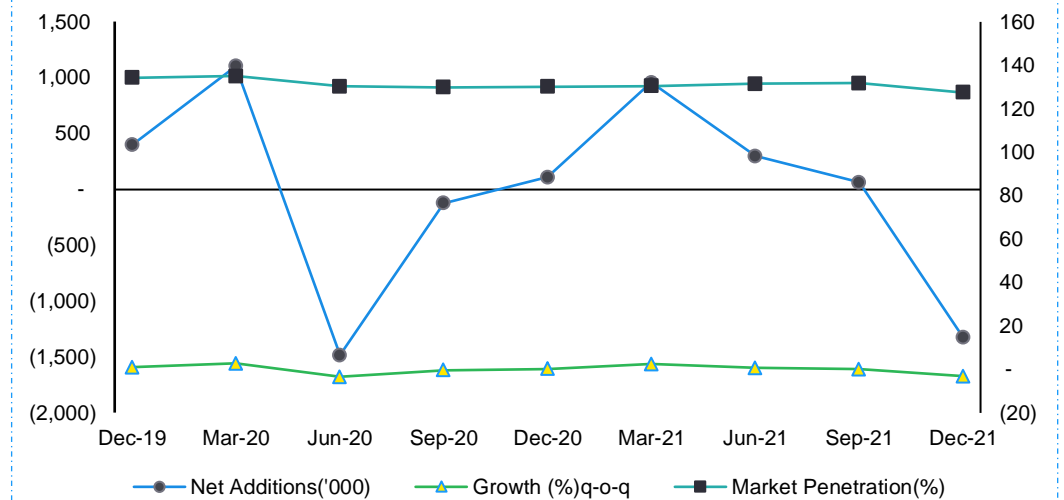


Key demand drivers

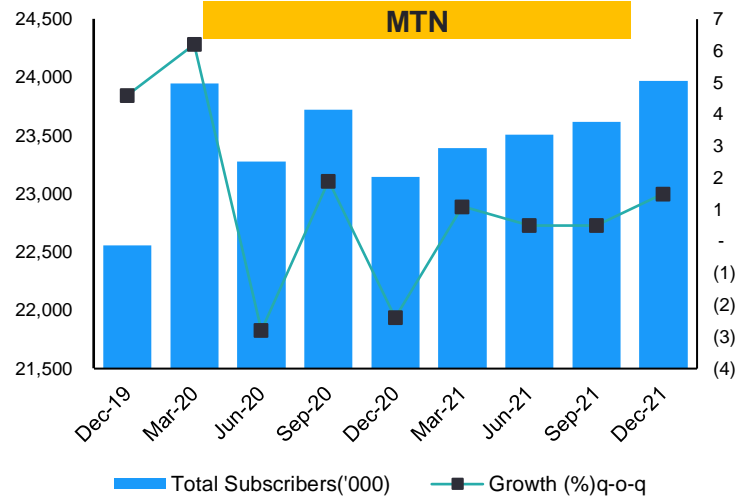
Mobile Subscriber Trends



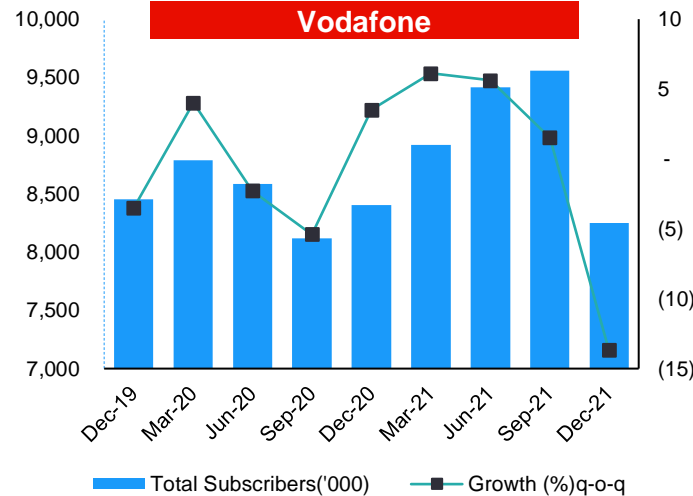
Market Penetration



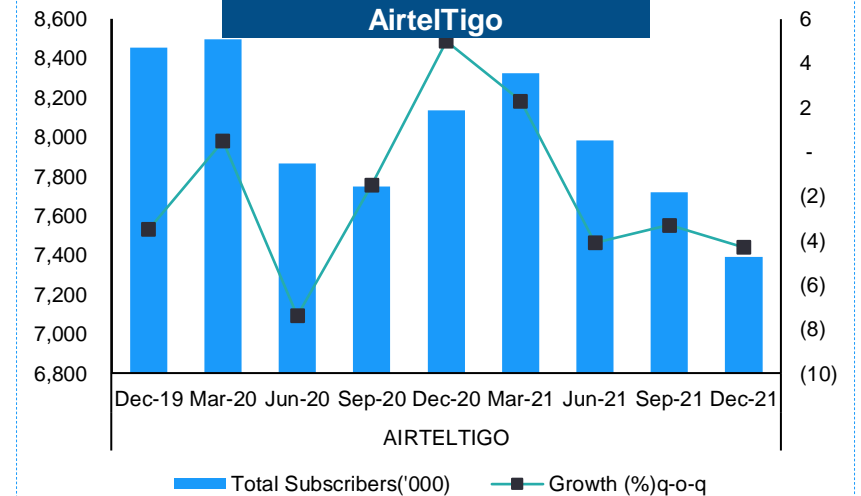
MTN



Vodafone



AirtelTigo



Key demand drivers

Mobile Voice Subscription

- In January 2022, the total number of voice subscriptions was approximately 41m. representing a percentage increase of 1.39% from December 2021's figure of 40.5m. The total penetration rate for the month under review was 134.25%.

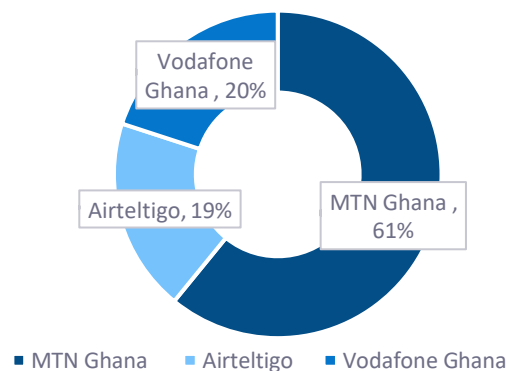
Fixed Telephony Subscriptions

- There are three (3) Operators providing Fixed Line services in Ghana. These Operators are Vodafone, AirtelTigo, and MTN.
