WACOMP

WEST AFRICA COMPETITIVENESS PROGRAMME
REGIONAL INVESTMENT PROFILE

ICT VALUE CHAIN

Funded by
the European Union

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UEMOA

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This investment profile has been prepared under the framework of the West Africa Competitiveness Programme (WACOMP) which is funded by the European Union. WACOMP is implemented by the International Trade Centre and the United Nations Industrial Development Organization (UNIDO) in collaboration with the Commission of the Economic Community of West Africa (ECOWAS). WACOMP covers all ECOWAS member States plus Mauritania. WACOMP focuses on four selected value chains, namely mango, textile/garments, information and communication technology and cassava. It aims to strengthen the competitiveness of West African Countries and enhance their integration into the regional and international trading system, through an enhanced level of production, transformation and export capacities of the private sectors in line with the regional and national industrial and SME strategies.

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Abbreviations & Acronyms

Unless otherwise specified, all references to dollars ($) are to United States dollars (USD) and all references to tons are to metric tons.

ACP	African, Caribbean and Pacific Group of States
AMU	Arab Maghreb Union
BPO	Business process outsourcing
CET	Common external tariff
COMESA	Common Market for Eastern and Southern Africa
ECCAS	Economic Community of Central African States
ECOWAS	Economic Community of West African States
ETLS	ECOWAS Trade Liberalization Scheme
EU	European Union
FDI	Foreign direct investment
GDP	Gross domestic product
ICT	Information and communications technology
IMF	International Monetary Fund
ISP	Internet service provider
ITU	International Telecommunication Union
IX	Internet exchange
REC	Regional economic community
SADC	Southern African Development Community
SEZ	Special economic zone
SME	Small and medium-sized enterprises
UNCTAD	United Nations Conference on Trade and Development
WAEMU	Western African Economic and Monetary Union

ECOWAS COMMISSION

The regional investment profile on the Information and Communication Technology (ICT) value chain is being developed with the support of the International Trade Centre (ITC) within the framework of the West Africa Competitiveness Programme (WACOMP) funded by the European Union and implemented by the United Nations Industrial Development Organization (UNIDO) and ITC Geneva.

The WACOMP programme aims to strengthen West Africa's economic competitiveness and develop various national and regional value chains, including cassava, mango, textiles and garments, and information and communication technology, and to improve the business climate in the region.

This investment profile is a compendium of information on the region's potential in the ICT value chain. It is designed to support the private sector in its search for new project ideas and facilitate investment decisions.

In this respect, its development contributes to the implementation of the West African regional industrialisation policy, the EU investment policy and the ECOWAS trade policy.

The ICT industry is growing in West Africa with significant potential. The contribution of this industry in managing the COVID-19 pandemic has enabled economic agents to adapt and demonstrate resilience to external shocks. Indeed, the use of digital solutions such as business and farm management software, e-commerce, e-payment and social media platforms have enabled economic agents to continue their activities and generate substantial revenues. These effects are all the more important as the use of optical fibre has enabled the various actors to benefit from high speed internet access allowing them to conduct commercial transactions at regional and international levels.

The population of West Africa now exceeds 397 million and the current supply of ICT services does not meet the needs of the market. With the implementation of the African Continental Free Trade Area (AfCFTA), the needs of an African market of over 1.4 billion people will be met.

The ECOWAS Commission welcomes the publication of this investment promotion tool for West Africa and takes this opportunity to thank its partners for their support and efforts in its design and drafting.

To the future users of these profiles, we wish a very good use.

Mr. Mamadou TRAORE
Commissioner for Industry
and Private Sector Promotion

EUROPEAN UNION DELEGATION TO NIGERIA AND ECOWAS

At the EU, we are delighted at the dynamic cooperation between us, the Regional Economic Communities (RECs) and the private sector across the region. The investment profile study is being supported by West Africa Competitiveness Programme (WACOMP). This is one of our flagship programmes implemented in West Africa. As a programme dedicated to improving the competitiveness of the region in several value chains, it becomes imperative to showcase the potentials of some of those developed value chains. In order to boost investment (local and international), create jobs especially for the youth in a world struggling and recovering from the COVID pandemic, there is no better time than now to promote the investment opportunities in West Africa/ECOWAS.

We are therefore, wholeheartedly in support of the publications of the ECOWAS Investment Profiles for Mango, Information and Communication Technology (ICT), Textile and Cassava. In the ICT sector, opportunities are driven by the deficit as Africa lags behind the rest of the world in the reach and quality of its ICT penetration. Investment in the order of $3 billion a year will be required to address this. The private sector has served the continent well in providing ICT infrastructure and this should be further encouraged.

Attracting investment and creating a business enabling environment is key to the successful diversification and development of the economies in the region and indeed the whole continent. This is also true for the mango, ICT, textile and cassava value chains. Investment facilitation is at the heart of the EU Global Gateway initiative which aims at the EU institutions and EU Member States jointly mobilising up to EUR 300 billion of investments in selected sectors. The EU is also partnering with Africa under the EU External Investment Plan (EIP). With this, the EU is committed to creating jobs, boosting economies and offering people a brighter future.

This report will provide investors relevant information about how to take advantage of opportunities across the value chains, from production to the market. By taking strategic investment opportunities, investors will be contributing to the economic development of the region.

I would like to thank the ITC and our other WACOMP partners for undertaking this very useful study of the investment profiles in 4 critical sectors (Mango, ICT, Textile and Cassava) that will boost and support investment in the public and private sectors, the governments and the people of West Africa.

Cecile TASSIN-PELZER
Head of Cooperation, European Union Delegation to
Nigeria and ECOWAS

1. ECONOMIC COMMUNITY OF WEST AFRICAN STATES AS AN INVESTMENT DESTINATION

1.1. INTRODUCTION: REGIONAL INTEGRATION IN AFRICA AND ECOWAS

There is wide and longstanding recognition within African leadership that economic prospects in most of the African countries are limited by small national markets. Approximately one-third of African countries have a gross domestic product (GDP) of less than $10 billion, nearly half have a per capita income of less than $1,200 and one-third have a landmass of less than 100,000 km^2. Accordingly, since independence in the 1960s, national leaders have consistently made efforts to secure regional integration, a grouping of national economies intended to create a liberalized single market through harmonized economic policies and the removal of tariff and non-tariff restrictions on trade within the corresponding bloc. The expectation is that this would allow member countries, especially smaller ones, access to scale efficiencies and to exploit any existing synergies among economies that would materialize into rapid economic transformation and growth and development.

The Economic Community of West African States (ECOWAS) was the first post-independence regional economic community (REC) to be established following the Treaty of Lagos on 28 May 1975 (with a Revised Treaty on 24 July 1993).[1] Other countries and regions followed suit, creating as many as 14 RECs. As a result of various initiatives to unite African countries into regional markets, the overlapping of the African RECs offers a visual depiction of a 'spaghetti bowl'. Eight of these regional bodies constitute the building blocks of the African Economic Community, which was established by the 1991 Abuja Treaty and is the overarching framework for continental economic integration.[2]

Table 1: Extent of economic integration in the eight major African RECs

Economic Community of West African States (ECOWAS)	Free trade area; customs unions; common currency in force for the Western African Economic and Monetary Union (WAEMU) subset, in progress for the whole region
Arab Maghreb Union (AMU)	Stalled.
Common Market for Eastern and Southern Africa (COMESA)	Free trade area; customs union; currency union in progress
Economic Community of Central African States (ECCAS)	For the Economic Community of Central African States (CEEAC) subset: free trade area, customs unions and currency union
Southern African Development Community (SADC)	For the Southern African Customs Union (SACU) subset: free trade area and customs union; currency union in progress for the whole region
East Africa Community (EAC)	Free trade area; customs union; currency union in progress
Community of Sahel-Saharan States (CEN-SAD)	No free trade; no customs union; no currency union
Intergovernmental Authority on Development (IGAD)	No free trade; no customs union; no currency union

Source: United Nations Economic Commission for Africa (UNECA).

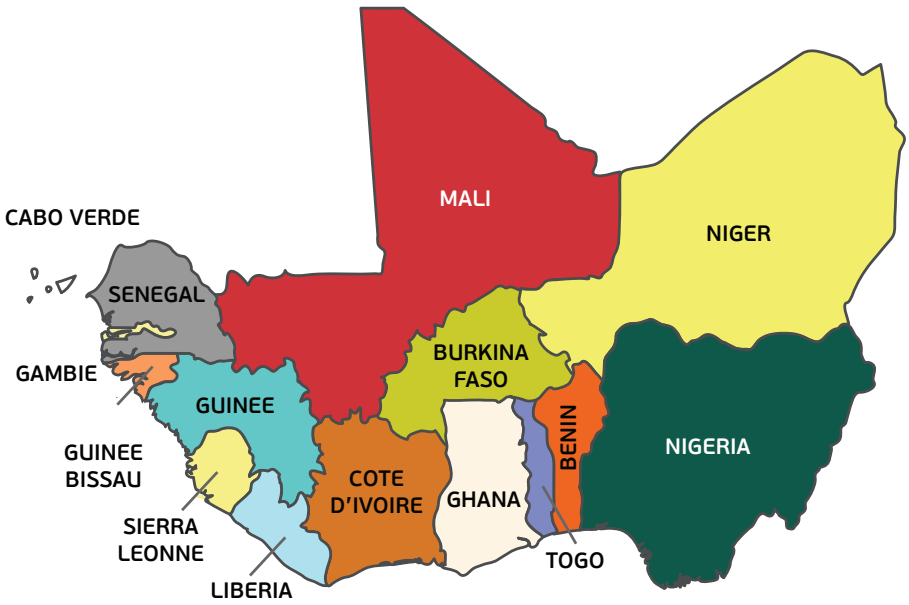
1 The signatories included all current 15 West African countries, except the Republic of Cabo Verde, which joined the following year. The Islamic Republic of Mauritania withdrew in 2000, but applied for a new associate membership in August 2017. The Kingdom of Morocco has also shown interest in joining the community since February 2017.

2 The remaining regional blocs are the Mano River Union (MRU) in Western Africa, the Indian Ocean Commission (IOC) in Southern Africa, the Economic Community of the Great Lakes Countries (CEPGL) in Central and Southern Africa, the Liptako–Gourma Authority (LGA) in Western Africa, the Greater Arab Free Trade Area (GAFTA) between North African and Middle Eastern states) and the Southern African Customs Union (SACU).

One of the region's advantages is its geographical location. It stands at the crossroads of important routes linking Europe, the Americas and the rest of Africa. This relative proximity to some of the world's economic epicentres undoubtedly makes the region a true hub, which makes trading with these parts of the world relatively less costly. This uniquely favourable geographical position, combined with ever-improving living conditions and an increasingly attractive business environment, helps explains the 13.3% increase in international arrivals from both business and leisure tourism in the recent period (2015–18). The figure is more than twice the 5.7% average in the rest of Africa.

The region also enjoys a vast array of natural resource endowments in a general climatic context, ranging from the northern arid and semi-arid Sahara Desert and the Sahel to the southern tropical monsoon and rainforest. It is estimated that the region in effect hosts more than 29% of total proven oil reserves in Africa, and more than 36% of natural gas reserves.[3] The resource portfolio also includes minerals such as diamonds, gold, uranium, platinum, copper, cobalt, iron, bauxite, silver, iron ore and phosphate, to name a few. This largely untapped wealth provides limitless opportunities for industrialization and economic development in the face of ever-increasing world demand for such commodities.

Figure 1: Map of ECOWAS member states



Source: Retrieved from ECOWAS website.

Table 2: ECOWAS in the context of some of the major African RECs

	ECOWAS	AMU	COMESA	ECCAS	SADC
Establishment date	1975	1988	1994	1983	1980
Number of member countries	15	5	19	11	15
Landmass (million km²)	5.1	5.8	12	6.5	10
Population (million)	386.9	102.5	553.8	198.5	353.1
Regional integration performance (United Nations Economic Commission for Africa, 0-1)	0.43	0.49	0.37	0.44	0.34
Trade integration	0.44	0.48	0.45	0.36	0.34
Productive integration	0.22	0.45	0.33	0.32	0.24
Macroeconomic integration	0.47	0.57	0.37	0.68	0.42
Infrastructure integration	0.30	0.51	0.32	0.37	0.21
Free movement of people	0.73	0.44	0.39	0.47	0.49

Source: Author's calculations, from World Bank and the United Nations Economic Commission for Africa (UNECA).

3 Source: http://www.bp.com/statisticalreview.

The drive towards a common regional market that would effectively provide the basis for greater economic efficiency has progressed along the following steps:

i. The free movement of goods and services through the removal of tariff and non-tariff barriers, under the framework of the ECOWAS Trade Liberalization Scheme (ETLS), adopted in 1979;

ii. Also in 1979, the adoption of the Protocol on the Free Movement of Persons and the Right of Establishment and Residence, further facilitated since 2014 by a common biometric ID card to be used as a travel document within the region in place of the ECOWAS Travel Certificate; the Protocol, in particular, pertains to non-national investors, including those outside the region, who can start and do business anywhere in the region and hire workers from any nationality;

iii. A common external tariff (CET), effective since 1 January 2015, with a simplified code made up of five tariff bands;

iv. Macroeconomic stability surveillance mechanisms through convergence criteria;

v. A single currency (CFA franc) for the subgroup of eight countries that make up the West African Economic and Monetary Union (WAEMU), with a common central bank (in charge of monetary policy) and a fixed exchange rate regime against the euro.[4] In the future, a single common currency is planned for the whole ECOWAS region – with ECO being the official name of the regional currency.

The dynamism has been reaffirmed through Vision 2020, adopted through a resolution in June 2007, which actively seeks to 'create a borderless, peaceful, prosperous and cohesive region, built on good governance and where people have the capacity to access and harness its enormous resources through the creation of opportunities for sustainable development and environmental preservation'.[5]

The ensuing collective and national efforts are meant to further raise the region's attractiveness, which rests on improved peace security and stability, strong institutions, ease of doing business, high-quality infrastructure, strong economic performance, intraregional and international trade performance, as well as large foreign direct investment (FDI) inflows.

1.2. ECOWAS: A PEACEFUL, SECURE AND STABLE REGION

The region has become a more peaceful place to live and do business. Although some countries of the region have recently faced political turmoil, others have been ranked by the World Bank among the most politically stable and less violent on the continent. The latest figures of the World Governance Indicators, in their 'Political Stability/No Violence' dimension, have ranked the region as peaceful place: "The region averages 36.8/100, in comparison to other regions such as the Arab Maghreb Union (AMU) or the Common Market for Eastern and Southern Africa (COMESA) which average 29.2/100 and 35.1/100 respectively.[6]

The number of internally displaced persons in the region as a result of conflict and violence has decreased by 27.3% since 2013 to reach 318,944 in 2018. Elsewhere in Africa, the trend has been in the opposite direction, with corresponding figures of 47.5% and 624,071. Security has also improved significantly, with an average of 2.5 crimes per 100 000 people against 10 elsewhere in Africa.

There are, however, some concerns related to political and religious turmoil. They include the instability and violence that often mars national election processes, such as recently in Guinea and Cote d'Ivoire, or military coups that undermine the democratic process, such as in Mali. Religion-based violence and terrorism are also prevalent, most notably in the Sahel region of Mali, Burkina Faso, the Republic of the Niger and the Federal Republic of Nigeria. The Sahel is the transition region between the Sahara Desert to the north and the Sudanese savanna to the south, stretching between the Atlantic Ocean to the west and the Red Sea to the east. If the West African Sahel has indeed experienced instability in recent decades, the region outside the Sahel, which is larger (except in the Niger), is more of a haven, being spared from such instability. As a result of national and collective efforts, with support in many cases from Western powers, the situation is improving, although the way to lasting peace, security and stability proves relatively long.

Additionally, the June 2015 establishment of the Mediation Facilitation Division (MFD), a directorate within the ECOWAS Directorate of Political Affairs, Peace and Security (PAPS), constitutes an important instrument for conflict prevention, management, resolution, peacekeeping and security. It aims to

4 The eight WAEMU countries are the Republic of Benin, Burkina Faso, the Republic of Guinea Bissau (joined in May 1997), the Republic of Cote d'Ivoire, the Republic of Mali, the Republic of the Niger, the Republic of Senegal and the Togolese Republic.

5 Source: https://www.ecowas.int/about-ecowas/vision-2020/.

6 Source: author's calculations, based on data from World Bank, WIPO and Heritage Foundation. Scores are averages for 2010-2018 on 0-100 scale and high values are synonymous with high quality institutions.

promote 'preventive diplomacy in the region through competence and skills enhancement of mediators, information sharing and logistical support'. Specific interventions include the creation of an enabling environment for the resolution of pre-electoral/ political disputes prior to holding elections (such as in Guinea in 2015 and in the Niger in 2015–16), and providing technical support to ECOWAS' special envoys tasked with the resolution of political and institutional crises (such as in Guinea Bissau in 2015). All of these are a further indication of the region's strong commitment to greater peace and stability.

1.3 INSTITUTIONAL DEVELOPMENT

The quality of the institutional setting has also been on the rise as populations and governments across the region (and the whole continent) resolutely embrace democratic principles and rule of law. Almost all related indicators show significant improvement across the region, often at a faster pace than the rest of the Africa. For example, ECOWAS countries rank higher in the Index of Economic Freedom[7] that captures countries' ability to 'promote economic opportunity, individual empowerment and prosperity' through the rule of law (property rights, government integrity and judicial effectiveness), government size (government spending, tax burden and fiscal health), regulatory efficiency (business freedom, labour freedom and monetary freedom) and open markets (trade, investment and financial freedom). In the last decade, countries across the region have gained 2.3% to reach the average score of 55.8/100 in 2020. More than half of them (8) make up the 20 African countries with the highest scores. Overall, the region is second to SADC, which scored 57.5 in the same year

The region is also consistently ahead of the rest of the continent when it comes to the World Bank's indicators that capture governance quality. They comprise voice and accountability, government effectiveness, regulatory quality, rule of law and control of corruption, in addition to political stability and absence of violence. In each one of these dimensions, the 2019 survey reveals positive and significant differentials in favour of ECOWAS countries, ranging from 1.6% (political stability and absence of violence) to 5.5% (regulatory quality) and 12.7% (voice and accountability).[8] These differences are indicative of how far traditions and institutions, by which authority is exercised, have been accommodating business activities in the regional context, as opposed to other parts of Africa. In fact, investors tend to be very sensitive to 'the process by which governments are selected, monitored and replaced; the capacity of the government to effectively formulate and implement sound policies; and the respect of citizens and the state for the institutions that govern economic and social interactions among them'.

When it comes to dispute settlements between an investor and a State, the Protocol on the Community Court of Justice established the ECOWAS Court of Justice in 1991, based in Abuja, Nigeria. Since a Supplementary Protocol in 2005, any private person can access the judicial organ for disputes arising under ECOWAS community law. In particular, under Article 9 of the Protocol, the court has jurisdiction 'over any matter provided for in an agreement where the parties provide that the court shall settle disputes arising from the agreement'. Its rulings supersede national legislations and have to be automatically enforced by national courts. Disputes can be between a private party (investor or business, etc.) and a member State, or between two private parties. One case between two private parties involved Nigeria-based Petrostar Ltd and Blackberry Ltd, in which the court was willing to determine a contractual dispute between two private parties on the basis of a forum selection clause in their agreement that provided that disputes should be settled by the court.

Table 3: Institutional quality in ECOWAS and other major African RECs

	ECOWAS	AMU	COMESA	ECCAS	SADC
Global Innovation Index – score 0–100	20.2	26	23	22.6	24.5
Political stability/no violence – score 0–100	37.5	28.7	35.0	32.8	43.6
Rule of law – score 0–100	38.3	36.7	35.4	27.6	38.4
Control of corruption – score 0–100	40.4	36.2	34.6	29.7	40.0
Regulatory quality – score 0–100	38.3	29.8	33.0	29.5	38.0
Index of Economic Freedom – score: 0–100	55.8	55.3	54.8	52.6	57.5

Source: Author's calculations, from World Bank and World Intellectual Property Organization.

7 Source: https://www.heritage.org/index/ranking.

8 Source: https://info.worldbank.org/governance/wgi/; ensuing quotes are from the same source.

In addition to the judicial organ, the administrative structure includes the ECOWAS Commission, the administrative governing instrument that is viewed as the 'engine room of all ECOWAS programs, projects and activities'.[9] Headquartered in Abuja, Nigeria, it is mainly tasked with implementing regional programmes and protocols through the adoption of rules that have legal force. The commission also makes recommendations, gives advice and provides support to country members to develop their capacities for national appropriation of regional agreements.

The ECOWAS Bank for Investment and Development (EBID) is another important regional institution.[10] Since its establishment in 1999, as a replacement of the Economic Community of West African States Fund for Cooperation, Compensation and Development (ECOWAS Fund), the EBID has contributed to the 'financing of infrastructure projects relating to regional integration or any other development projects in the public and private sectors' and 'assisting in the development of the Community by funding special programs'. It has two subsidiaries: the ECOWAS Regional Development Fund (ERDF) for financing the public sector and the ECOWAS Regional Investment Bank (ERIB) for financing the private sector.

One of its corporate objects pertains to carrying out any commercial, industrial or agricultural activity, in as much as such activity is secondary to its objective. Among the beneficiaries of EBID financial and technical assistance are corporate bodies from ECOWAS member states or from foreign countries desirous of investing in the ECOWAS zone, in sectors within EBID's areas of intervention. For private sector project funding, requests submitted to the bank's president can top $22.5 million, insofar as they fall within the scope of its areas of intervention. The latter include, among others, industrial activities such as agribusiness, mining industry and other industries, technology transfer or technological innovation, and services sectors such as financial services and services related to information technology, financial engineering or hotels.[11]

1.4 EASE OF DOING BUSINESS

Doing business in the region is becoming easier. The overall score has in effect increased by 10.6% in the last decade to reach 53.4 out of 100 in the 2020 survey. The increase is the largest in Africa: it is more than double the changes in other RECs. The corresponding strong pace of reforms would, in the short term, make doing business in the region equally easy or even easier than the rest of Africa.

The current business environment makes starting a business much easier and less costly in the ECOWAS region, on average, compared to other African RECs. For example, it takes less time to register a business, there are fewer procedures involved and the corresponding fees are also among the lowest in Africa.

When it comes to legal rights protection, the region provides the strongest system in Africa as far as the credit market and minority shareholders are concerned.

Trade costs, as related to border and document compliance, are among the lowest on the continent, as well as the recovery rate when it comes to resolving insolvency.

Additionally, the region is also well perceived by domestic and international business communities when it comes to market prospects such as size, growth, intensity, consumption capacity and receptivity, as well as commercial infrastructure, economic freedom and country risk. According to the 2020 Market Potential Index, three out of the 15 African countries were located in the region: Cote d'Ivoire, Nigeria and the Republic of Ghana. They scored an average of 19 out of 100, which was more than their fellow Africans (15.5).[12]

Moreover, when it comes to the ranking of countries that are best for business, Ghana, Senegal, Cabo Verde, Nigeria, Cote d'Ivoire and Benin are ranked among the top 20 African countries, as a combination of GDP growth, the level of development (GDP per capita), trade performance (trade balance/ GDP) and market size (population).[13]

9 More details about the ECOWAS Commission's specific responsibilities and functions and how it is manned can be found here: https://www.ecowas.int/institutions/ecowas-commission/.

10 Additional intuitions include the Authority of Heads of State and Government, the Council of Ministers, the Community Parliament and specialized technical committees. Besides these institutional bodies, there are the ECOWAS specialized agencies, such as the West African Health Organization (WAHO), the West African Monetary Agency (WAMA), the West African Monetary Institute (WAMI), the Inter Governmental Action Group Against Money Laundering in West Africa (GIABA), the ECOWAS Gender and Development Centre (EGDC), the ECOWAS Youth & Sports Development Centre (EYSCD), the ECOWAS Centre for Renewable Energy and Energy Efficiency (ECREEE), the ECOWAS Regional Electricity Regulatory Authority (ERERA), West African Power Pool (WAPP), the Regional Agency for Agriculture and Food (RAAF), the ECOWAS Infrastructure Projects Preparation and Development Unit (PPDU), the Water Resources Coordination Centre and the ECOWAS Brown Card Insurance Scheme. Overall, the general structure resembles that of the European Union.

11 Additional details, including specific private sector projects already funded at national or regional levels, can be found here: https://bidc-ebid.org/en/home/aboutus.

12 Source: https://globaledge.msu.edu/mpi/2020.

13 Source: https://www.forbes.com/best-countries-for-business/list/#tab:overall.

Table 4: Doing business in ECOWAS and other major African RECs					
	ECOWAS	AMU	COMESA	ECCAS	SADC
Overall score 2020	**53.4**	**54.9**	**54.9**	**44.5**	**58.2**
Change – since 2010	**10.6**	**4.9**	**6.6**	**4.7**	**5.0**
Starting a business					
Starting a business – procedures (number)	5.5	6.6	7.6	7.6	7.8
Time (days)	9.6	15.4	23.1	22.3	25.7
Paid-in minimum capital (% of income per capita)	3.5	6.0	7.5	25.8	0.3
Dealing with construction permits – score	**58.7**	**58.6**	**56.9**	**57.4**	**65.0**
Procedures (number)	16.1	14.8	13.9	14.3	14.0
Time (days)	137.2	106.5	137.0	154.0	149.7
Cost (% of warehouse value)	11.1	4.5	8.0	10.4	7.0
Getting electricity – score	**49.9**	**70.0**	**54.4**	**46.8**	**59.7**
Procedures (number)	5.3	4.4	4.5	5.5	5.3
Time (days)	124.3	73.0	100.1	94.1	111.1
Reliability of supply and transparency of tariff index	15.0	45.0	24.3	12.5	31.7
Price of electricity (US cents per kWh)	21.0	10.5	13.7	14.2	14.1
Registering property – score	**53.4**	**58.8**	**60.6**	**50.0**	**56.7**
Procedures (number)	5.8	5.0	6.0	5.7	6.3
Time (days)	51.1	31.8	36.7	58.5	51.1
Cost (% of property value)	7.4	4.8	4.6	8.8	6.7
Reliability of infrastructure index	15.8	43.8	35.8	18.2	30.0
Getting credit – score	**47.3**	**29.0**	**51.3**	**37.7**	**53.7**
Strength of legal rights index	50.6	15.0	47.9	42.4	41.7
Credit bureau coverage (% of adults)	7.0	6.3	12.0	1.4	23.9
Protecting minority investors – score	**40.5**	**40.4**	**46.4**	**27.8**	**47.3**
Extent of shareholder rights index	45.6	33.3	38.5	--	38.9
Extent of corporate transparency index	23.8	31.4	29.5	--	34.3
Strength of minority investor protection index	40.5	40.4	46.4	27.8	47.3
Paying taxes – score	**56.2**	**63.3**	**67.5**	**45.0**	**70.6**
Payments (number per year)	40.7	18.6	28.1	42.0	31.3
Time (hours per year)	268.7	344.6	239.8	458.8	206.5
Total tax and contribution rate (% of profit)	46.9	54.4	35.4	53.3	31.8
Trading across borders – score	**56.7**	**64.7**	**55.7**	**39.0**	**61.1**
Time, border/doc. compliance, export/import (hours)	91.8	66.9	100.6	144.0	78.7
Cost, border/doc. compliance, export/import (USD)	388.7	340.1	426.0	657.4	419.4
Enforcing contracts – score	**50.1**	**58.3**	**51.4**	**41.1**	**49.2**
Time (days)	658.9	553.0	632.6	777.4	694.7
Cost (% of claim)	42.0	24.1	40.1	50.2	43.6
Quality of judicial processes index	39.3	37.2	41.3	33.6	43.7
Resolving insolvency – score	**38.5**	**52.1**	**45.6**	**36.4**	**44.6**
Time (years)	3.1	2.0	2.5	3.9	2.2
Cost (% of estate)	20.9	10.7	19.1	33.5	16.7
Recovery rate (cents on the dollar)	25.1	43.6	30.5	15.3	34.9

Notes: Scores are turned into percentages whenever relevant. Darker grey shadings represent areas where the ECOWAS region fares better than the rest, and lighter grey shadings correspond to the region being ranked second.

Source: Author's compilations, from Doing Business 2020, World Bank (https://www.doingbusiness.org/en/data).

1.5 INFRASTRUCTURE (HARD AND SOFT)

According to the African Infrastructure Development Index, the region is surely trailing other RECs when it comes to physical or hard infrastructure, but there is noticeable improvement that suggests it is catching up, as it has embarked on ambitious regional and national infrastructure development programmes.

As far as logistics performance is concerned, the overall World Bank ranking puts the region third among Africa's RECs. The dimension in which the region comes first is the 'ability to track and trace consignments'. For the remaining sub-components of the overall index, the region comes second for the 'ease of arranging competitively priced shipments'.

Furthermore, from the perspective of the Global Cities Index, Abidjan, Accra and Lagos are ranked among Africa's most vibrant and competitive cities in 2015–19.[14] These rankings are indicative of high competitiveness in key areas ranging from business activities to culture to human capital, political engagement and information exchange. They are suggestive of the general state of personal well-being, the economy, innovation and governance, which are 'important factors multinational corporations to non-governmental organizations should consider as they decide where and why to invest'.

Further to the region's dynamism and vibrancy, the 2020 Global Innovation Index ranked four West African countries (Senegal, Ghana, Cote d'Ivoire and Nigeria) among the top 15 most innovative economies in Africa.[15] This favourable outcome is a result of high-quality and fairly supportive 'institutions, human capital and research, infrastructure, market and business sophistication and the scope of knowledge and technology and creative outputs'.

As a way to attract FDI, increase exports, create jobs and generate productivity spillovers, each one of the West African countries has developed at least one special economic zone (SEZ). The general goal is to strengthen the tendency for manufacturing and service industries to geographically concentrate in cities and industrial clusters, as a way to 'build resilient infrastructure, promote sustainable industrialization and foster innovation'.[16]

Table 5: Infrastructure quality in ECOWAS and other major African RECs

	ECOWAS	AMU	COMESA	ECCAS	SADC
Logistics Performance Index (World Bank): Overall score	**48.9**	**48.0**	**49.7**	**47.8**	**50.0**
Ability to track and trace consignments	51.4	48.3	49.5	46.5	50.7
Competence and quality of logistics services	46.7	45.7	49.7	47.4	49.4
Ease of arranging competitively priced shipments	50.4	46.6	49.6	50.9	49.5
Efficiency of customs clearance process	44.1	44.0	46.4	43.6	46.9
Frequency with which shipments reach consignee within scheduled or expected time	56.3	57.3	56.3	54.0	57.5
African Infrastructure Development Index (African Development Bank): Overall	**20.6**	**58.5**	**34.0**	**18.2**	**33.3**
Transport	6.9	16.8	15.7	6.1	13.9
Electricity	17.0	32.5	19.7	13.0	25.0
ICT	17.0	32.5	19.7	13.0	25.0
Water and sanitation system	63.1	90.2	66.5	61.3	67.0

Note: Values are between 0 and 100, and higher scores indicate better performance.

Source: Author's calculations from World Bank's Logistics Performance Index and from the African Development Bank (http://infrastructureafrica.opendataforafrica.org/hwkjvvf/national-infrastructure).

14 Source: https://www.kearney.com/global-cities/2019; the following quote is from the same source.

15 Source: https://www.globalinnovationindex.org/analysis-indicator; the following quote is from the same source.

16 This is one of the UN Sustainable Development Goals (SDGs, the 9th), and it is said to have been adopted at the urging of African delegations.

The functionality of these SEZs is very diverse, in line with the main objective assigned to them by law. They range from export processing zones to free zones, international business centres, technology villages, business parks, industrial parks, gas parks and economic cities. As of 2018, 56 SEZs were located in West Africa. Each ECOWAS member country has at least one SEZ, either fully operational or under development, and the most recent ones include the cross-border SEZ between Cote d'Ivoire, Burkina Faso and Mali in 2018.[17] The smallest SEZ is in the Republic of Sierra Leone (less than 100 hectares) and the largest, from an African perspective, are in Senegal and Ghana (more than 1,000 ha).[18] Additionally, these SEZs tend to be multi-activity platforms (53 of them), as they are open to a large variety of business activities, often interrelated, while only three are specialized in specific activities.

While the qualitative performance of SEZs in the region and in Africa in general tends to be limited, these schemes still remain attractive and viable instruments for industrial policies.[19] Past experience and lessons from success stories around the world tend to underlie the design of the most recent SEZs across the region (14 since 2000). The expected greater potentials for industrialization mean that investors established in these specific locations can definitely enjoy a host of fiscal and regulatory incentives and infrastructure support.

17 So far, the shared SEZ has yet to be effective and various aspects such as related its governance or management, issuance of licences or permissions and tax collection have not yet been formally developed. Lack of significant political will and insecurity in the region are some reasons often mentioned.

18 Source: United Nations Conference on Trade and Development (UNCTAD): World Investment Report 2019 – Special Economic Zones. Retrieved from https://investmentpolicy.unctad.org/publications/1204/world-investment-report-2019---special-economic-zones.

19 Additional discussions can be found in Newman, C. and Page, J. (2017). 'Industrial clusters: The case for Special Economic Zones in Africa'. Wider Working Paper 2017/15. Retrieved from https://www.wider.unu.edu/publication/industrial-clusters-1#:~:text=The%20case%20for%20Special%20Economic,to%20learning%20and%20technology%20transfers.

Table 6: Economic performance in ECOWAS and other major African RECs					
	ECOWAS	AMU	COMESA	ECCAS	SADC
GDP (nominal, USD billion)	689.2	387.2	746.1	246.3	691.2
Share of agriculture (%)	27.1	14	18.6	19.8	10.4
Share of industry (%)	19.2	29.6	23	31.9	25.8
GDP growth, real, 2010–19	4.7	1.7	3.6	2.6	3.8
GDP per capita (nominal, USD)	1301.6	3966.3	3244.2	2460.2	4089.5
Competitiveness score, 0–100	47.3	53.4	48.6	37.0	48.2
Population (million)	386.9	102.5	553.8	198.5	353.1
Population growth (%)	2.6	1.7	2.2	2.7	2.0
Urban population (% of total)	45.9	68.1	38.4	51.6	43.5
Labour force (% of total population)	37.4	32.0	41.5	39.8	42.9
Literacy, adults (+25 years, %)	48.6	69.6	75.8	68.1	83.7
Literacy, youth (15–24 years, %)	63.0	86.4	87.4	75.9	90.4
Male	69.0	88.9	88.0	79.3	91.3
Female	57.1	83.8	86.8	72.8	89.6
Unemployment, youth (% of total labour force, 15–24 years)	8.6	30.6	14.2	12.1	21.4
Self-employed, total (% of total employment)	78.8	34.2	61.1	69.1	57.7
Inflation – consumer prices (%)	3.4	2.8	9.3	3.4	5.5
External debt stock (% of gross national income)	38.2	58.3	50.6	38.6	42.7
Domestic credit to the private sector (% of GDP)	20.2	48.0	24.3	15.1	36.8
FDI stock (current, USD billion)	171.7	137.0	253.1	75.0	316.3
Domestic private investment (% of GDP)	23.6	35.4	23.1	20.8	23.8
Trade balance (% of GDP)	-15.6	-5.2	-6.7	-0.5	-13.5
Poverty rate, $1.9, 2011, purchasing power parity (PPP) (%)	33.9	2.4	33.7	41.0	33.4
Access to electricity (% of population)	48.5	82.3	52.1	46.8	52.3
Account ownership (% of population, ages 15+)	36.5	39.0	49.4	32.9	50.3

Source: Author's calculations, from World Bank and World Economic Forum data.

1.6 ECOWAS' ECONOMIC PERFORMANCE

Prior to the global COVID-19 pandemic, the ECOWAS region performed well above other RECs when it comes to economic growth. Since 2010, the region has grown an average of 4.7%, which is almost 1% higher than the closest region (SADC, with 3.8%). Moreover, the region is home to six of the 10 fastest-growing African economies in the last decade, with an average growth of 5.6% (Togo) to 6.7% (Cote d'Ivoire).

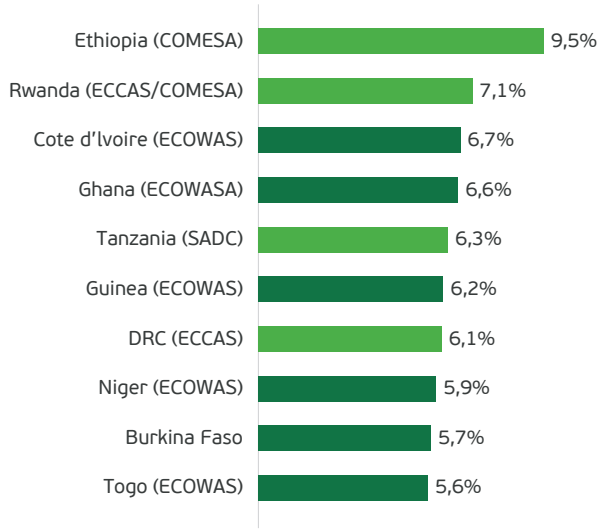
Moreover, with respects to key macroeconomic indicators, the region has performed relatively well. It has the lowest unemployment rates, especially for youth. Inflation rates are also very low, as well as public debt burden. All of these point to a greater macroeconomic stability, a key driver to reduced risk and uncertainty for businesses.