- By January 2022, the total subscriptions for the Fixed Operators stood at 322,729, an increase of 7,458 subscriptions from the previous month's subscription of 315,271.
- Vodafone ended the month with 314,794 subscriptions; AirtelTigo recorded a total subscription of 3,564 with MTN recording 4,371 subscriptions.

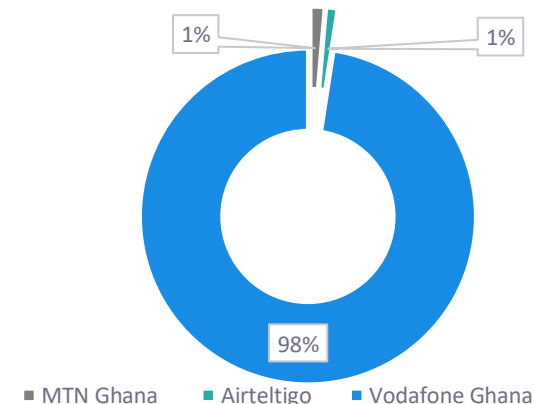
Data Subscription

- With an estimated population of 30.8m, the total subscriptions of data in the country at the end of January 2022 was 24m.
- The penetration rate for the period stood at 77.9%.

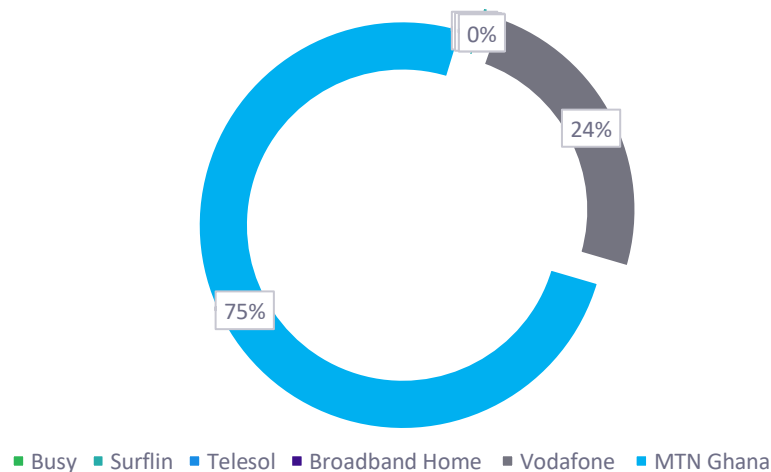
Mobile Voice Market Share for January 2022