Economic growth has also been relatively inclusive, as poverty has been on a significant decline. Most of the countries in the region have gone from high rates of 60% on average in the early 2000s to an average of 30% (32.6% in Senegal and 33.5% in Cote d'Ivoire).[20]

Population dynamics has also benefitted economic growth. Total population has increased an average of 2.7% faster in the region than on the whole continent, which averages 2.5%. In 2019, it reached 386.9 million, or 28.9% of the total African population of 1.34 billion, making the region the second-largest consumer market in Africa.

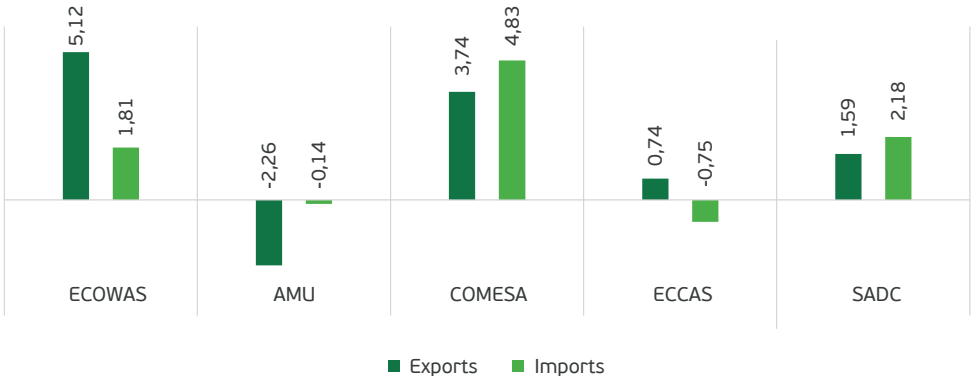
As a result of improved living conditions, urban population has increased by 9.7% since the turn of the century, above the continental average of 8.9%. Of the 48 African metropoles with a population of more than one million in 2019, more than one-third (14) are located in West Africa, the largest being Lagos, Nigeria, with 21.3 million. Furthermore, ownership of an account at a financial institution or with a mobile money service provider has also increased to reach between 38.5% (Benin) and 58.6% (Ghana). At the same time, access to electricity has almost doubled in the last two decades to reach 48% in 2019. Human capital has also improved, with literacy rates averaging 48.6% among adults in 2019. Among youth (15–24 years old), the average is much higher, at 64%, with a significant difference across gender: higher for young males (69%) than their female counterparts (57.1%).

Figure 2: Real GDP growth rates of the fastest-growing African economies (2010–19)



Source: Author, from World Bank data.

Figure 3: Export and import growth (%) in ECOWAS and other RECs (2010–18)



Source: Author's calculations, from World Bank data.

20 Sources: https://www.afdb.org/fileadmin/uploads/afdb/Documents/Publications/2018AEO/African_Economic_Outlook_2018_West-Africa.pdf and http://www.uemoa.int/sites/default/files/bibliotheque/indicateurs_de_pauvrete_monetaire_et_dinegalite_de_la_premiere_enquete_harmonisee_sur_les_conditions_de_vie_des_menages_dans_les_etats_membres_de_luemoa.pdf.

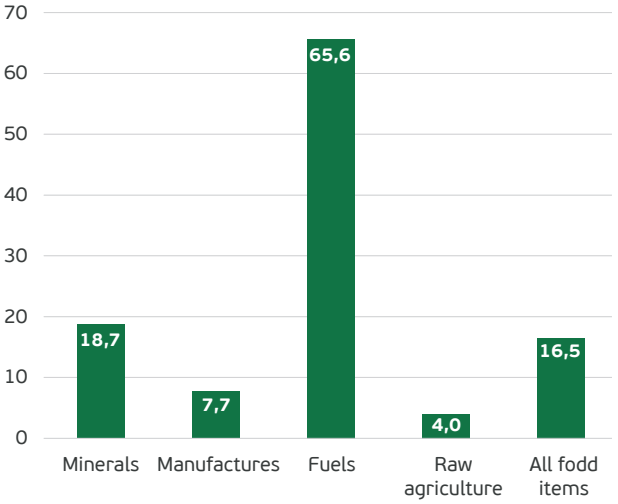
1.7 TRADE AND FOREIGN MARKET ACCESS

As far as trade performance goes, the ECOWAS region experienced the largest increase in total exports, with an average of 5.1% annually, to reach $196.2 billion in 2018 at constant prices (the third largest among the RECs). In the same period, imports increased by 1.8% to culminate at $134 billion in 2018. Combined export and import growth suggests a reduction in trade deficit.

The region traded 12% with itself in 2016, only second to SADC (21%). This is up from the 1980's figure of 3.9% when the ECOWAS Trade Liberalization Scheme (ETLS) entered into force.[21] Current major trading partners are outside the continent and represent 83.7% of the region's total. African partners outside the region account for only 5.6%.

Trade composition, which has changed relatively little in the last decade from the perspective of commodities, shows a noticeable concentration of the export portfolio along the regional (revealed) comparative advantages. Fuels and minerals represented 58.3% and 16.6% respectively of total merchandise exports of the region in 2018.

Figure 4: Commodity exports composition of West African countries (USD billion, 2018)



Source: UNCTAD (https://stats.unctad.org/handbook/MerchandiseTrade/ByProduct.html).

Table 7: Comparative advantages of ECOWAS member countries (2018)

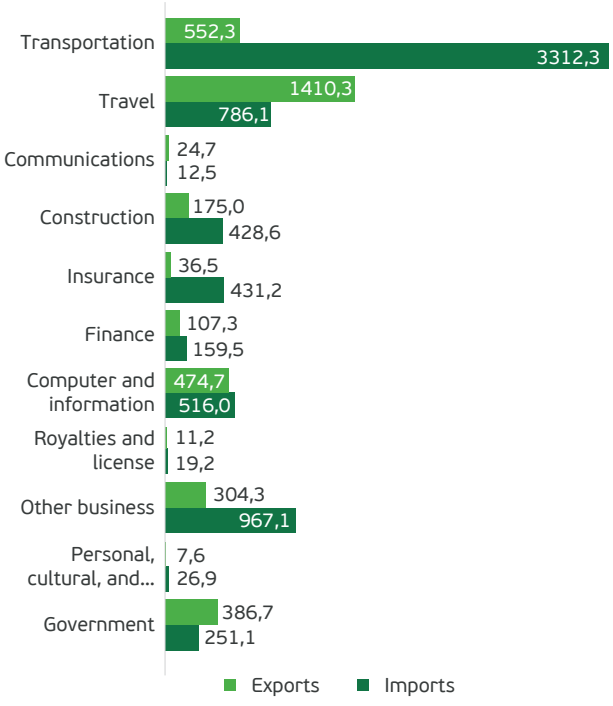
Member countries	Products
Benin	Cotton; oilseeds and oleaginous fruits; fruits and nuts (excluding oil nuts), fresh or dried; wood in the rough or roughly squared; fixed vegetable fats and oils, crude, refined
Burkina Faso	Cotton; gold, non-monetary; oilseeds and oleaginous fruits; zinc; fruits and nuts (excluding oil nuts), fresh or dried
Cabo Verde	Fish and crustaceans; non-ferrous base metal waste and scrap; textiles; animal oils and fats; ferrous waste, scrap; re-melting ingots, iron, steel
Cote d'Ivoire	Cocoa; natural rubber and similar gums, in primary forms; cotton; fruits and nuts (excluding oil nuts), fresh or dried; coffee and coffee substitutes
Gambia (the)	Wood in the rough or roughly squared; worn clothing and other worn textile articles; fruits and nuts (excluding oil nuts), fresh or dried; fuel wood and wood charcoal; fabrics, woven, of man-made fabrics
Ghana	Cocoa; gold, non-monetary; wood in the rough or roughly squared; fruits and nuts (excluding oil nuts), fresh or dried; natural rubber and similar gums, in primary forms,
Guinea	Aluminium ores and concentrates; gold, non-monetary; iron ore and concentrates; natural rubber and similar gums, in primary forms; fish, dried, salted or in brine and smoked fish
Guinea Bissau	Fruits and nuts (excluding oil nuts), fresh or dried; fish, fresh (live or dead), chilled or frozen; fish, dried, salted or in brine and smoked fish; wood in the rough or roughly squared; cotton
Liberia	Natural rubber and similar gums, in primary forms; wood in the rough or roughly squared; ships, boats and floating structures; iron ore and concentrates; silk
Mali	Cotton; gold, non-monetary; live animals; fixed vegetable fats and oils, crude, refined; wood in the rough or roughly squared
Mauritania	Crustaceans, molluscs and aquatic invertebrates; animals oils and fats; works of art, collectors' pieces and antiques; fish, fresh (live or dead), chilled or frozen; iron ore and concentrates
Niger (the)	Ores and concentrates of uranium or thorium; radioactives and associated materials; rice; fixed vegetable fats and oils, crude, refined; worn clothing and other worn textile articles
Nigeria	Petroleum oils, crude; fuel wood and wood charcoal; natural gas, whether or not liquefied; petroleum gases; cocoa
Senegal	Crude fertilizers; inorganic chemical elements, oxides and halogen salts; fish, fresh (live or dead), chilled or frozen; crustaceans, molluscs and aquatic invertebrates; lime and cement
Sierra Leone	Aluminium ores and concentrates; cocoa; iron ore and concentrates; wood in the rough or roughly squared; sugar, molasses and honey
Togo	Crude fertilizers; cotton; lime and cement; hides and skins, raw; electric current

Source: UNCTAD.

21 Source: UNCTAD (https://unctad.org/system/files/official-document/ditctab2019d3_en.pdf).

The services trade is also relatively important, and has picked up speed in the last decade to reach 7.1% of GDP on average across the region. Structurally, except for travel, communications and government-related services, the region is a net importer of services, especially for transportation, where the deficit is the largest. The trend has been towards a deterioration of trade balances overall, similar to the rest of the continent, while it is the opposite in the rest of the developing world. These trends are indicative of the relatively large potential for expansion of domestic production and trade to meet increasing demand. This is especially the case for insurance, financial, intellectual property, other business and travel services, which have registered the fastest-growing exports at rates of 3.2%–6.9% in the 2013–18 period.

Figure 5: ECOWAS services trade composition (2018)



Source: Author's calculations, from United Nations Commodity Trade Statistics Database (UN Comtrade) data.

Foreign market access is key to international trade promotion for the region. With the EU, ECOWAS member countries, along with other African countries, have ease of access to the European market through overall political and economic relations with the African, Caribbean and Pacific Group of States (ACP).[22] This privilege has contributed to making the European Union (EU) the main export destination for West African transformed products from sectors such as fisheries, agribusiness and textiles.

The existing framework is set to evolve into economic partnership agreements (EPAs), through which West Africa and other ACP countries will have to remove import tariffs on EU-originated goods, but only partially in a 20-year transition period.[23] The new scheme is intended to 'help West Africa (and all ACP partners) to better integrate into the global trading system. The new scheme is intended to help West Africa (and all ACP partners) to better integrate into the global trading system and is expected to support investment and economic growth in the region. It will lead to increased exports to the EU, stimulate investment and contribute to developing productive capacity, with a positive effect on employment.[24]

The EU–West Africa economic cooperation also includes aid for trade and trade-related assistance. Under this framework, the ECOWAS region has effectively benefitted from the development of (i) trade-related infrastructure, which includes transport and storage, communications, and energy generation and supply; and (ii) productive capacity in the forms of business development and activities aimed at improving the business climate, privatization, assistance to banking and financial services, agriculture, forestry, fishing, industry, mineral resources and mining, and tourism. The framework also includes trade- and non-trade-related capacity building. The corresponding total aid-for-trade efforts amounted to €1.2 billion in commitments as of 2017.[25]

22 The EU–ACP agreements constitute the overarching framework first set up in 1975 by the Lomé Convention (replaced in 2000 by the Cotonou Agreements, which introduced the economic partnership agreement). This cooperation scheme, the largest of its kind between developed (EU countries) and developing countries (some 79, of which 48 are in Sub-Saharan Africa), evolves around three main pillars: development cooperation, economic and trade cooperation, and a political dimension.

23 The economic partnership agreements were enacted in 2000 (Cotonou Agreements), then revised in 2005. There have been concerns about the potentially negative impacts of the removal of tariffs on EU products, given the less competitive production systems and the loss of government tariff revenues in ACP economies, which explained the slow pace of the negotiations to implement the agreements, at both national and regional level (jointly between WAEMU and ECOWAS). For example, 'stepping stone' agreements with Côte d'Ivoire and Ghana entered into provisional application on 3 September 2016 and 15 December 2016 respectively.

24 Source: https://trade.ec.europa.eu/doclib/docs/2014/july/tradoc_152694.pdf.

25 Source: https://ec.europa.eu/international-partnerships/system/files/eu-aid-for-trade-progress-report-2019_en.pdf.

With respect to the US market, the region has benefitted from the African Growth and Opportunity Act (AGOA) since 2001 (renewed in 2015 for another 10 years) and the trade and investment framework Agreements (TIFA) since 2014.[26] The former is a non-reciprocal trade preference programme that offers duty-free and quota-free access to the huge US market for selected Sub-Saharan African products.[27] TIFA are more of an institutional platform that 'provides strategic frameworks and principles for dialogue on trade and investment issues between the United States and the other parties', mostly around 'issues of mutual interest with the objective of improving cooperation and enhancing opportunities for trade and investment'. Discussed topics at TIFA council yearly meetings include market access, labour, the environment, protection and enforcement of intellectual property rights, and, in appropriate cases, capacity building. There are various TIFAs both at the regional level with ECOWAS and with WAEMU, and with individual countries such as Ghana, the Republic of Liberia, and Nigeria.[28]

1.8. FDI IN ECOWAS: INFLOWS AND INCENTIVES

The region has always been an attractive place for foreign investment, as shown by relatively large FDI inflows that have positively responded to the improving regulatory environment. In the past decade, the FDI stock in the region has increased at record pace to reach $191.5 billion in 2019, the third largest behind SADC ($316.3 billion) and COMESA ($302.9 billion). The increase by a factor of 2.2 in the region, or equivalently, at an annual rate of 9%, is by far the largest in Africa.

When it comes to investment promotion, especially FDI, one of the key frameworks at the regional level is the ECOWAS Common Regional Investment Code (ECOWIC), which applies to the rights and obligations of member states and investors. Enacted in July 2018, the code aims to 'establish in the ECOWAS territory transparent, harmonized and predictable legal and institutional framework that applies to investment and to any investment-related measures'.[29] More specifically, under the monitoring of a regional body to be established by the ECOWAS Common Investment Market Council and to work with national advisory committees, code seeks to:

- Promote, facilitate, and protect investment that foster sustainable development of the region;
- Promote the adoption of common regional rules on investment;
- Improve investment and trade relations within the region and between the region and foreign investors, conducive to regional stability and sustainable development;
- Enhance the role of both domestic and foreign direct investments in reducing poverty, increasing productive capacity, furthering growth, creating jobs, expanding trade, improving technology and transferring technology.[30]

Several provisions of this landmark code set the conditions for a viable business environment that would mutually benefit both investors and the host country. For example, member States are encouraged to provide relatively strong incentives to investors, domestic and foreign alike. These incentives may take various forms, such as financial incentives in the forms of investment insurance, grants or loans at concessionary rates, tax holidays, subsidized infrastructure, or investment guarantees.[31]

Foreign investment is generally viewed as part of the overall development of local economies. Investors are indeed expected to promote technology transfer and comply with international transfer pricing standards. When considering the investment, they are also expected to account for: (i) the participation in the implementation of national or regional economic and social plans; (ii) the creation of employment and vocational training; (iii) the priority of use of local raw materials and, in general, local products; and (iv) environmental and social impact assessment of their economic activities.

26 All member countries are currently eligible for the African Growth and Opportunity Act (AGOA) provisions, except Mauritania (since 1 January 2019). Eligibility for product category-specific compliance can be different across benefitting countries. For example, since 1 January 2020, the Republic of the Gambia, and the Niger are not eligible under the 'wearing apparel' provisions. See here for more details: https://agoa.info/about-agoa/country-eligibility.html.

27 See here for the detailed listing of products: https://agoa.info/about-agoa/products.html.

28 Source: https://ustr.gov/trade-agreements/trade-investment-framework-agreements.

29 Source: https://wacomp.projects.ecowas.int/wp-content/uploads/2020/03/ECOWAS-COMMON-INVESTMENT-CODEENGLISH.pdf (same source for the next quotes).

30 ECOWIC Article 2.

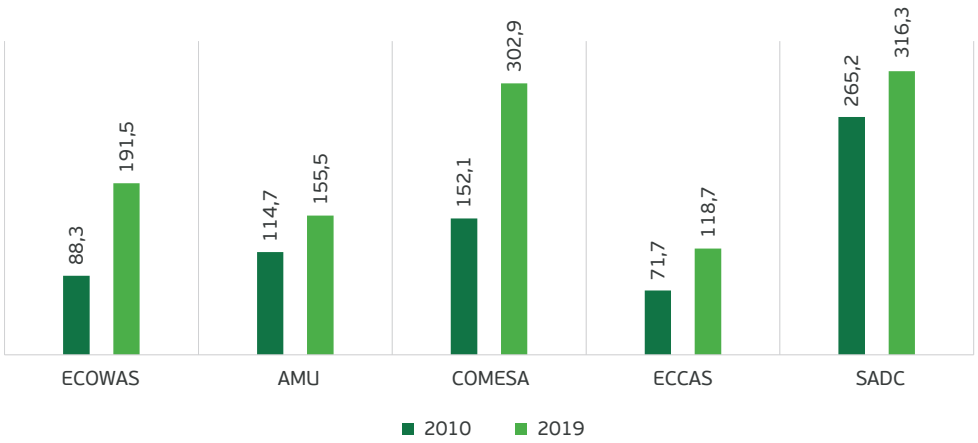
31 ECOWIC Article 19.