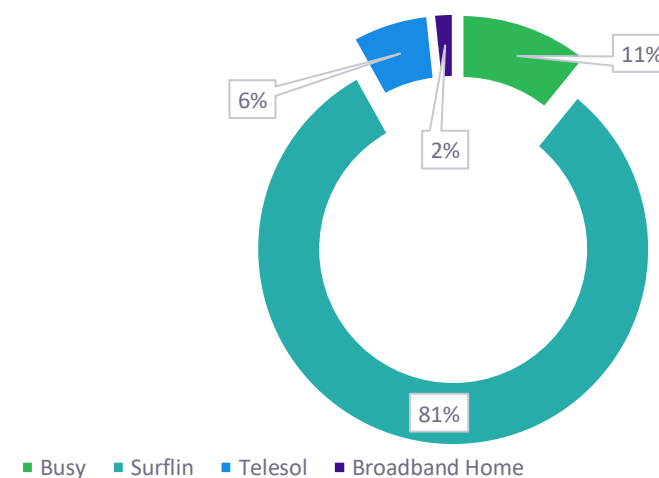
Fixed Voice Market Share for January 2022



4G Operators' Market Share for January 2022



Broadband Wireless Access (BWA) Subscriptions



Key developments

The Government of Ghana takes ownership of AirtelTigo

- In 2021, the Government of Ghana concluded the acquisition process with the parent companies of AirtelTigo i.e. Bharti Airtel Ghana Holdings B.V, MIC Africa B.V. This highlights the Government's firm interest in operating in the telecom industry and sustaining the digital transformation agenda.

Regulator classifies MTN a Significant Market Player

- In 2020, the National Communications Authority(NCA) classified MTN as a Significant Market Player as the MNO's market share was above the regulated threshold while those of rival players fell far behind.
- This was in the light of introducing measures to allow rivals to better compete with the operator.

Digital Transformation Agenda

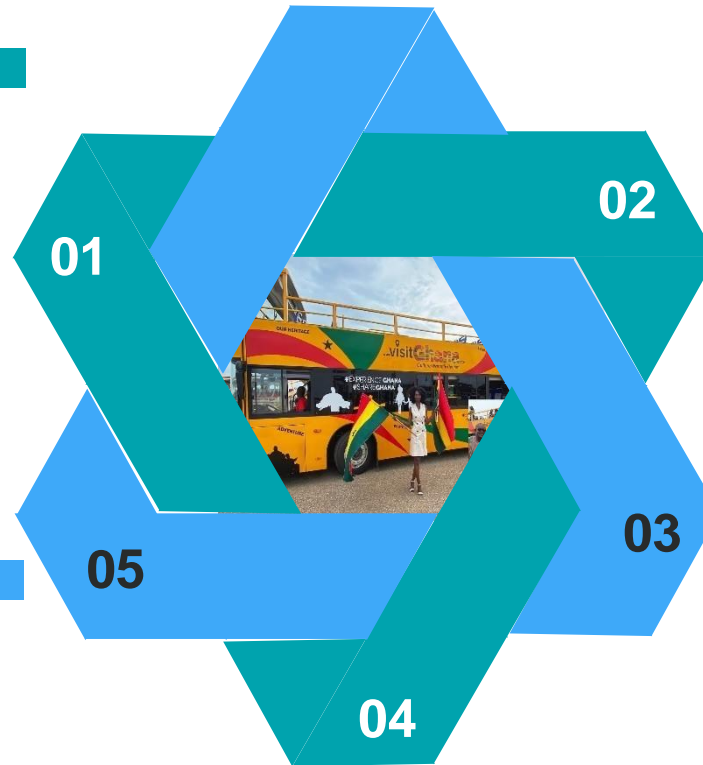
- In 2022, the World Bank approved an amount of US\$200 million to support the Government's digitalization drive of increasing access to broadband in the country.
- This program will promote digital inclusion, and close the regional digital gap.

Vodafone acquires Vodacom Ghana.

- In 2019, Vodafone Ghana acquired Vodacom Group's entire stake in Vodacom Business Ghana (VBG). A move that aligns with Vodafone's strategy to consolidate its African assets and strengthens its core business.

Implementation of E-Levy

- In March 2022, Ghana's parliament approved a new tax on electronic transactions effective 1st of May,2022.
- Known as the E-levy, the bill introduces a 1.5% taxation on electronic money transfers.
- The justification for this new levy is to widen the tax bracket since most of the population makes a living in the informal sector seeming a convenient means to increase government revenue.



Overview of key players

Mobile Network Operators (MNOs)



Scancom Plc (MTN Ghana)

Industry	Mobile Network Operator(MNO)
Number of Mobile Subscribers	24.8 million
Fixed Telephony Subscribers	4,508
Active Data Subscribers	16.2 million



AirtelTigo

Industry	Mobile Network Operator(MNO)
Number of Mobile Subscribers	7.7 million
Fixed Telephony Subscribers	3,424
Mobile Data Subscribers	3.5 million



Glo Mobile Ghana

Industry	Mobile Network Operator (MNO)
Number of Mobile Subscribers	0.8 million
Fixed Telephony Subscribers	-
Active Data Subscribers	0.4 million



Vodafone Ghana

Industry	Mobile Network Operator (MNO)
Number of Mobile Subscribers	8.0 million
Fixed Telephony Subscribers	0.3 million
Mobile Data Subscribers	3.3 million

Overview of key players

Media



The Multi Media Group

Industry	Mass Media
	Joy FM, Hitz FM, Adom FM, Asempa FM,
Radio Channels	Nhyira FM, Luv FM
Online Presence	Myjoyonline.com, Multitvworld.com,
Television	Joy Prime, Joy News, Adom TV etc.



Media General Ghana Limited(TV3)

Industry	Mass Media
Radio Channels	3 FM, Onua FM, Akoma 87.9 FM, Connect FM
Online Presence	3news.com
Television	Onua TV, TV3



Excellence in Broadcast(EIB) Limited

Industry	Mass Media
	Starr FM, Live FM, Kasapa FM, Ultimate FM,
Radio Channels	Agoo FM, Empire FM, Abusua FM, Agoo FM, Cool FM.
Online Presence	Starrfmonline.com, Kasapafmonline.com, Livefmonline.com, Ultimatefmonline.com
Television	GHOne TV, Agoo TV



Ghana Broadcasting Corporation


Industry	Mass Media
	Radio Savanna, Radio Central, Volta Star Radio, Radio Bar, Radio Upper West, Twin-City Radio, Uniq FM, etc
Radio Channels	
Online Presence	Gbcghana.com
	GTV, GTV Sports+, GBC 24, and GTV Life, GTV Govern, Obonu tv
Television	

Overview of key players

Electronic Money And Payment Services




Zeepay

Industry	Fintech
Products	Mobile Money, Remit Insurance, Cash Payout etc
Presence	




Ghana Interbank Payment & Settlement Systems Limited

Industry	Fintech
Products	Interoperable Payment System
Presence	




Expresspay

Industry	Fintech
Products	Payment Service Provider
Presence	



Hubtel






Industry	Fintech
Products	Payment Service Provider
Presence	

Overview of key players

Internet Service Providers




Main One

Industry	Internet Service Provider
Products	Connectivity Services, Data Centers, Media Services, etc,
Presence	    




Surfline Communications Limited

Industry	Internet Service Provider
Products	Internet connectivity via 4G LTE, Satellite, Fiber and Radio
Presence	




Telesol Ghana Limited

Industry	Internet Service Provider
Products	Internet connectivity via 4G LTE, Satellite, Fiber and Radio
Presence	



Busy Internet





Industry	Internet Service Provider
Products	Internet connectivity via 4G LTE, Satellite, Fiber and Radio
Presence	

Overview of key players

Infrastructure Providers



Huawei

Industry	Innovation and Technology
Products	Infrastructure, Mobile Equipment Providers
Presence	    and others



ATC






Industry	Wireless Infrastructure and Tower
Products	Towers, In-Building Systems, Power Solutions
Presence	   and others







Helios Towers

Industry	Wireless Infrastructure and Tower
Products	Towers, In-Building Systems, Power Solutions
Presence	   and others

Current sector investors

	Investor	Investee	Year of investment
	Equinix	MainOne Ghana	2022
	Oasis Capital	AppsnMobileSolutions	2021
	IFC Group	CSquared	2017
	Convergence Partners	CSquared	2017
	Jospong Group of Companies	Metro Television	2017

Overview of regulators

	Regulatory agency	Scope of activity	Responsibilities	Nature of activity		
				Oversight function	Inspection/ licensing	Policy formulation
	National Communication Authority (NCA)	General	The NCA is the statutory body mandated to license and regulate electronic communications activities and services in the country.	✓	✓	✓
	Bank of Ghana	General	The apex bank is mandated to formulate and implement a monetary policy aimed at achieving the objects of the Bank as well as promoting by monetary measure the stabilization of the value of the currency within and outside Ghana;	✓	✓	✓
	Data Protection Commission	General	The commission is mandated to protect the privacy of individual and personal data. The Data Protection Act 2012 established the Data Protection Commission (DPC) to protect the privacy of individual and personal data.	✓		✓
	Cyber Security Authority	General	The Cyber Security Authority (CSA) has been established by the Cybersecurity Act, 2020 (Act 1038) to regulate cybersecurity activities in the country; to promote the development of cybersecurity in the country and to provide for related matters.	✓		✓