Two additional components of regional and national approaches to further making the region an attractive place for FDI are:

(i) National investment promotion agencies that provide up-to-date information regarding the process by which investors, particularly foreigners, can settle into the host country, as well as guidance through the procedures for investment and setting up a business activity; the set of information generally relates to starting a business, legal obligations, obtaining an investment certificate, foreign taxpayer registration, dealing with local banks, import/export registration, land/building ownership, rules and regulations for foreigners, and investing in any existing SEZ;

(ii) 'Single windows' at national levels for: (i) starting a business, with the aim to streamline and speed up the administrative process; and (ii) engaging in foreign trade, generally through an electronic platform used by all operators and users of the foreign trade community (import, export, transit and transhipment), providing a single entry point for all customs and collection procedures and formalities.[32]

Figure 6: FDI total stock in ECOWAS and other African RECs (USD billion, 2019)



Source: Author, from UNCTAD data.

32 As of 2019, single windows for cross-border trade existed in five West African countries: Burkina Faso, the Niger, Nigeria, Senegal and Togo (source: https://rammap-swim.wcoomd.org/).

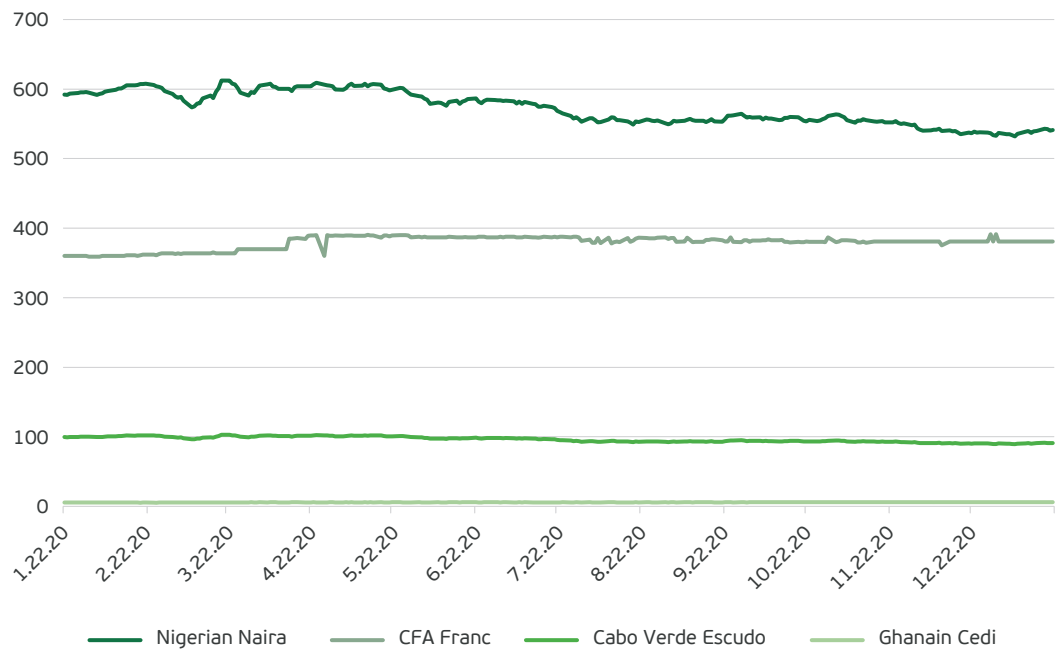
1.9. STRUCTURAL REFORMS ACHIEVED/PLANNED

Ongoing ambitious and profound reforms are rightly expected to structurally change the region's trade and investment landscape. These reforms are part of well-thought-out programmes. The West Africa Competitiveness Programme (WACOMP) seeks to strengthen the performance, growth and contribution of industry, regional trade and exports of selected value chains, and improve the business climate at national and regional levels. The West Africa Common Industrial Policy (WACIP) aims to accelerate the region's industrialization. The West Africa Quality System Program (WAQSP) seeks to strengthen the quality infrastructure for greater effectiveness, enhanced competitiveness and better intraregional and interregional trade participation. The Strategic Framework for Private Sector Development Strategy aims to make the private sector a vibrant engine of economic growth.

More specific action plans include multimodal transport infrastructure and the implementation of policies to promote physical cohesion among country members and to facilitate the movement of persons, goods and services within the region, with special emphasis on increased access to landlocked countries. These harmonized national efforts, mainly through the West Africa Regional Road Transport and Transit Facilitation Project, a common initiative developed by ECOWAS and its subset, WAEMU, to speed up road transport facilitation, include:

- The erection of joint border posts and controls along the interstate corridors;
- The simplification and harmonization of national rules, procedures and documents related to road transport;
- The harmonization of standards and procedures for the control of dimensions, weight and axle load of goods vehicles within ECOWAS member States;
- The update of the road transit information system;
- The development of transport corridors, such as the Nigeria–Cameroon multinational highway as part of the Trans-Africa Highway programme, the Praia–Dakar–Abidjan highway (capital cities of Cabo Verde, Senegal and Cote d'Ivoire), the trans-Gambia transport corridor, and the Abidjan–Lagos Corridor;
- A deposit system to guarantee transit operations in the absence of such State-sponsored guarantee mechanisms.

Figure 7: Daily exchange rates of selected West African currencies against the USD (2020)



Note: The CFA franc is shared among eight countries that make up the WAEMU. The small volatility of the exchange rate appears in the small coefficients of variation (standard deviation over average), which range from 0.02 to 0.04 in the considered period.

Source: Yahoo Finance.

The regional single currency project is also expected to further facilitate and rationalize cross-border movement of goods (and capitals and persons). While the eight WAEMU countries share a single currency (CFA franc), each of the remaining ECOWAS countries has its own independent currency, with individual central banks. The CFA franc is fixed against the euro (at a constant exchange rate of 655.957 CFA franc/euro), and the remaining currencies in the region are governed by flexible exchange rates.[33] Against the US dollar, though, each currency shows some very moderate volatility, as suggested in Figure 7, which depicts the daily exchange rate behaviour for three major currencies encompassing 10 of the West African countries (the rest tends to exhibit similar patterns).

The process of unifying the region around a common currency is still under discussion, and the pace is marred with a great deal of political uncertainty. It involves first a common currency among ECOWAS non-CFA countries. In 2000, the latter formed the West African Monetary Zone (WAMZ). The agreement establishing WAMZ led to the set-up of the West African Monetary Institute (WAMI) in 2001, located in Accra, Ghana and tasked with the establishment of the West African Central Bank (WACB) and the launch of a single monetary unit, which will later be merged with the CFA franc to give birth to the ECOWAS common currency (the ECO). The process has been plagued by multiple delays and missed deadlines, most notably the WAMZ single monetary unit currency that has yet to be created.[34] However, the political commitments of all member States suggest that the monetary union is still a significant part of regional integration. From foreign investors' perspective, the move to the ECO would mean reduced cross-border transaction costs (associated with currency conversion and exchange rate volatility), enhanced market predictability and, it is hoped, increased flows of capital, goods and persons.

When it comes to trade liberalization, mostly through the removal of tariffs and non-tariff barriers, the formal process has been designed and conducted under the framework of the ECOWAS Trade Liberalization Scheme (ETLS).[35] In order to benefit from the free trade regime, products and companies have to be registered with the national approvals' committees (NACs), except enterprises from and goods produced in export processing zones or free zones and any other special economic schemes or customs territory. In 1988–2018, the number of registrations reached 6,212, and nearly half of them (48.2%) happened in the last decade. This indicates a renewed interest by local, regional and international investors, who are increasingly incentivized by the corresponding trade and business potentials.

The harmonization of customs procedures, under the common external tariff (CET) that entered into force on 1 January 2015 as part of the ECOWAS Trade Liberalization Scheme (ETLS), has brought simplification and clarity across the region, with only five tariff bands and a common customs declaration form. While the actual implementation of the CET at national levels is the obligation of member States, the ECOWAS–WAEMU Joint Committee on CET was tasked to first finalize the adjustment of the CET tariff structure and statistical nomenclature. Following this, the joint committee would provide support and safeguard measures in addition to serving as a regional coordinator and monitoring body, as countries start implementing the CET.

The ECOWAS CET's strategic design aims to ensure:

- The availability of social goods, such as health and medical products, which are tariff-free (Category 0);
- The reduced cost of production, through relatively cheap input materials not available in the region, with 5% tariff (Category 1) and those with limited supply, at 10% (Category 2);
- Some protection of domestic industries, namely final goods that are at their ultimate stage of transformation, with a tariff at 20% (Category 3) or those that are strategic due to their level of vulnerability and potential for domestic production, regional integration, industrialization and value chain development, taxed at 35%.

33 In addition to the West African CFA franc, there is the Central African CFA franc shared by six countries that make up the Economic and Monetary Community of Central African States (CEMAC), a subset of ECCAS. Both were created in December 1945, with similar profiles (fixed exchange regime against the euro, same rate of 655.9, with separate governing body – central bank). In exchange for CFA countries depositing 50% of their foreign reserves with the French Treasury, the latter guarantees an unlimited convertibility of their common currencies. The ECOWAS regional currency project (the ECO) is expected to mark an end to the West African CFA franc.

34 Since its first introduction in 2003, the regional single currency was postponed several times (2005, 2010, 2014, 2015 and 2020). Discussions are still ongoing.

35 Additional details found here: http://www.etls.ecowas.int/.

This structure of the CET is expected to promote investment and business activities by providing fiscal incentives that guarantee the availability of cheap inputs of foreign origins and some protection to final output markets.

Trading across borders also benefits from the ECOWAS Trade Information System (ECOTIS), an initiative set to 'provide timely and reliable access to trade information within and with the region, serve as a reference tool for economic players, diversify the region's market and satisfy the region's single-window trade information needs'.[36] It is an electronic platform designed by the ECOWAS Commission. Using existing information systems in the region, the portal provides a unique point of entry to support the promotion of intra-regional/ continental and global trade and allows investors to fully appreciate the region's trade and business landscape, and gain valuable insights into existing and potential business opportunities

At the continental level, the African Continental Free Trade Area (AfCFTA) will further reduce trade barriers, facilitate the free movement of people and labour and the right of residence and establishment, and increase investment. The various wide-ranging protocols pertain to trade in goods, trade in services, rules and procedures on the settlement of disputes, investment, competition, and intellectual property rights. Effective implementation of the agreements will start in January 2021 for a 10-year period for relatively advanced African countries, and 13 years for least developed countries (LDCs).[37] It is estimated that AfCFTA will provide valuable and unique opportunities for businesses operating in a liberalized and unified market that is projected, by 2030, to reach 1.7 billion consumers, with a middle class of 600 million individuals and a cumulative GDP of $3.4 trillion. By 2022, intra-continental trade is projected to increase by as much as 52.3%, while trade with the outside world would increase by 6%.[38] The many expected benefits for trade investment would profoundly reshape the continent's economies, as they could collectively emerge as a key player on the global trade and investment arena.[39]

Additionally, the WTO's trade facilitation agreements are expected to further improve trade and economic proximity among West African countries and between the region and the rest of the continent (and beyond). Corresponding measures, which all West African countries are currently implementing at various levels, aim at the simplification of required paperwork, the modernization of procedures and the harmonization of customs requirements. By addressing the vast amount of red tape that defectively discourages the flows of goods across borders, the ensuing reduction in trade costs and in the time needed to export and import has the potential to improve external market access, in the process providing greater opportunities for trade and investment.[40]

Most member countries are strongly engaged in the process of domesticating regional provisions for a competitive and conducive business environment, although to varying degrees. The corresponding harmonization and unification of national investment policy regimes would crucially add more predictability and readability of the overall regional business environment, as the region is getting more and more accommodating to FDI.

36 Source: https://ecotis.projects.ecowas.int/.

37 The agreements aim at full liberalization for 90% of products, while 7% will need more time, and 3% will not be liberalized. During the implementation process, national implementation committees will come up with the list of products across these three categories.

38 Source: https://unctad.org/system/files/non-official-document/tdb65_2d_pres_AUBramdeo_en.pdf.

39 Source: https://openknowledge.worldbank.org/bitstream/handle/10986/34139/9781464815591.pdf.

40 The costs reduction as a result of trade facilitation is estimated to be equivalent for developing countries, especially in Africa, to a reduction in tariff by 219%. Source: https://www.wto.org/english/res_e/booksp_e/world_trade_report15_e.pdf.

1.10. CONCLUSION

In the face of increased competition to attract international businesses, West African countries arguably have a strong card to play. Being the first region in Africa to effectively embark on economic integration, the region has developed a sufficiently conducive and attractive environment for trade and investment. This is largely thanks to its natural hub status, strong economic growth, the vibrancy and innovative drive of its cities, great market potentials, an increasingly peaceful, secure and stable environment, high-quality soft and hard infrastructure as well as strong institutional quality (rule of law, control of corruption, and regulations).

Ongoing and planned structural reforms, at both regional and national levels, are indicative of the strong political commitment to further improving the business environment's conduciveness and attracting FDI. These individual and collective efforts have earned countries across the region the status of best African reformers. To the extent that investors are well aware of these positive developments, international businesses ready to settle in the region will undoubtedly enjoy great returns, while being part of a collective journey towards greater economic and social vibrancy and the emergence of a dominant economic player in Africa and beyond.

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2. ITC SECTOR IN ECOWAS REGION

2.1 ICT SECTOR AND ITS SIGNIFICANCE TO ECONOMIC DEVELOPMENT

The information and communications technology (ICT) sector in the ECOWAS region underpins the competitiveness of the region's economy in the coming decade. The ICT sector is broad and encompasses multiple value chains, often with similarities and with some even overlapping. As a rapidly growing sector, global ICT spending is expected to rise by almost $1 trillion from $4.92 trillion, to $5.82 trillion by 2023.[41] This trend is expected to be mirrored in Africa and the ECOWAS subregion as a growing, young, entrepreneurial middle class are expected to drive demand for ICT goods and services.

The ICT sector's added economic value has been the subject of many studies, given how a once-nascent industry just over three decades ago has grown to an estimated $5 trillion global industry by market share.[42]

THE ICT SECTOR AND VALUE CHAIN ACTIVITIES

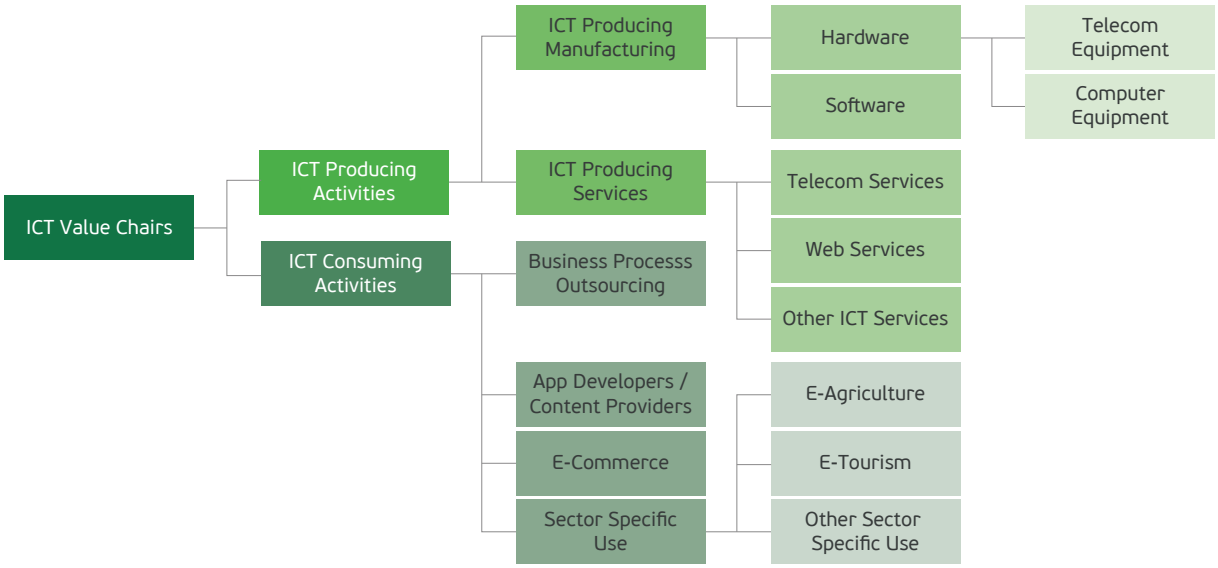
ICT technology is being used in a growing number of applications within the region, including for various business operations, education, entertainment, and for social purposes between individuals and communities. Emerging areas of ICT application are being developed each year, including in agriculture, health and tourism.

The value chains present in this sector can be broadly categorized into ICT-producing activities and ICT-consuming activities (see Figure 8). ICT-producing activities are those value chains that generate revenue from the production of ICT goods and services (computer manufacturing, internet service provision and cloud service operation, among others).

Among those, ICT manufacturing is a capital-intensive industry with high upfront costs for property, plant and equipment, as well as ongoing operational cost. Products being manufactured would also need to meet national or international standards for each product category. In terms of the software industry, the value chain requires a significant amount of programming talent for success.

On the other hand, ICT-consuming activities consume ICT products and services to enhance efficiency for their revenue-generating operations (technology enabled professional services, e-agriculture and e-health, among others).[43]

Figure 8: The ICT sector and value chain activities



Source: Author's adaptation of the ICT value chain analysis framework by Mccormick & Onjala (2007).

41 Source: https://www.statista.com/statistics/946785/worldwide-ict-spending/.

42 Source: Statista, https://www.statista.com/statistics/263801/global-market-share-held-by-selected-countries-in-the-ict-market/.

43 Mccormick, D. & Onjala, J. (2007). 'Methodology for Value Chain Analysis in ICT Industry Frameworks for the Study of Africa'.

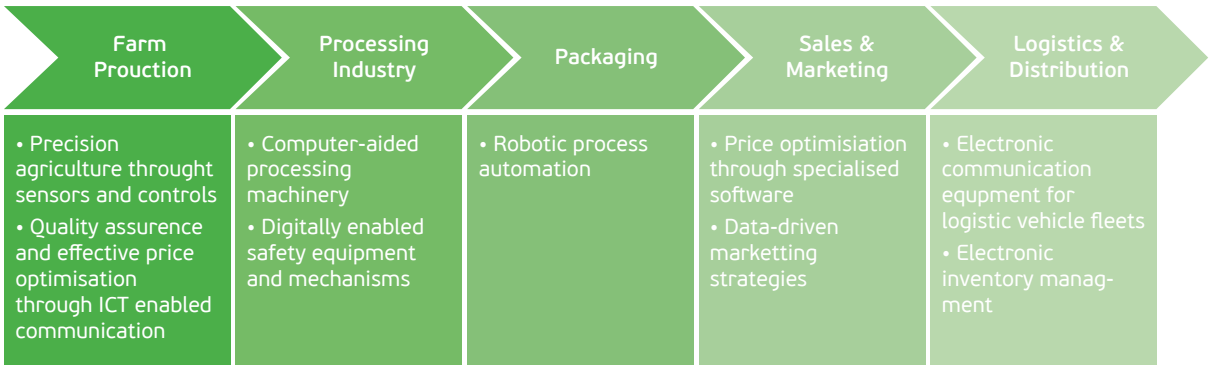
ICT AS ENABLER IN AGRICULTURE AND MANUFACTURING SECTORS

The International Telecommunication Union (ITU) suggests a wider and more innovative application of ICT and digital solutions to boost the agricultural sector so as to develop 'e-agriculture'.[44] This broad approach encompasses simple implementations such as the use of ICT to enable rural farmers to source buyers, enable payments and be informed of current commodity prices. It also includes more advanced implementations such as big data to inform and boost crop production and maximize resource use as well as automating certain agricultural processes. Such applications are also present in the African agricultural industry.[45] That said, it is still early days for such innovative approaches in the agriculture sector, and further investment and development is required before wider results can be achieved.

Figure 9 shows examples of how ICT is being used to optimise food production value chains. The digital transformation of the agriculture and manufacturing industries in the ECOWAS region could represent significant potential for ICT investment. An example of a company capitalizing on this potential Is Ghana's AgriCenta,[46] which has developed a digital platform to facilitate the trade of agricultural products between smallholder farmers and consumers.

Logistic services have also proven to be essential for individuals and companies during the COVID-19 pandemic. An example of a company that has used ICT to revolutionize the logistics and distribution segment of similar value chains is Kwik Delivery. Launched in June 2019 by Romain Poirot-Lellig, it is a Franco–Nigerian platform specialized in business-to-business (B2B) and business-to-consumer (B2C) deliveries using motorbikes. In 2020, Kwik Delivery benefited from the investment of Yves Guillemot, the founder and President of Ubisoft (the French editor and distributor of video games). The company foresaw to raise €2 million in additional funds to develop its competitive advantage in a context where Gokada and Max, other start-ups formerly specialized in the transport of people on moto taxis, are expected to enter the market of goods delivery, following the banning of moto taxis in Lagos.

Figure 9: Food production value chain with ICT products and services incorporated into support



Source: Adapted from Fernandez, Goode, & Robinson (2010).[47]

44 Source: ITU, https://www.itu.int/en/ITU-D/ICT-Applications/Pages/e-agriculture.aspx.

45 Source: UN, https://www.un.org/africarenewal/web-features/africa-leapfrogging-digital-agriculture.

46 See https://agrocenta.com/apps.

47 Fernández, W.D., Goode, S. & Robinson, M. (2010). 'Uneasy Alliances: Tradition and ICT Transformation in the Value Chain'. *Journal of Organizational Computing and Electronic Commerce, 20*(3), 234–256.

ICT AS AN ENABLER IN THE SERVICE SECTOR

Globally, services industries are among those that have significantly benefitted from advancements in ICT. Statistics show that the revenue for the overall services industry among selected ECOWAS States has shown a long-term trend in growth (see Figure 10). Being enabled by ICT products and services allows service providers such as business process outsourcing (BPO) to lower overhead costs by optimization through specialization and leveraging economies of scale.

These forms of business are not new to Africa and have also been growing in the ECOWAS subregion. For businesses, ICTs offer significant and growing advantages that are critical for improving the efficiency of managing business operations. Activities that would have taken days to do in the past can be completed in seconds with the help of ICT. Such activities include corporate business processes such as finance, accounting and human resource management, and even information technology itself is being made more efficient by improvements in technology. With appropriate investment and sector development initiatives, ICT could bring significant additional value to existing industries.

Banks and financial institutions are at the leading edge of ICT implementation, largely due to the level of investment and competition in the sector. Consumers also are embracing digital services offered by these financial institutions, with continued and consistent growth being witnessed year-on-year in both online[48] and mobile phone banking[49] globally. The greatest trend of growth in recent years is experienced in developing regions such as Africa rather than more technologically advanced economies such as those in North America, East Asia and Europe.

Digital health or e-health also sits in a similar position where the sector is still in its infancy, yet there is significant potential for growth. The World Health Organization (WHO) describes digital health as 'the use and scale up of digital health solutions can revolutionize how people worldwide achieve higher standards of health, and access services to promote and protect their health and well-being'.[50] It is a sector that the WHO and African ministers of health (including those of ECOWAS members) have given attention to in recent years. Examples include telemedicine, where consultation and diagnosis can be done via a digital communication link, using drones to deliver drugs to remote areas.

Promoting further growth in the ICT-enabled service sector can be achieved by continuing to invest and promote the overall service export industry with the necessary infrastructure and effective policy. Despite a downturn due to the COVID-19 pandemic, global revenue from ICT service exports continues to grow, as can be seen in Figure 10. As a result, greater revenue can be expected from the ICT service export industry, and ECOWAS States would be well positioned to capture their share of this growing value.

CASE STUDIES: ICT-ENABLED SERVICES IN ECOWAS

One company capturing value in the growing ICT service market is Equinox Technologies. Founded in 2011, it is one of the most successful IT companies in West Africa, with offices in Guinea and Senegal. It provides IT services ranging from the implementation of complex IT solutions to the development of integrated management applications with clients cut across the financial sector, SMEs and governmental agencies.

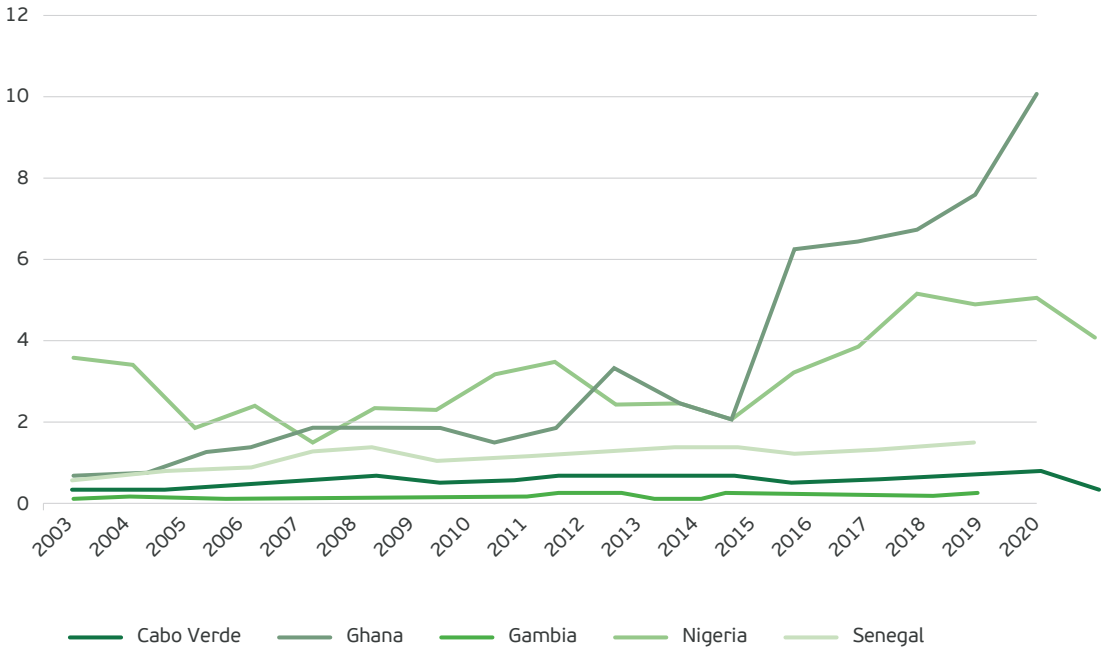
Another company is Paystack, which operates in the financial services sector. Founded in 2015, Paystack developed an application programming interface (API) to allow companies of all sizes to accept a large variety of online payments. In 2020, it had gained more than 60,000 users, including SMEs, large companies and governmental agencies. It currently operates in several African countries, including Nigeria and Ghana, with a workforce of 114 employees. In 2020, it was acquired by Stripe, a leading American company in the software and financial services sector, growing internationally. This acquisition records the highest price ever offered for a start-up in Nigeria and attracts attention to the country's start-up ecosystem, particularly in the fintech area.

48 Source: Statista, https://www.statista.com/statistics/1228757/online-banking-users-worldwide/.

49 Source: Statista, https://www-statista-com.ezproxy.insead.edu/statistics/779037/share-of-mobile-banking-users/.

50 Source: World Health Organization (WHO), https://www.who.int/health-topics/digital-health#tab=tab_1.

Figure 10: Service exports (balance of payment, current USD billion) for selected ECOWAS member States



Source: World Bank data.

2.2 THE DEVELOPMENT OF THE ECOWAS ICT SECTOR IN A GROWING GLOBAL MARKET

Research suggests that significant increases in economic productivity have been witnessed in countries whose industries have made early investments in ICT, including those in Europe and the United States of America,[51] and other Organisation for Economic Co-operation and Development (OECD)[52] members. This is a trend that many leaders in developing countries, including those in the ECOWAS subregion, have aimed to replicate in their economies.[53]

Furthermore, ICT helps drive innovation in traditional industries and provides opportunities for entrepreneurship for many young people who are creating value by solving challenges with the use of technology. This phenomenon has been witnessed earlier in more developed countries. The same impact is currently reflected in the ECOWAS subregion as well as the broader African region since early adoptions of digital technology on the continent.[54]

RAPIDLY IMPROVING ICT INFRASTRUCTURE AND CONNECTIVITY

Telecommunication infrastructure coverage has grown significantly in ECOWAS member countries. The growth has been witnessed particularly in mobile telecommunication, given that the percentage of the population living within range of a mobile broadband footprint has increased significantly in recent years (see Table 10). In addition, the region's current bandwidth is set to receive a boost given a number of submarine cable projects that are set to reach completion and go live in the near future. Most notable among the submarine cable projects is the Pan-African 2Africa cable, which famously has backing from Facebook and seven other commercial partners.[55] The largest of its kind, the project is set to add 180 terabits of international internet bandwidth to the continent by 2023. The second-largest is the Equiano cable at

51 European Commission: https://cordis.europa.eu/docs/projects/cnect/9/248809/080/deliverables/001-TheImpactofICTonProductivityandGrowthICTNETISSUEPAPER11.pdf.

52 Source: Organisation for Economic Co-operation and Development (OECD), https://www.oecd.org/economy/growth/ICT-investments-and-productivity-measuring-the-contribution-of-ICTS-to-growth.pdf.

53 Source: ECOWAS, https://www.ecowas.int/ecowas-ministers-in-charge-of-telecommunications-ict-and-post-meet-on-digital-transformation/.

54 Yonazi, E., Kelly, T., Halewood, N. & Blackman, C. (2012). 'The Transformational Use of Information and Communication Technologies in Africa'.

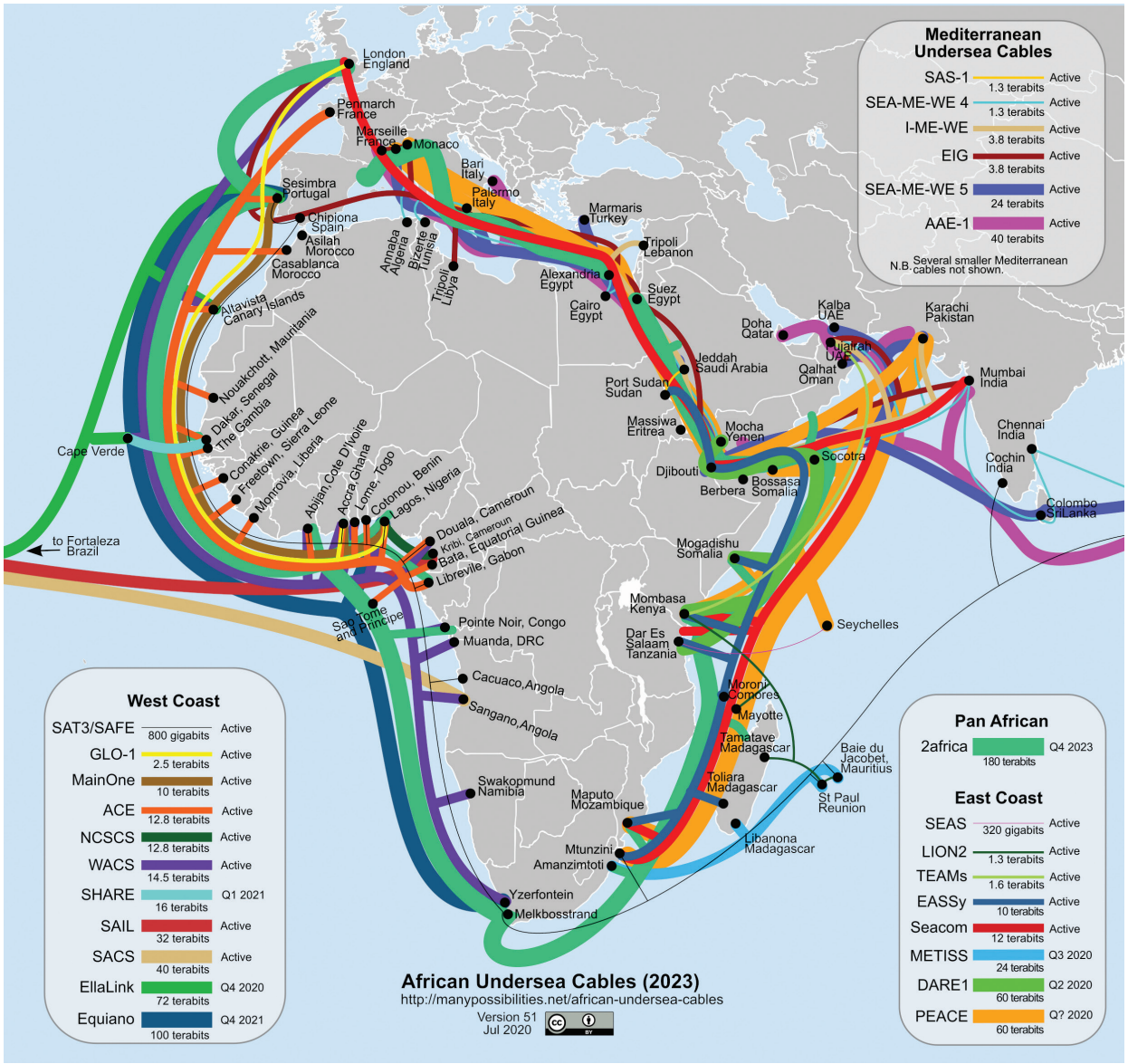
55 Source: https://www.2africacable.com/meet-the-partners.

100 terabits, running down with landing points on the West African coast from the Portuguese Republic to the Republic of South Africa, which is due to be completed by the end of 2021.

Table 8 shows associations of network operators and valuable infrastructure called internet exchanges. This is followed by a table of other industry associations within the ICT sphere (Table 9). Membership of these organizations can be found on their websites or by inquiry.

The added bandwidth should, in principle, increase the bandwidth per person figures of West Africa (see Table 9 for 2016 figures). For the ICT value chain, this means that there will be more bandwidth to be shared among existing users and to connect new users. The increased bandwidth supply should reduce competition for the availability and speed of bandwidth and, hence, lower subscription costs and offer better services.

Figure 11: Expected African submarine telecommunications cables in operation by 2023



Source: https://manypossibilities.net/african-undersea-cables/.

Table 8: Internet industry associations in Africa and the ECOWAS subregion		
Country/region	**Organization/website**	**Description**
Africa	African Network Information Centre (AFRINIC) https://afrinic.net/	AFRINIC is the regional internet registry for Africa. A member-based organization, they are responsible for distributing and managing internet number resources such as IP addresses in the region. Their membership include national registries, internet service providers (ISPs) and other organizations that require internet number resources.
Africa	The African Network Operators (AfNOG) https://www.afnog.org/	AfNOG is an industry association of telecommunication network operators on the continent.
Africa	The African IXP Association (Af-IX) https://www.af-ix.net/	An internet exchange (IX) is a physical infrastructure that allows ISPs to reduce upstream traffic (and hence cost) by interconnecting directly. The Af-IX is an association of IX operators in Africa
Gambia (the)	Serekunda Internet Exchange Point (SIXP) https://www.sixp.gm/	The SIXP is the only IX in the Gambia. Its membership includes ISPs in the Gambia.
Ghana	Ghana Internet eXchange (GIX) http://www.gixa.org.gh/	GIX is Ghana's internet exchange. Its membership includes ISPs in Ghana.
Nigeria	Nigerian Network Operators Group (NGNOG) https://nog.ng/	The NGNOG is an industry association of telecommunication network operators in Nigeria.
Nigeria	Internet Exchange Point of Nigeria (IXPN) https://ixp.net.ng/	The IXPN is Nigeria's IX, located in Lagos, Abuja and Port Harcourt. Its membership includes ISPs in Nigeria.
Senegal	Senegal Internet Exchange (SENIX) https://senix.sn/	SENIX is the only IX in Senegal. Its membership includes ISPs in Senegal.

Source: Website of each organization mentioned in the table.

Table 9: International internet bandwidth for ECOWAS countries		
	International internet bandwidth per person kb/s (2016)	**Global ranking**
Benin	N/A	N/A
Burkina Faso	N/A	N/A
Cabo Verde	12.33	98
Côte d'Ivoire	5.16	117
Gambia (the)	10.93	100
Ghana	3.6	126
Guinea	2.37	132
Guinea Bissau	N/A	N/A
Liberia	6.31	111
Mali	1.88	133
Nigeria	3.15	127
Senegal	8.35	106
Sierra Leone	N/A	N/A
Togo	N/A	N/A

Source: The Global Economy, https://www.theglobaleconomy.com/rankings/Internet_bandwidth/.

Exciting times are ahead regarding submarine cables, terrestrial cables and connectivity in the continent's interior. However, while digital connectivity in general has increased, terrestrial cable development and connectivity in the continent's interior have not progressed at the same pace as submarine cable development and coastal connectivity. This is an aspect of digital connectivity that the ECOWAS secretariat has committed to address.[56] At the same time, fixed broadband subscriptions have also slowly increased, though indicators show that the ECOWAS subregion has significant potential for growth in this area, with most countries in the region having less than 1% fixed broadband connectivity.[57]

It is important to note that, while overall telecom connectivity has been improving, the African continent remains one of the world's regions with the greatest room for growth in internet connectivity in particular. Mobile broadband is the most popular mode of broadband internet service for connected users. This status is also reflected in the West African subregion, which includes ECOWAS member countries. Tables 10 and 11 provide statistics on mobile broadband connectivity in Sub-Saharan Africa in 2014 and 2019, with West Africa being well within the ranges in connectivity when compared to other subregions on the continent.