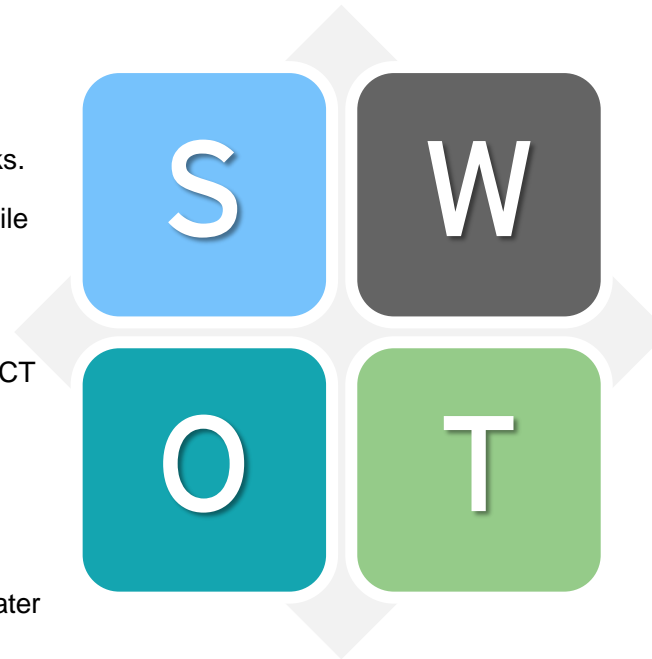
SWOT analysis

Strengths

- ▶ Ghana boasts of a relatively stable business and investment climate driven by stable political and macroeconomic conditions relative to its peers in Sub-Saharan Africa.
- ▶ Market players benefit from a well-supportive regulatory environment.
- ▶ Ghana boast of a growing demand for mobile money due to easier access to financial services as compared to local banks.
- ▶ Interoperability to transfer money from bank accounts to mobile money accounts across Mobile Network Operators.
- ▶ The median age in Ghana is c.21 years with 50%+ of the population within the ages of 20 and 64, indicating the availability of labor and a strong working force that drive the ICT sector.

Opportunities

- ▶ The African Continental Free Trade Agreement will bring greater market access to neighbouring countries.
- ▶ The introduction of the Pan-African Payment and Settlement System – PAPSS to enable the efficient flow of money securely across African borders will increase demand for e-commerce and e-money-related transactions in Ghana.
- ▶ The National Communications Authority classifying MTN as a Significant Market Player introduces measures to allow rivals to better compete with the operator.



Weaknesses

- ▶ Operators have faced an increased tax burden after the Government increased the Communications Service Tax from 6% to 9% in 2019 coupled with the introduction of the 1.5% E-Levy.
- ▶ Access to reliable and constant power supply required to run ICT operations, especially in areas outside of Accra.
- ▶ MTN continues to dominate the mobile sector, even after the merger of Airtel and Tigo.

Threats

- ▶ High youth unemployment and general unemployment will continue to curtail household spending.
- ▶ Even though the country has a high proportion of households earning between US\$5,000 and US\$10,000 by Sub-Saharan Africa standards, the number of households that are tech-savvy is small, limiting the scope for e-commerce.

A man with glasses and a striped vest is sitting at a round wooden table, writing in a notebook. A laptop and a smartphone are on the table. The background is a blurred outdoor setting with tables and chairs.

03

Sector opportunities

Sector opportunities

Data Center Deployment and Management, Business Continuity and Information Security.

- The financial and other sectors rely on ICT infrastructure for processing transactions and transferring funds which has made them attractive.
- This infrastructure is required by institutions such as pension funds, banks, brokerage houses, insurance firms, etc.

Digital Terrestrial TV

- The Republic of Ghana signed the Geneva 2006 (GE06) Agreement, which established the Digital Terrestrial Broadcasting Plan.
- Ghanaians stand to benefit from better picture quality, clear sound, more channels, and more interactivity with viewers.
- Furthermore, Ghanaians stand to benefit from frequency spectrum release known as 'Digital Dividend' which will be resold for other telecom services.