With the rapidly decreasing price of mobile devices and telecom equipment, and a population with rising incomes aspiring for more internet services, these connectivity gaps in themselves represent significant business opportunities.

Table 10: Mobile broadband connectivity and usage gaps[58] in Sub-Saharan Africa (%, 2014)

	Connected	Connectivity gap	Usage gap
Western Africa	15%	49%	36%
Eastern Africa	11%	48%	42%
Central Africa	9%	71%	21%
Southern Africa	18%	43%	39%

Source: GSMA Intelligence.[59]

Table 11: Mobile broadband connectivity and usage gaps in Sub-Saharan Africa (%, 2019)

	Connected	Connectivity gap	Usage gap
Western Africa	29%	25%	46%
Eastern Africa	20%	20%	60%
Central Africa	22%	42%	36%
Southern Africa	30%	21%	49%

Source: GSMA Intelligence.[60]

From a value chain perspective, these gaps in connectivity and usage can be explained by market inefficiencies that – with some investment – could improve the uptake of ICT telecommunication services, and lead to the improvement of livelihoods in communities with limited connectivity and usage. Such market inefficiencies can include limited market awareness, limited competition or inefficient pricing strategies. Figure 12 shows a simplified value chain of the telecommunications services industries and the processes and various players at different stages. In a developing market where there are few established large players, each segment in the value chain would have potential to be a valuable investment.

56 Source: ECOWAS, https://www.ecowas.int/ecowas-sectors/ict/.

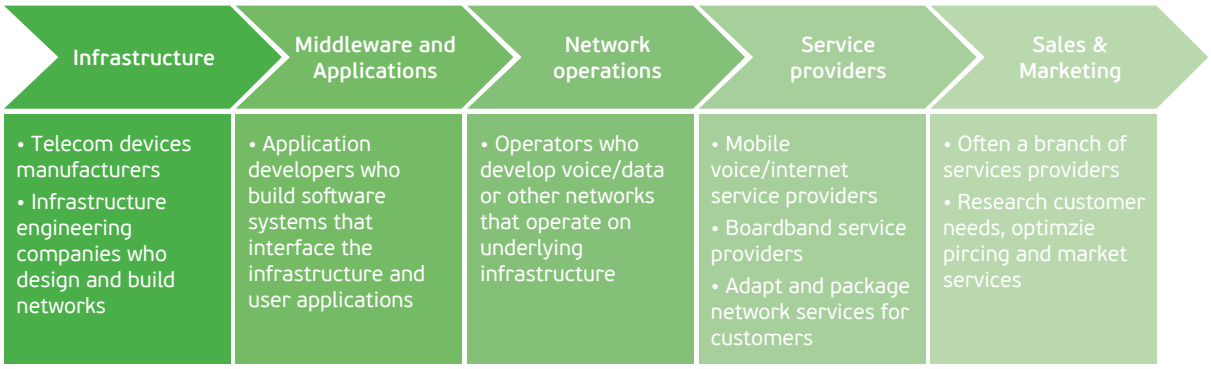
57 Source: World Bank data, https://data.worldbank.org/indicator/IT.NET.BBND.P2.

58 'Connected' refers to those that live within range of a mobile broadband footprint and are users of the service. 'Coverage gap' refers to the percentage of the population that does not live within range of a mobile broadband footprint. 'Usage gap' refers to the percentage of the population that lives within range of a mobile broadband footprint, but for other reasons are not users of the service.

59 Source: https://www.gsma.com/mobilefordevelopment/blog/mobile-connectivity-in-sub-saharan-africa-4g-and-3g-connections-overtake-2g-for-the-first-time/#edn7.

60 Source: https://www.gsma.com/mobilefordevelopment/blog/mobile-connectivity-in-sub-saharan-africa-4g-and-3g-connections-overtake-2g-for-the-first-time/#edn7.

Figure 12: Telecommunication services value chain[61]



Source: Adapted from Nemeh, A. & Yami, S. (2012).

GROWING ICT ACTIVITIES AND SUBSECTORS

With ICT adoption growing, new opportunities in ICT-related subsectors can be expected to emerge as a result. For example, the ECOWAS Commission has identified business process outsourcing (BPO) services as a strategic competitive sector for several of their member States, including Cabo Verde, Ghana, Nigeria and Senegal.[62] Besides generic business processes that can be outsourced to third-party BPO service providers, there are also other sector-specific uses for ICT that have been gaining momentum in the ECOWAS subregion.

In Africa and the ECOWAS subregion, ICT technology has also played a major role in promoting financial inclusion.[63] Mobile money in particular has contributed significantly toward helping to provide access to financial services for the previously unbanked in West Africa, as per the World Bank's global financial index.[64] This shows a rapid uptake in mobile money services, which, for many, was their only form of access to a financial service. Examples of companies who have experienced success offering such services in Africa include Nigeria's Paystack[65] and Kenya's M-Pesa[66] – which has now expanded to other counties in Africa and elsewhere. Provision of such financial and payment services abroad constitutes a part in Nigeria and Kenya's services exports.

With advancements made in digital connectivity, internet penetration and digital financial service solutions, e-commerce is another example that has experienced significant growth. Figure 13 shows revenue growth through e-commerce since 2017, and a projection of the growth trend until 2024, also indicating that growth is anticipated for all product categories.[67] Companies taking advantage of such trends in growth include Konga, an e-commerce platform founded in 2012 and limited to Nigeria. E-commerce activities are also developing through social media (Facebook and WhatsApp) or through some fintech companies specializing in online payment infrastructure. A case in point is Flutterwave, a marketplace launched in 2020 dedicated to small and medium-sized enterprises (SMEs) in Nigeria, Ghana, Kenya and South Africa. The growth trajectory of these e-commerce and fintech companies is a testimony of dynamism and potential of the digital sector in the ECOWAS region.

61 Adapted from Nemeh, A. & Yami, S. (2012). 'Coopetition strategies and innovation in precompetitive R&D programs: the case of wireless telecommunication sector'. *Druid, CBS, Copenhagen, Denmark.*

62 2018 ECOWAS Investment Policy, https://wacomp.projects.ecowas.int/wp-content/uploads/2020/03/ECOWAS-INVESTMENT-POLICY-ENGLISH.pdf.

63 Source: International Finance Corporation, https://www.ifc.org/wps/wcm/connect/96a4f610-62b1-4830-8516-f11642cfeafd/201805_Digital-Access_The-Future-of-Financial-Inclusion-in-Africa_v1.pdf?MOD=AJPERES&CVID=mdz-QF0.

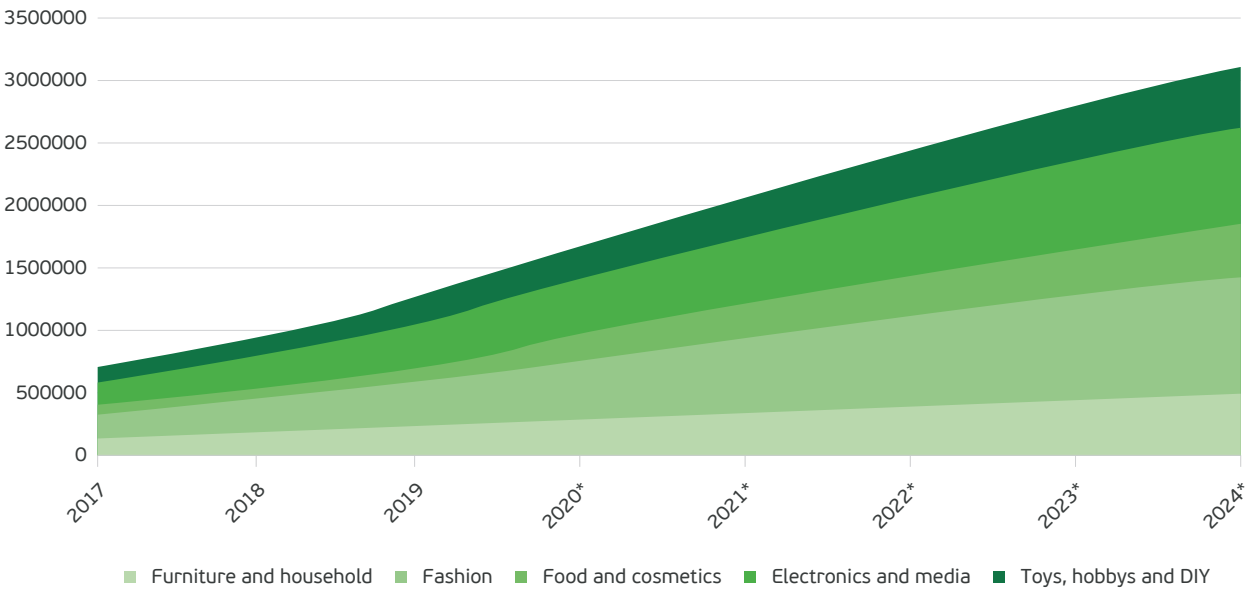
64 https://globalfindex.worldbank.org/.

65 https://paystack.com/wall-of-love#.

66 https://www.vodafone.com/about-vodafone/what-we-do/consumer-products-and-services/m-pesa.

67 Source: WTO, https://www.wto.org/english/res_e/booksp_e/09_adtera_chapter_05_e.pdf.

Figure 13: Segmented growth of e-commerce in Africa by product type



Source: Statista, https://www-statista-com.ezproxy.insead.edu/statistics/1190550/e-commerce-revenue-in-africa-by-sector/.[68]

Despite the inroads being made in recent years, more could be done by policymakers and regulators in the region to provide a conducive environment to realize e-commerce's full potential in these economies.[69] Furthermore, given that women have traditionally been the primary purchasers for households and have significant presence in the SME space, e-commerce can be fully developed when they are given greater access to ICTs and payment solutions.[70] These are further considerations that can be made by potential investors looking to make successful entries into the ECOWAS market.

It is evident that there can be a synergetic knock-on effect on the economy when effective investment in ICT and telecommunication is made. Triggering advancements in the application of ICT in services sectors can promote the creation of new income streams for more individuals and families. This income can then further empower individuals and families to gain access to such technologies, services and necessary education. In a way, it closes a virtuous digital economy cycle whose outcomes feed into further growth.

KEY ICT ACTORS AND PRIVATE SECTOR PARTICIPATION

Aside from public actors such as policymakers and regulatory agencies, other actors in the private sector as well as business and industry associations also play important roles in promoting ICT investment. This is especially evident at the infrastructure level of the value chain, where upfront capital requirements are high and private sector investment is often needed to initiate many projects. The benefits of private participation in infrastructure (PPI) are unsurprising given that they have been well documented in other infrastructure sectors in the past and have been promoted as a catalyst for development in emerging economies.[71]

Examples of such private participation in infrastructure investments within, and involving, ECOWAS countries include terrestrial cable projects in and around the subregion. Table 12 shows key submarine cable infrastructure (refer to Figure 11 for map) and the private sector partners involved in each. Investment from multinational companies in infrastructure projects in ECOWAS countries is a strong demonstration of confidence in the region's market potential.

68 Years 2020–24 are projections based on existing data and trends.

69 Source: UNCTAD, https://unctad.org/system/files/official-document/dtlstict2020d10_en.pdf.

70 Source: International Institute for Sustainable Development (IISD), https://sdg.iisd.org/news/itc-report-analyzes-africas-e-commerce-potential/.

71 "Harris, Clive (2003). 'Private Participation in Infrastructure in Developing Countries : Trends, Impacts, and Policy Lessons'. World Bank Working Paper No. 5. Washington, DC: World Bank. © World Bank. Available from https://openknowledge.worldbank.org/handle/10986/15124. Licence: CC BY 3.0 IGO.

Table 12: Private sector participants in submarine cable infrastructure projects in West Africa	
Submarine cable details	**Private sector consortium members**
Name: 2Africa **Design capacity:** 180 Tbps **Contact:** https://www.2africacable.com/contact **Status:** Completion by Q4 2023	▪ China Mobile International Limited ▪ Facebook ▪ MTN GlobalConnect ▪ Orange ▪ Vodafone ▪ West Indian Ocean Cable Company
Name: Equiano **Design capacity:** 100 Tbps **Contact:** N/A **Status:** Completion by Q4 2021	▪ Google
Name: West Africa Cable System (WACS) **Design capacity:** 14.5 Tbps **Contact:** https://wacscable.com/contact_info.jsp **Status:** Active	▪ Vodacom ▪ Togo Telecom ▪ Telkom (South Africa) ▪ Telecom Namibia ▪ Tata Communications/Neotel ▪ Portugal Telecom/Cabo Verde Telecom ▪ Office Congolais des Postes et Télécommunications ▪ MTN Group ▪ Congo Telecom ▪ Cable & Wireless Worldwide ▪ Broadband Infraco ▪ Angola Cables
Name: Africa Coast to Europe (ACE) **Design capacity:** 12.8 Tbps **Contact:** https://ace-submarinecable.com **Status:** Active	(1) ACE Gabon (2) Benin ACE GIE (3) Cable Consortium of Liberia (4) Canalink (5) Dolphin Telecom (6) Gambia Submarine Cable (7) GUILAB SA (8) International Mauritania Telecom (9) MTN Global Connect (10) Orange (France, Cameroun, Côte d'Ivoire, Mali and the Niger) (11) Gestor de Infraestructuras de Telecomunicaciones de Guinea Ecuatorial (12) Sonatel (13) STP Cabo

Beyond these private partnerships are industry associations that exist to promote and serve the interests of different players in the ICT industry. These organizations and associations play an important role in sharing knowledge and expertise, and collaborating to promote the development of the ICT industry and value chains in the ECOWAS region. Additionally, they provide valuable avenues for industry players to contribute to effective policy development for continued growth.

Table 13: Examples of ICT industry associations in focus ECOWAS countries		
Country/region	**Organization/website**	**Description**
Cabo Verde	TechPark CV https://www.techpark.cv/	ICT hub with infrastructure and community services established by the Cabo Verde Government to promote innovation and entrepreneurship in the ICT sector.
Gambia (the)	Information Technology Association of the Gambia https://itag.gm/	An association of Gambian IT professionals.
Ghana	Ghana Chamber Of Technology https://ghanachamber.tech/	An industry association of businesses whose purpose is to promote the growth of technology in business in Ghana.
Nigeria	Information Technology (Industry) Association of Nigeria (ITAN) https://www.linkedin.com/company/information-technology-industry-asociation-of-nigeria-itan-/about/	An association of Nigerian IT companies and professionals.
Nigeria	FinTech Nigeria https://fintechng.org/	An industry association of businesses in the financial technology space in Nigeria.
Senegal	Senegal Observatory on Information Systems, Networks and Info highways (OSIRIS) http://www.osiris.sn/	A non-profit association by IT professionals to provide information on ICT development in Senegal and Africa.

Source: Research from ITC national consultants.

2.3 STRATEGIC ICT SECTORS IN ECOWAS AND KEY ELEMENTS FOR SUCCESSFUL INVESTMENT

Within the ICT industry in the ECOWAS subregion, there are certain subsectors and value chains that make for strategic investment opportunities for growing the sectors and their contribution to the economy and society. It is important to note that, while in some sectors a full value chain might not be in place yet, or be viable investments within the region, certain segments of a value chain can have greater potential for investment and value creation.

While the opportunity for growth is evident and market trends indicate an increasing demand for goods and services in the ICT sector, certain elements should be considered to give an investment the best opportunity for success. This includes general requirements for establishing and running a business in the ECOWAS region, industry-specific requirements and supporting incentives from government. Essentially, by making well-informed policy decisions, regions like ECOWAS and its investors can 'leapfrog' past stages of development with the most effective best practice in the sector.[72]

TELECOMMUNICATION SERVICES

With the increasing demand for telecommunication devices, so comes the demand to be connected. This can be facilitated through telecommunication services that allow these devices to communicate with each other. Such services include mobile telephony, mobile internet and fixed broadband internet. Various types of companies operate in this value chain, including infrastructure engineering companies, network operators, internet services providers and cable companies.

72 Ejemeyovwi, J.O., Osabuohien, E.S., Johnson, O.D. & Bowale, E.I. (2019). 'Internet usage, innovation and human development nexus in Africa: the case of ECOWAS'. *Journal of Economic Structures, 8*(1), 1–16.

The education system continues to improve and cater to the requirements for modern programming talent in the ECOWAS region. Boosting digital literacy is an additional way to encourage usage of mobile ICT devices and help contribute to improving livelihoods in many communities, given that many might not be able to use such technology. As the programming talent pool continues to grow, capitalizing on opportunities such as lower manufacturing wages and fewer logistical costs compared to imports are potential ways to achieve lower prices for customers for ICT service providers.

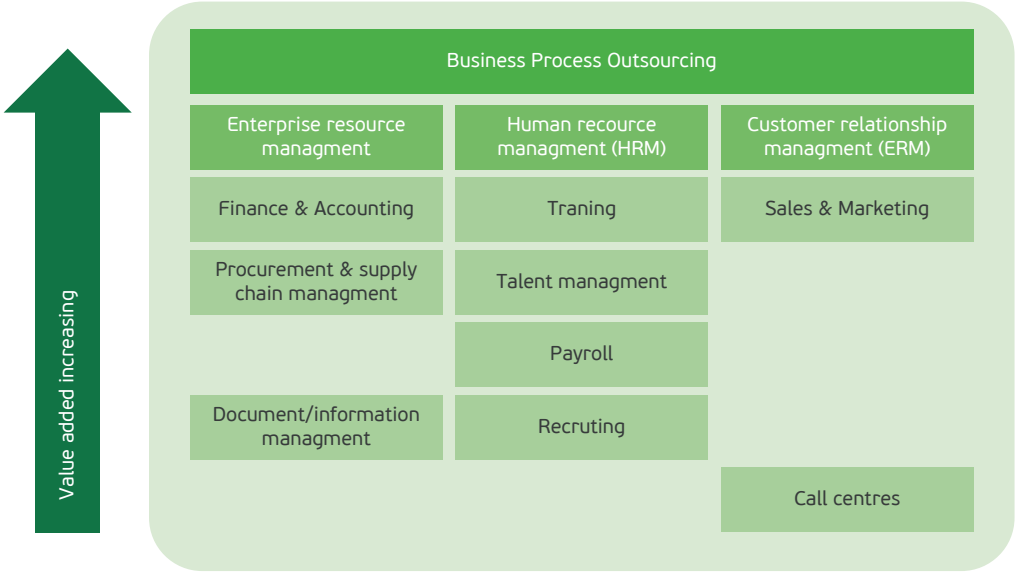
BUSINESS PROCESS OUTSOURCING (BPO)

Depending on the specific type of service, great potential remains for investors to enter the BPO industry in ECOWAS countries. Despite there being mixed trends in ECOWAS, there has been a global trend of gradual growth in the BPO market according to World Bank data.[73] These services require human capital – an element that plays in favour of the ECOWAS region given its young and increasingly educated population.

There are opportunities to capture value from this growing market, particularly for lower-value-added services such as call centres and recruiting services, which are seen to have increasing growth in the ICT sector given their comparatively fewer technical licensing and compliance requirements. Higher-value-added services such as accounting, finance or human resource training also has growing potential in the region given the growing demand in financial services and improving educated population in the region.

It is important to highlight that focus should not be restricted to the export market only for BPO services; however, local demands for such services are expected to grow with the trend of digitalization. In order to support the BPO industry's competitiveness and expedite business processes for industries, effective and reliable ICT infrastructure – including internet, telephony and electricity – is also critical and requires concrete support from the governments.

Figure 14: Various popular BPO services offered and the value added by each service



Source: Adapted from Gereffi & Fernandez-Stark (2011).[74]

73 https://data.worldbank.org/indicator/BX.GSR.NFSV.CD.

74 Gereffi, G. & Fernandez-Stark, K. (2011). 'Global Value Chain Analysis: A Primer'. *Center on Globalization, Governance & Competitiveness (CGGC), Duke University, North Carolina*, USA.

SECTOR-SPECIFIC USE AND DIGITALIZATION OF INDUSTRIES

For ICT service and ICT-enabled service providers, there is immense opportunity as different sectors adopt the use of ICT in their operations. Infrastructure investors, network operators, device manufacturers and retailers all have opportunities to capitalize on this growing market. Sector-specific use of ICT arises from businesses in various sectors investing in their ICT capabilities rather than ICT companies investing in other sectors. For example, a medical services company investing in ICT products and services to offer e-health services rather than a telecommunication company investing in health services. Hence, like BPO services, robust ICT infrastructure is a critical element for successful investment in sector-specific use of ICT. Technical expertise is also critical given that skilled human operators of technology in specific industries are required to deliver results.

Finance, healthcare and the telecommunication sector itself have been also identified as key sectors driving the growing demand for ICT and other BPO services in Africa, including the ECOWAS subregion.[75] For example, the banking and financial sector shows immense growth potential in digital innovation, and there is still much room for growth and development. Other sectors identified as showing potential for market access include education, trade and retail, agriculture, and real estate.

COMPLIANCE WITH NATIONAL STANDARDS AND REGULATIONS

Compliance with local regulatory bodies is necessary for investment in a market. For ICT, this includes factors such as consumer protection, electronic goods safety ratings and radio spectrum regulation compliance. Table 14 contains contact information for relevant ICT regulatory bodies in focus ECOWAS countries.

Table 14: Contact information for relevant ICT regulatory bodies in focus ECOWAS countries

Country	Authority	Website/contact information
Cape Verde	Agência Reguladora Multissectorial da Economia (ARME)	https://www.arme.cv/
Gambia (the)	The Gambia Standards Bureau	https://tgsb.gm/contact
Ghana	National Communications Authority	https://www.nca.org.gh/the-nca/contact-us/
Nigeria	Nigerian Communications Commission	https://www.ncc.gov.ng/contactncc
Senegal	Autorité de Régulation des Télécommunications et Postes	https://www.artpsenegal.net/
Cape Verde	Agência Nacional das Comunicações	https://www.anac.cv/
Gambia (the)	Public Utilities Regulatory Authority	https://www.pura.gm/
Ghana	National Communications Authority	https://www.nca.org.gh/the-nca/contact-us/
Nigeria	Nigerian Communications Commission	https://www.ncc.gov.ng/contactncc
Senegal	Autorité de Régulation des Télécommunications et Postes	https://www.artpsenegal.net/fr/accueil/nos-contacts

75 Source: https://www.intracen.org/publication/African-market-trends-in-technology-services/.

3. ICT VALUE CHAIN AND PRODCUTS BY COUNTRY

3.1 CABO VERDE

COUNTRY OVERVIEW

Cabo Verde is an archipelago consisting of nine islands that are divided into two groups: Barlavento (windward) islands to the north and Sotavento (leeward) islands to the south. It lies 620 km off the west coast of Africa in the Atlantic Ocean, near Senegal. While some islands such as Boa Vista, Maio and Sal have been heavily eroded by wind over time and are very sandy and flat, others are rocky, jagged and mountainous, and there are even active volcanoes, such as Fogo (the 'fire' island), Pico (the highest point is 2,829 m) and Tope de Coroa (1,979 m). The geographical configuration is such that the soils, which are primarily volcanic or igneous in origin, are generally shallow, coarse and rocky. Temperatures are generally stable and the climate is extremely arid: they are lower in February (low 20soC), and hotter and wetter in August and September (high 20s°C).

The year 1462 marked the start of active colonization and settlement by the Portuguese, who subsequently found there the oldest European city in the tropics – Ribeira Grande (now Cidade Velha). The country then played an increasingly important role as an offshore entrepôt during the triangular trade. The advent of large long-distance oceanic vessels, made possible by steam engines, generated a great amount of port activity in Cabo Verde, until the opening of the Suez Canal.

Although colonial rule ended in 1879, the country only achieved full independence on 5 July 1975 after a long struggle. The political framework is a presidential representative republic that is enshrined in the 1992 constitution. Generally, the country is viewed as one the most stable democracies in Africa.

Cabo Verde is the most urbanized country in Africa, with more than two-thirds of the 562,000 Cabo Verdeans living in cities located on the largest islands such as Santiago (home to Praia, the nation's capital city), São Vicente and Santo Antão – these three islands total more than 80% of the country's population. Culturally, the overwhelming majority of the population of Cabo Verde is of mixed European and African descent, often referred to as Mestiço or Crioulo. There is also an African minority, which includes the Fulani (or Fulbe), the Balante and the Mandyako peoples, in addition to a small population of European origin, mostly of Portuguese descent. Portuguese is the official language and Crioulo is by far the most widely spoken local language.

Cabo Verde – key facts	
Capital city	Praia
Area	4,030 km²
Population, total	0.56 million
0–14 years	*28.4%*
15–65 years	*91.7%*
Youth literacy (15–24 years)	98.1%
Male (%)	*97.8%*
Female (%)	*98.7%*
GDP (nominal, USD billion, 2019)	$2 billion
GDP growth (real, 2014–19)	4.6%
FDI, inflows (million USD, 2019)	$104 billion (5.2% of GDP)
Employment to population ratio (+15 years)	53%
Employment to population ratio (15–24 years)	25%
Exports of goods and services (G&S), (USD million, 2019)	$1,012 million (50.6% of GDP)
Main exported products	*Processed and non-fillet frozen fish; molluscs; footwear parts; non-knit men's suits*
Imports of goods and services (G&S), (USD million, 2019)	$1,270 million (65.3% of GDP)
Main imported products	*Trucks and cars; oil; rice*
Inflation (2019)	1.1%
Bank credit to the private sector (million USD, 2019)	1,174 (58.7% of GDP)
Gov. expenditure (million USD, 2019)	678 (33.9% of GDP)
Gov. revenue (million USD, 2019)	634 (31.7% of GDP)
Total public debt (million USD, 2019)	2,460 (123.9% of GDP)
Currency	Cabo Verdean escudo (CVE)
Language	Portuguese (official), Crioulo (or Creole), French

Source: World Bank, International Monetary Fund (IMF), UNCTAD, and Comtrade.

BROAD ECONOMIC OVERVIEW

A COMPETITIVE AND INNOVATIVE ECONOMY

Cabo Verde is the world's 112th most competitive economy, 9th in Africa and 2nd in West Africa, according to the World Economic Forum's Global Competitiveness Index, with an overall score of 50.8/100, just behind Ghana (51.2). When it comes to the contributing factors, the country ranks 1st in Africa for its health system, and 1st in West Africa for the quality of its infrastructure network, the depth and range of the skill of its workforce, the functioning of its labour market and the soundness of its financial system. Additionally, it has the 2nd largest ICT adoption and institutional quality in the region.

Furthermore, the 2020 Global Innovation Index ranks Cabo Verde the 100th most innovative economy worldwide, 10th in Africa and 1st in West Africa, with an overall score of 23.9/100. This strong innovation drive has benefitted from high-quality human capital and research inputs, enabling infrastructure, sophisticated business environment, and the extent of creative outputs, in which the country comes 1st in the region. The country also tops the regional list as far as government effectiveness is concerned.

STRONGEST INSTITUTIONS IN AFRICA

The World Bank's Governance Indicators rank the country 43rd worldwide and 1st in Africa. The contributing institutional elements are voice and accountability (1st in Africa) and political stability and no violence, rule of law and control of corruption (2nd in Africa, and 1st in the region).

BEST INFRASTRUCTURE IN WEST AFRICA

The African Development Bank's survey on infrastructure ranks the country 9th in Africa and 1st in West Africa, with a score of 48.9 in 2020. This performance mostly shows in the sub-dimensions of transportation, energy and ICT.

A BUSINESS ENVIRONMENT AMONG THE FRIENDLIEST IN AFRICA

Cabo Verde is the world's 104th best country for business, the 14th in Africa, and the 3rd in the West African region, according to the *Forbes Magazine*, owing to its economic growth, GDP per capita and international trade performance. Moreover, according to the World Bank's 2020 Ease of Doing Business, the country is ranked 137th in the world, 23rd in Africa and 7th in West Africa, with a score of 55/100. The dimensions in which the country fares relatively well include dealing with construction permits and enforcing contracts (1st in the region) and trading across borders (2nd).

INVESTING AND DOING BUSINESS IN CABO VERDE

AN INCREASING PACE OF ECONOMIC GROWTH

The Cabo Verdean economy has grown at an average of 3.9% in the years preceding the COVID-19 pandemic, the 12th highest in the region. In 2019, economic growth level was 5.7%, mostly driven by transport, tourism, construction and retail trade. This increased pace of economic dynamism has been disrupted by the containment measures and disruptions in global and regional supply chains following the global pandemic. As a result, the economy contracted by 14.8% in 2020. However, growth is projected to rebound to 5.8% in 2021 and to average approximately 6% in the medium term, thanks to financial support from development partners.

A COMPETITIVE BUSINESS ENVIRONMENT

In the 2010–19 period, **FDI** inflows increased to reach $104 million, which is an indication of the business environment's quality and the efficiency of business-related administrative formalities that make the country attractive to international investors. For example, starting a business in Cabo Verde requires a total of nine procedures:

(1) Verify the availability and reserve the proposed company name with the Commercial Registry Department (CRD; *Casa do Cidadão*);

(2) Deposit the initial capital in a bank;

(3) Register the company and obtain the publication of a notice of incorporation at the CRD;

(4) Request inspection and obtain municipal licence;

(5) Receive inspection of business premises from the municipal authority;

(6) Obtain and legalize the company books with The National Printing Office (*Imprensa Nacional*);

(7) Register workers with the Social Security Office (*Instituto Nacional de Previdência Social*);

(8) Register workers for accident insurance;

(9) Notify the General Inspectorate of Labour (Inspecção-Geral do Trabalho) of the start of operations.

All of these administrative procedures take approximately nine days to complete, the 9th lowest in Africa, and cost approximately CVE 49,000 ($525), the 12th lowest on the continent.

For **construction permits**, investors can expect to go through 17 procedures in an average period of 101 days, mostly with the municipality, except for water and sanitation inspection and connection (with the national agency, *Águas de Santiago* – ADS) and building registration (with the National Land Register of Cabo Verde or *Certidão Predial*). Total cost amounts to CVE 171,662 ($1,840).

As with all business-related administrative procedures, **equal treatment** is guaranteed to all investors, domestic and foreign alike. Visa rules allow expatriates, either businesspersons or employees, to stay at a time length that matches their economic activities.

The Cabo Verdean **labour force** comprises 228,000 individuals (41% of the total population). Labour quality, as measured by the depth of skills (World Economic Forum), is ranked 9th in Africa and 1st in West Africa, and the literacy rate is among the highest in Africa. **Wages** typically range from CVE 51,700 ($555) to CVE 912,000 ($9,780) per month, with an average of CVE 204,000 ($2,188). The minimum wage is CVE 13,000 ($139.46) per month in the private sector and CVE 15,000 ($160.9) per month in the public sector.

Obtaining a connection to the **electricity** grid (operated by the parastatal company Electra) takes an average of 81 days, and the six procedures involved cost CVE 1,206,375 ($12,960). Consumption is charged $0.26 per kWh, and transparency of tariff index and reliability of supply are ranked 5th in the region. Electricity is readily available to 95.5% of the total population, both urban and rural areas. This is among the highest access rates in Africa. Water is accessible to 87.1% of the population (93.1% in urban areas), despite the tariff being among the highest in Africa ($4.43 per cubic metre).

The country's **infrastructure** system comprises the Amílcar Cabral International Airport, also known as Sal International Airport due to its location on the Sal Island. It is the main hub for the national airline, Cabo Verde Airlines, which has several international routes to Africa, Europe and the United States, in addition to providing domestic flights. The airport handles approximately 1.2 million passengers and 443 tons of cargo annually. The country's strategic geographical location shows in the large number of airlines that offer flights to and from many destinations in Africa, Europe and the Americas, with 10,205 departure flights being registered in 2019.

Of the estimated 2,250 km of road, approximately 600 km (27%) are paved and considered to be fairly adequate. They are mostly within cities. Moreover, given the country's challenging topography, railway is non-existent.

In addition to air transportation, the country has prioritized maritime transport to connect its nine islands and inhabitants and integrate global commerce. The largest of the nine ports, Porto Grande, is located at Mindelo on the island of São Vicente. Its deep-water harbour accommodates sizable vessels and has been used as a fuelling station since the nineteenth century. Domestic maritime transport of passengers and cargo was growing in efficiency and numbers before the COVID-19 pandemic hit the sector. The country is a favourite destination for cruise shipping: in 2019, it received 48,500 cruise passengers and 147 ships, mostly in Porto Grande and the port of Praia (the second most important port). The ongoing construction of a cruise ship terminal on the island of São Vicente will help the country reach its ambitious goal of 200,000 passengers per year.

The **tax system** for businesses in Cabo Verde comprises 10 taxes and mandatory contributions, which include corporate income tax (at a statutory rate of 25% of taxable profits), social security contribution (16% of gross salaries), property tax (1.5% of assessed value less maintenance expenses) and value added tax (15%). In a typical year, a total of 30 payments are made, amounting to 37.5% of corporate profit.

Customs duties are part of the ECOWAS common external tariff (CET), which categorizes imported goods into five tariff bands, ranging from 0% (essential social goods) to the maximum of 35% (specific goods for economic development). Additional measures aimed to protect vulnerable industries and guarantee fair competition include safeguard measures, anti-dumping measures, anti-subsidy and countervailing measures, and supplementary protection measures.

The **banking and financial system** in Cabo Verde has gained in stability, profitability and reduced risk, as suggested by the declining share of non-performing loans to 12.2% of total loans and the regulatory capital to risk-weighted assets of 18% (prior to the pandemic). A total of 14 banks operating in the country offer credit

to the domestic private sector that amounts to 58.7% of GDP, the largest in West Africa (3rd on the continent). The system's openness is synonymous with the ability of any individual or business to hold foreign currency accounts, and international transfers (such as remittances) are unrestricted. In the recent period (November 2021 to February 2022), the exchange rate fluctuated at approximately 97 per USD.

A host of **government incentives** aim to attract foreign investment. In July 2020, the country established the Special Economic Zone Authority, which is tasked to manage the Maritime Special Economic Zone of Maritime Economy in São Vicente (ZEEEM-SV) and the Lazareto Industrial Park.

Entities licensed to operate in these zones are entitled to reduced corporate income tax (subject to job creation) and customs duties exemptions, among other benefits.

In summary, investors can benefit from a host of advantages when considering doing business in Cabo Verde. They include a highly skilled labour force, the strongest competitive drive and best infrastructure in West Africa, as well as the strongest institutional quality. These all translate into one of the friendliest business environments in Africa.

ICT INDUSTRY IN CABO VERDE: AN OVERVIEW

ICT INFRASTRUCTURE

State investments in ICT infrastructure are based on a strategy and vision of building a technology hub in Cabo Verde. In this sense, important investments have already been made and others are in the process covering the area of infrastructure, but also governance and human capital. This makes Cabo Verde increasingly attractive for private investors.

SUBMARINE CABLES

Cabo Verde has made significant progress in terms of submarine cable connections and plans new connections with an impact on the level of security and redundancy of connectivity in Cabo Verde. The country has also presented a proposal to deploy a fibre-optic cable directly connecting all ECOWAS member countries. The Amilcar Cabral would connect Cabo Verde to the rest of the region via an undersea link to Guinea Bissau and the Mano River Union countries (Sierra Leone, Liberia and Guinea).

DATA CENTRES

Cabo Verde has significantly invested in establishing a world-class data centre at the technology park in Praia. It hosts and manages data and already provides services to the Government of Cabo Verde, companies, banks, and national and foreign entities.

TELECOMMUNICATION

The year 2020 was the first year with mobile broadband 4G in Cabo Verde, with 79.42% coverage of the population. At the same time, market condition was created for the transition to 5G.

There were 346,000 internet users in Cabo Verde in January 2021.[76] The number of internet users in the country increased 9.4% in 2020–21. Internet penetration in Cabo Verde was 61.9% in January 2021.

There were 572,000 mobile connections in Cabo Verde in January 2021. The number of mobile connections in the country increased by 12,000 (+2.2%) from January 2020 to January 2021. The number of mobile connections in the country in January 2021 was equivalent to 102.3% of the total population.

Internet access and use has also increased in recent years. This indicator increases from 32% of households with internet access in 2014 to 67% in 2019. The main access route to the internet in accommodation is the mobile phone.

Table 15: Key ICT indicators in Cabo Verde

Item	2018	2019	2020
GSM coverage (population)	99.34%	99.34%	99.34%
3G coverage (population)	91.07%	94.74%	94.74%
4G coverage (population)	–	79.42%	79.42%

Source: Multisectoral Regulatory Agency for the Economy (ARME).

76 https://datareportal.com/reports/digital-2021-cabo-verde.