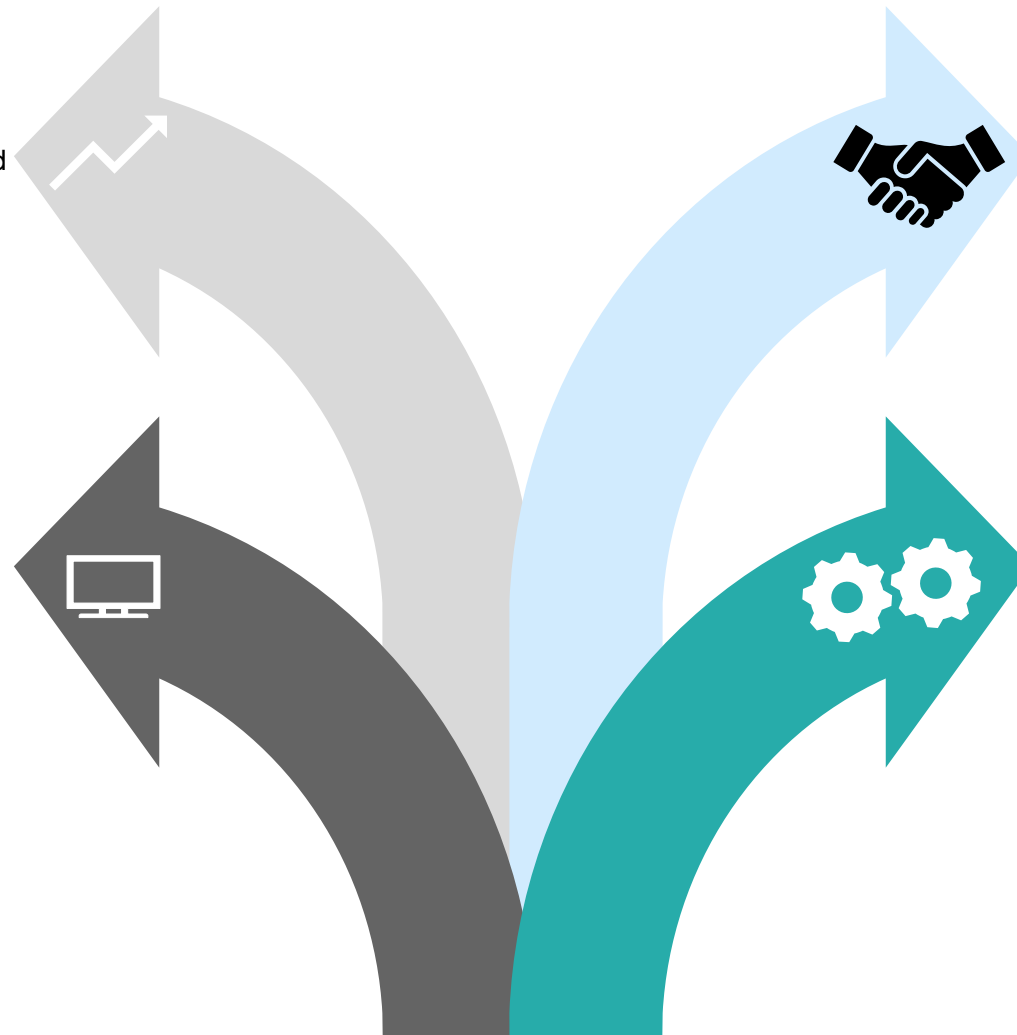
Last-Mile Connectivity - to bring connectivity to the end-user

- Government of Ghana through its interest in the "last mile effect", encourages the extension of fibre optic networks by the last mile to enable all districts and communities to become connected
- By accelerating the digital transformation agenda, this will require connecting the unconnected and choosing efficient, cost-effective deployment technologies, and policy models

Digitization of Government Administration Services (E-Transform)

Ghana has advanced its technological and other support-related services such as the supply of quality telecommunications equipment, ICT equipment, and office and network equipment for the purpose of the below programs;

- Education Communication Network
- Government Private Network
- Ghana Ports & Harbours Communication Network
- Rural Area Networks
- Metropolitan Area Networks
- Justice Department and Police Communication Networks





04

Key investment highlights

Key investment highlights





05

Testimonials

“Ghana provides a conducive environment for the success of the telecom and technology industry; enabling factors include, but not limited to, political stability, a resource rich environment in terms human capital and power, and the operationalisation of AfCFTA to promote trade and collaboration across Africa.

There is enormous room for growth in the industry, which will be significantly driven by continued collaboration between industry and policymakers. Opportunities exist for investments in nationwide penetration of fibre network and the local production of digital content.”

MTN Ghana

A man with short dark hair and glasses, wearing a blue and white striped sweater over a white shirt and dark tie, is seated at a round wooden table. He is focused on writing in a large open notebook with a pen. On the table next to him is a silver laptop with its screen open, and a black smartphone lies flat next to the laptop. The background is a blurred outdoor setting with light blue chairs and a tree trunk.

06

Contact us

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07

Appendix

License Requirement

Ghana has laid up a clear path for investors looking to invest in the nation, with three easy measures to follow to assure compliance.

1

Telecommunication Operations

The process of applying for a telecommunications licence/authorization are listed below:

- Applicant must obtain, complete, and submit the relevant application forms together with relevant documents as enumerated in the Guidelines for Application of Telecommunication Licences and Authorizations and the appropriate Application Fee.
- The National Communications Authority will acknowledge in writing, receipt of the application.
- The National Communications Authority will evaluate the application and respond to the applicant in due course.

2

Electronic Money and Payment Services

Licensing Requirement

1. Company Profile

Before applying for a license, the FinTech company must be a company incorporated under the laws of Ghana and must provide an overview of the company and attach the registration documents from the Registrar General's Department.

2. Governance

The company registration documents should include the profile of shareholders indicating their respective percentage shareholding, nationality, copies of share certificate of the company attestation from a notary public confirming ultimate beneficial owner(s) with 10% or more of total share ownership and voting rights, profile of the Board of Directors and key management personnel required by Act 987, the organisational structure and profile of promoters where applicable.

3. Business Plan

In addition to the company registration documents, the following information is required; business overview, market analysis, products and services to be offered with transactional limits, on-boarding process and fees or charges where applicable as well as five years financial projections for the proposed business.

4. Systems and Technology

The following Information, Communication, and Technology (ICT) systems are to be employed:

- ICT Architecture diagram highlighting Security and Control
- ICT Policy Framework
- ICT Security and Control (including Transaction Monitoring Tool, Fraud Monitoring and Detection Tool and at least two-factor

License Requirement

Ghana has laid up a clear path for investors looking to invest in the nation, with three easy measures to follow to assure compliance.

<div>2</div> <div>Electronic Money and Payment Services</div>	<div>Licensing Requirement</div> <div>5. Authentication</div> <ul style="list-style-type: none">• Business Continuity Programme (including Disaster Recovery Plan)• Data Protection Certificate• ISO 27001-2013 and PCI DSS certification and Certificate of Compliant where applicable• EV-SSL Tool where applicable <div>6. Enterprise Risk Management</div> <p>There should be risk and mitigation measures covering operational, market, liquidity, money laundering, fraud, credit and funding risks where applicable, business impact assessment and an anti-money laundering / combating financing of the Terrorism (AML/CFT) policy.</p> <p>Consumer Protection Policy</p> <p>The Consumer Protection Policy should be guided by the Consumer Recourse Mechanism Guidelines for Financial Service Providers (2017) and Act 987.</p>
<div>3</div> <div>Media</div>	<div>1. Applicant must register a company with an object to provide broadcasting service and provide the following as evidence of registration and incorporation:</div> <ul style="list-style-type: none">• Certificate of Incorporation (in Ghana).• Certificate to Commence Business (in Ghana).• The company's Regulations include the shareholding structure (NB: The Company should have a minimum of 30% indigenous Ghanaian ownership).• Relevant Experience/Evidence of Ability to perform including agreements drawn up with any principals.• Evidence of Tax payment/Tax Clearance Certificate (Not applicable to start-ups).• SSNIT Contribution of Workers (Not applicable to start-ups). <div>2. Applicant must complete and submit the NCA Form AP03 and attach three (3) passport-size photographs of its authorized representative.</div> <div>3. Applicant must pay the non-refundable requisite application fee by Banker's Draft to the National Communications Authority (NCA).</div>

License Requirement

Ghana has laid up a clear path for investors looking to invest in the nation, with three easy measures to follow to assure compliance.

3

Media(continued)

4. Applicant must submit a feasibility report of the venture which should include the following:

I. Project Study

- a. Engineering design system, (indicate proposed Transmitter and Studio Location, equipment parameters such as transmitter power, antenna gain, cable type, and losses, etc; planned coverage area)
- b. Implementation Plan / Timetable from date of Authorisation [Please note that the station must be established within two (2) years from the date of Authorisation]

II. Market Plan

- a. Market analysis (Demonstrate an understanding of the market the station would be entering)
- b. Marketing plan: (Plan to promote the station and gain market share (audience and business/advertising))

III. Business Plan

- a. Organizational Structure (include the educational and technical background as well as experience of key personnel such as CEO/General Manager, Engineer/Technical Head, etc)
- b. Required Capital Investment: This should include :
 - i. Estimated cost of equipment
 - ii. Estimated cost of real estate
 - iii. Estimated cost of initial content acquisition
 - iv. Estimated cost of project management and other costs necessary for the establishment of the station
- c. Forecasted Financial Statements for the first three (3) years of operation, to include:
 - i. Income Statement
 - ii. Balance Sheet
 - iii. Cash flow Statement
- d. Statement on how the company is going to finance its capital investment and its operations during the first ninety (90) days after commencement of service.

License Requirement

Ghana has laid up a clear path for investors looking to invest in the nation, with three easy measures to follow to assure compliance.

<div>3</div> <div>Media(continued)</div>	<div>III. Business Plan (continued)</div> <div><div>e. Programming Philosophy. Please indicate the nature of programming the station intends to churn out.</div><div>f. Any other information that is relevant to demonstrate the viability of the project.</div></div> <div>5. Applicant is to submit a signed letter of commitment stipulating that they will abide by all existing ITU Regulations and communication laws of the country as well as other rules and regulations that may be issued.</div> <div>6. Applicant must submit all the above, together with an application letter and address the application to the Director General, NCA.</div> <div>The National Communications Authority will acknowledge receipt of application and evaluate the application. The outcome of the evaluation will be communicated to the applicant when the evaluation is completed.</div>
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Appendix II: Snapshot of media industry

As of Q4 2021, the National Communication Authority had granted frequency authorizations to 684 FM Broadcasting Stations in Ghana.

Of this number of authorised FM Broadcasting Stations, 489 stations are currently operational.

Market Information

Licensed Radio Stations



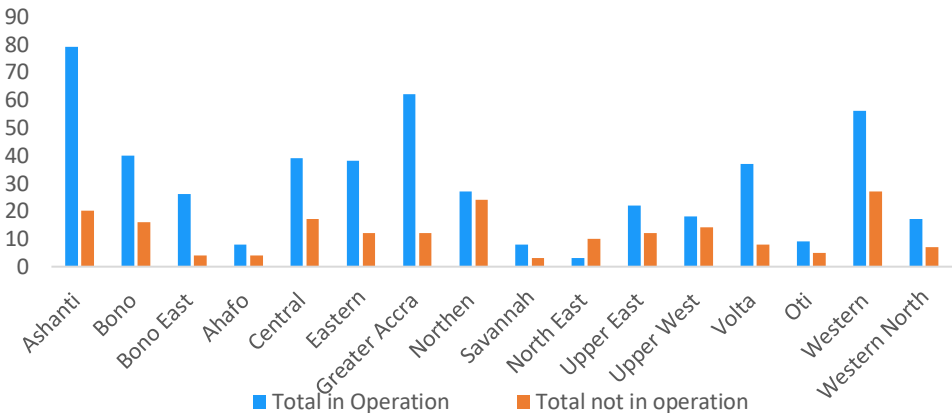
December 2021

Active Radio Stations



December 2021

Regional Distribution of Radio Stations



As of Q4 of 2021, the total number of TV operators authorized by the National Communications Authority (NCA) to operate in Ghana was 141.

Of the 141 TV stations, a total of 110 stations are on air.

Market Information

Licensed TV Stations



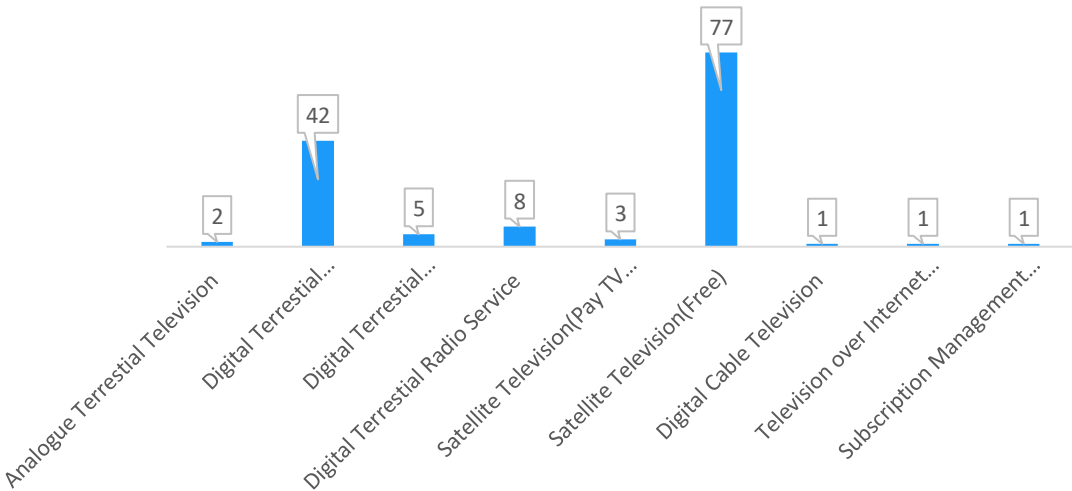
December 2021

Active TV Stations







December 2021

Authorized TV Stations



Appendix III: Porter's five forces

Threat	Severity of threat	Description
Threat of new entrants		<ul style="list-style-type: none"> ▶ There is a low threat of new entrants into the industry as a result of high entry cost, high regulatory oversight and high entry requirements especially in the Telecom and Fintech industry. ▶ Though, it is easy to commence operations, scalability and expansion can prove very difficult. ▶ The Ghanaian Telecom and Fintech industry has certain barriers to entry such as technical knowledge
Threat of substitutes		<ul style="list-style-type: none"> ▶ There is a high buyers bargaining power in the industry. ▶ The low switching costs of the customers from one Telco's operator to another lends credence to the high bargaining power of customers in this industry.
Competitive rivalry		<ul style="list-style-type: none"> ▶ There is a highly competitive rivalry in the industry as there are 4 known telecom operators in Ghana. ▶ Current industry players are few and are large enough to control significant market share that would warrant their dictation of market fundamentals.
Bargaining power of suppliers		<ul style="list-style-type: none"> ▶ The bargaining power of the suppliers in the Ghanaian Telco and Fintech industry is low. Sources of input supply in this industry is import-dependent and there are multiple countries from which imports are made.
Bargaining power of customers		<ul style="list-style-type: none"> ▶ There is a high buyer bargaining power in the industry. The low switching costs of the customers from one MNO operator to another lends credence to the high bargaining power of customers in this industry.

 Low
  Medium
  High