THE ICT SECTOR'S CONTRIBUTION TO CABO VERDE'S ECONOMY

The Government of Cabo Verde has been steadily developing its ICT sector, aiming to accelerate economic growth, boost job creation and improve public service delivery. Promoting digital transformation and positioning Cabo Verde as a digital hub capable of supporting business outsourcing and back-office operations, software development and cloud hosting are considered critical for the achievement of the broader development objectives.

There is recognition of the ambitious targets in various ICT impact indicators defined in the digital transformation strategy to leapfrog economic growth and social development in Cabo Verde (see Table 17).

Table 16: The ICT sector's contribution to Cabo Verde's economy

		2016	2017	2018	2019	2020	2021
Contribution of ICT Sector to GDP	%	<1	0,50%	1,50%	3,00%	5,00%	6,00%
Contribution of ICT/Exports	%	0	0,10%	0,50%	1,00%	2,00%	3,00%
IDI (ITU)	Ranking	97 (4,6)	96	94	91	89	87 (5,03)
E-Gov EDGI Rank	Ranking	103 (0,4980)		112		100	
Broadband acess	%	70%	72%	74%	80%	85%	90%
New Company (ICT Sector)	N.º	79	125	150	175	250	250
Job Creations in ICT Sector	N.º	155	160	220	250	320	450

Source: Agenda de Transformação Digital Cabo Verde 2030.

ICT READINESS AND GROWTH

Cabo Verde has made substantial progress on its ICT infrastructure agenda, which is ranked 4th in Africa in the global Network Readiness Index (NRI).[77] It outperforms its region in each of the four pillars (technology, people, governance and impact). It also has a higher score than the regional average in each of the 12 sub-pillars.

Cabo Verde aspires to be a digital hub and a Mid-Atlantic gateway for the digital economy. This vision has articulated three key priority pillars under their Cabo Verde digital agenda, namely: (i) expansion of the digital connectivity infrastructure; (ii) enhancement of capacity building; and (iii) provision of digital services through a regional marketplace.

Table 17: ICT readiness

Dimension	Cabo Verde	Lower-middle-income countries	Africa
Network Readiness Index (NRI)	42.01	36.72	30.62
Technology	32.90	27.72	21.47
People	37.22	33.88	26.75
Governance	47.96	43.15	39.31
Impact	49.97	42.15	34.94

Source: Global Network Readiness Index.

77 PORTULANS INSTITUTE, Network Readiness Index 2020, https://networkreadinessindex.org/.

DIGITAL GOVERNANCE

According to the United Nations' E-Government Digital Index (EGDI), Cabo Verde moved from the middle to the high EGDI group in 2020.[78] Cabo Verde has stood out over the years in the various worldwide reports and in obtaining results, increasingly consistent, in the evolution of e-government indicators, namely in the EGDI, the Online Service Index (OSI), the Telecommunication Infrastructure Index (TII) and the Human Capital Index (HCI).

Cabo Verde has made significant progress in the use of digital technologies to promote internal efficiency, simplify government procedures and improve public services. This has been particularly important in allowing Cabo Verde to overcome the geographical discontinuity, remoteness and exclusion, and in offering economic opportunities.[79]

In addition, Cabo Verde also introduces Casa do Cidadão – the concept of a one-stop shop for public services through physical centres and an online portal.

GOVERNMENT SUPPORT FOR THE ICT SECTOR

TAX INCENTIVES

Cabo Verde has a tax benefit code that applies to several sectors, including the ICT sector. Many types of incentives are in place, including in the form of deductions to the calculation of the corporate income tax (CIT) tax base, preferential CIT rates, tax credits, and tax waivers for real estate tax, customs and stamp duties. In addition, tax benefits are associated with the following objectives: encourage investment, with particular emphasis on FDI; promote formalization, employment and professional training; stimulate technological transfer; promote sectoral development and pioneering industries; reduce regional asymmetries; promote exports.

TRAINING AND CAPACITY-BUILDING REFORM PROGRAMMES

The Government of Cape Verde promoted the change in the legislation of education by proposing an educational system integrated in the concept of economics aiming at the mastery of technologies. Thus, since 2018–19, ICT subjects in basic education are being taught in schools.[80]

Several universities also offer courses in the ICT field. In order to increase the response and feed the technological hub with ICT workforce, investment has been made to create the framework to deliver specialized ICT training to national and regional human resources, thereby fostering an ecosystem of tech-based innovation and entrepreneurship within its ICT sector. This can be a catalyst for exponential innovation.

KEY ICT INVESTMENT SECTORS AND ACTORS

Cabo Verde has made significant investments in advancing existing or future ICT infrastructure in order to create favourable conditions to attract investors for the ICT sector. These include enhancing diversified opportunities, due to the increasing capacity for verticalization of ICT products and services, in intersection with other key sectors for the economy (tourism, agribusiness, economy of the sea, health, industry and financial services, among others).

78 https://publicadministration.un.org/egovkb/en-us/Data/Country-Information/id/32-Cabo-Verde.

79 https://peds.gov.cv/caboverdef4dev/wp-content/uploads/2018/12/TECHUB-CV-Sector-web.pdf.

80 Legislative Decree No. 13/2018 of 7 December.

TELECOMMUNICATION INFRASTRUCTURE

Infrastructure and connectivity are among the country's priorities with the aim of increasing the resilience, security and confidence of the technological hub of Cabo Verde. In this sense, these investment opportunities stand out:

- Investments in the submarine fibre optic cable network that crosses Cabo Verde's territorial waters that will modernize internet and telecommunications services to Cabo Verde with inter-island submarine cables;
- Investment project for underwater fibre optic cables to connect neighbouring ECOWAS capitals;
- Develop domestic mobile and fixed broadband network to deliver a reliable and affordable internet service to individuals and businesses alike;
- National data centres – to host local and international content reliably and build new financial services data centres.

FINANCIAL SERVICES

With the increased levels of digital connectivity comes opportunities for investors to capitalize on digital services such as fintech. The services developed and provided by fintech in Cape Verde are essentially at the level of e-payments and transfers. The domestic fintech market in the country has a large player called Interbank Company and Payment Systems (SISP). Since its creation, SISP has developed several exportable products and services. Taking advantage of the infrastructure's quality and the level of penetration of mobile phones, new fintech companies have emerged on the financial services market.

E-EDUCATION

Cape Verde is strongly committed to achieving the goal of being a global digital nation, expanding access to digital skills at the national level and strengthening young people's digital capabilities. In this domain, there are efforts to implement Web-Labs in all secondary schools and in a second phase in primary schools. There is also the ongoing implementation of the IBM – Digital Nation Africa project,[81] a pilot experience in Africa, which, in addition to secondary schools, has recently been expanded to universities and professional training with the aim of reaching more than 20 million young people in the next two years. With a population that is increasingly accustomed to digital learning, new potential now arises for further entries into the e-education space.

E-HEALTH

Cape Verde has the National Telemedicine Service, which was created with the mission of implementing and coordinating all telemedicine and e-health activities in the country. The Health Information System (SIS) consists of an integrated technological platform, and allows communication between the different services and structures. Private and specialized services remain a market for further growth in the country.

TOURISM

Taking into account the effects caused by the COVID-19 pandemic for public health and, in particular, for the tourism sector, the government launched the Re!nventa programme,[82] where young people put their ideas for the service of the country on an open platform of ideas to reinvent national tourism. The programme was promoted by Cabo Verde Digital in partnership with the Ministry of Tourism in order to foster open innovation and create solutions with a clear focus on technological products and processes.

There are other programmes, such as Bolsa Cabo Verde Digital, the first technological entrepreneurship programme conceived in Cape Verde. In 2020, this programme supported 50 young people in the creation of 35 start-ups.

A COMPETITIVE AND CONDUCIVE BUSINESS ENVIRONMENT

Recent progress in private sector development has allowed Cape Verde to be seen as an open market and reform-oriented economy aiming at building a business-friendly environment. Business environment reforms have been undertaken through widespread government initiatives that allowed making business registration easier, restructuring of promotion and support agencies, and progressively putting in place an institutional framework for private sector development.

The institutions are robust and work, providing credibility to the country. This had led to some of the results seen in Table 19.

81 https://developer.ibm.com/digitalnation/africa/.

82 http://reinventa.digital.cv/site/wordpress/.

MAJOR ICT ACTORS

The number of actors involved in the adoption of emerging ICTs, due to the complex and dynamic nature of emerging ICT applications, are strongly conditioned by the large private telecommunications companies and the role of public institutions in creating conditions for the attraction and emergence of companies, particularly SMEs.

Examples include the Núcleo Operacional da Sociedade de Informação (NOSI), which operates in the area of electronic governance and ICT as a government-owned company that manages the majority of the government's IT infrastructure (data centres and the State's private telecommunication network, Rede de Telecomunicações Privativa do Estado).

In the telecom space, a key player is Cabo Verde Telecom (CVT) and its subsidiaries. A former state-owned enterprise, in 1995, CVT was privatized with the entry of its strategic partner, Portugal Telecom. Also in the telecom space is Unitel T+, which entered the market at the end of 2007, effectively making use of the legislation that was enacted to end the monopoly on the mobile market.

For the digital finance sector, Interbank Company and Payment Systems (SISP) is a key actor. SISP is a financial institution responsible for managing activities related to the development and use of means of payment in Cape Verde – a critical element for new and emerging digital banking solutions.

CURRENT LEGAL AND POLICY FRAMEWORK FOR ICT SECTOR

The current ICT infrastructure, regulatory and enforcement framework have undergone substantial changes to support Cabo Verde's aspirations in the sector. Other changes to the legal and regulatory framework of the market, as well as new complementary norms in production and approval processes, are expected to contribute to a more attractive legal and regulatory environment for the ICT market.

At the level of digital economy, several laws have been passed in recent years to strengthen security, transaction and trust conditions, which include:

	Legal landmarks
1	Cybercrime Law
2	General Legal Regime for the Protection of Personal Data of Individuals
3	Electronic Commerce Law
4	Key Public Infrastructure Decree Law
5	Digital Signature Decree Law
6	Electronic Identity Law
7	Legal regime for the provision of payment services and the issuance, distribution and refund of electronic money

THE ICT SECTOR'S MAJOR REGULATORY BODIES

Directorate-General for Telecommunications and Digital Economy (DGTED)

The Directorate-General for Telecommunications and Digital Economy (DGTED) is the central service whose mission is to propose, execute and evaluate the national policy on telecommunications, innovation and the digital economy, to coordinate the public activities of the State related to the digital economy and to promote the country's technological development.

Multisectoral Economic Regulation Agency (ARME)

ARME is the administrative and independent authority, with responsibilities for the technical and economic regulation of the sectors of communications, energy, water, and urban and intercity passenger transport. ARME also carries out its regulatory activity in aspects of the media market that should not be assigned to another independent administrative authority.

SWOT ANALYSIS OF CABO VERDE'S ICT SECTOR

Strengths	Weaknesses
▪ Strong political commitment to leverage Cabo Verde as an ICT hub, and country stability and reliability. ▪ Geolocation in the Mid-Atlantic with proximity to West Africa serving the country as a link to the main technological development markets. ▪ Comparative edge in established data depository capacity and technology ecosystem/safe and reliable infrastructure. ▪ Advanced position in digital government within Africa and e-government strategy. ▪ Good penetration rate of mobile/cellular and active mobile broadband subscriptions. ▪ Large diaspora with available pool of talents and advanced digital skills. ▪ Relevant financial and technological partners engaged. ▪ High literacy rate. ▪ A dynamic digital economy (especially in fintech). ▪ Fully operational public key infrastructure (PKI).	▪ Reduced business sector dynamism and entrepreneurial culture. ▪ Reduced availability of qualified human resources in the digital area. ▪ High costs of energy. ▪ Limited size of local market. ▪ Low research and development activities and technological incorporation in the digital area. ▪ Restriction of access to international capacity. ▪ Slow adoption of digital public services and digital ID nationally and within the diaspora. ▪ Limited regional integration due to lack of digital infrastructure with ECOWAS countries. ▪ Reduced number of certified professionals domestically and digital training centres of excellence in the country.
Opportunities	**Threats**
▪ Availability of data centre infrastructure and conditions for expansion. ▪ Incentive systems for the promotion, adoption and use of ICT. ▪ Financial partners engaged in the construction of the regional ICT hub. ▪ Interest and willingness of main actors to build a cluster. ▪ Improved digital infrastructure due to the operation of the Cabo Verde Technology Park. ▪ Improved international connections and regional integration – regional ICT hub. ▪ Increasing interest from international digital companies to outsource in Africa. ▪ Expansion of the services sector in alignment with the digital strategy. ▪ Enhanced access to new markets through digital delivery and electronic platforms. ▪ Online education and training opportunities.	▪ Economic difficulty affecting availability of financial resources. ▪ Competition from other regions. ▪ Fast-paced technological progress in the world.

USEFUL CONTACTS

Below are the key contacts in Ghana for the ICT sector and investment facilitation.

Regulatory body	Contact
Directorate-General for Telecommunications and Digital Economy (Direção-Geral das Telecomunicações e Economia Digital)	Director: Aruna Handem E-mail: aruna.handem@mf.gov.cv Website: https://mf.gov.cv/dgted
Cabo Verde Trade Invest	Rotunda da Cruz de Papa, 5 C.P. 89-C, Achada Santo António Praia CABO VERDE Telephone: (+238) 2604110 (11)/(+238) 3338210 E-mail: info@cvtradeinvest.cv Website: https://cvtradeinvest.com/
Multisectoral Economic Regulation Agency (Agência Reguladora Multissetorial da Economia)	5º Andar, Prédio ARME Av. da China, Chã d'Areia, Praia, Cabo Verde Telephone: (+238) 260 44 00/01/02/03 E-mail: info@arme.cv Website: https://www.arme.cv/
Núcleo Operacional da Sociedade de Informação (NOSi)	Av. Cidade de Lisboa, Várzea, C.P - 620 Praia - Santiago Cabo Verde Telephone: (+238) 260 79 73 E-mail: nosinfo@nosi.cv Website: http://www.nosi.cv
Techpark Cabo Verde	Achada Grande Frente, Praia, Cabo Verde Telephone: (+238) 3336231/(+238) 456 789 E-mail: info@techpark.cv/support@techpark.cv Website: https://www.techpark.cv/

3.2. GHANA

COUNTRY OVERVIEW

Ghana, whose motto is 'Freedom and Justice', is located between Cote d'Ivoire in the west, Burkina Faso in the north, Togo in the east and the Gulf of Guinea in the south. Ghana's documented history dates back to the eleventh century. Since then, various kingdoms and empires have emerged, the most powerful and well-known being the Kingdom of Dagbon and the Ashanti Empire. The colonial period started in the fifteenth century, first with the Portuguese, then other European powers, and finally with the British. The latter divided Ghana into four separate British colonial territories: Gold Coast, Ashanti, the Northern Territories and British Togoland. These territories were unified when the country gained independence in 1957 (initially as an independent dominion within the Commonwealth of Nations). Since April 1992 when the country adopted a new constitution, an increasingly democratic, peaceful and stable subregional power has emerged within the political framework of a presidential constitutional democracy with a parliamentary multi-party system.[83]

The country's location only a few degrees north of the equator is synonymous with a warm climate. Temperatures culminate at 30°C–31°C between December and March, corresponding to the harmattan (dry desert wind) blowing in the north-east of the country. The south enjoys a tropical climate with a longer rainy season (March to November).

Most of the 31 million Ghanaians (57%) live in urban areas, mostly in Accra (a population of 5.1 million), Kumasi (3.3 million), and Tamale (0.5 million). The richness of the culture and traditions rests in part on the warmth, friendliness and a strong sense of community of the people, as well as approximately 50 local languages, of which the 11 most widely spoken are taught in school (e.g. Akan, Ewe, Ga, Dagaare and Dagbani). This is in addition to English, Ghana's official language.

Ghana – key facts	
Capital city	Accra
Area	227,540 km^2
Population, total	30.4 million
0–14 years	*37.4%*
15–65 years	*59.5%*
Youth literacy (15–24 years)	92.5%
Male (%)	*92.8%*
Female (%)	*92.2%*
GDP, nominal	$67 billion
GDP growth (real, 2014–19)	6.1%
FDI, inflows	$2.3 billion
Gross domestic private investment	$9.6 billion
Employment to population ratio (+15 years)	64.9%
Employment to population ratio (15–24 years)	37.5%
Exports of G&S, 2014–19 (billion USD, 2019)	36% of GDP (24.1)
Main exported products	*Pearls, precious stones and metals; mineral fuels and oils; cocoa*
Imports of G&S, 2014–19 (billion USD, 2019)	35.4% of GDP (23.7)
Main imported products	*Vehicles; electrical machinery and equipment; cereals*
Inflation	7.2%
Bank credit to private sector	12.4% of GDP
Government expenditure	$14.6 billion
Government revenue	$9.6 billion
Total public debt	$42.3 billion
Currency	Cedi (GHS)
Languages	English (official), Akan, Ewe, Dagbani, Dangme

Note: Data is for the most recent years, since 2017.
Source: World Bank; IMF; UNCTAD; Comtrade.

83 'Subregion' denotes West Africa throughout the text, while 'region' refers to the whole African continent.

BROAD ECONOMIC OVERVIEW

MOST COMPETITIVE ECONOMY IN WEST AFRICA

Globally, Ghana comes 111th in the 2019 Global Competitiveness Index, and 8th on the continent and 1st in West Africa, with an overall score of 51.2/100. This performance owes to its strong institutions and the largest extent of ICT adoption in West Africa, in addition to the depth of skills and innovation capacity where the country ranks 2nd in the subregion.

AMONG THE MOST INNOVATIVE AFRICAN ECONOMIES

Ghana is the 108th most innovative economy in the world, the 13th in Africa and the 3rd in West Africa, according to the 2020 Global Innovation Index (co-published by Cornell University, INSEAD and the World Intellectual Property Organization), with an overall score of 22.3/100. The contributing factors are a supportive infrastructure network and the extent of creative outputs, in which the country ranks 2nd in the subregion.

STRONG INSTITUTIONS

The strength of the political institutions is indicated by the World Bank's Governance Indicators, which rank Ghana 100th in the world, 11th in Africa and 3rd in West Africa. The country comes 1st in West Africa for regulatory quality, 2nd for rule of law, control of corruption and voice and accountability, and 3rd for political stability and no violence, and government effectiveness.

HIGH-QUALITY INFRASTRUCTURE

The African Development Bank's survey on infrastructure ranks the country 11th in Africa and 2nd in West Africa, with an overall score of 30.1/100. Water supply and sanitation, as well as transport appear to be the most developed segments of the country's overall infrastructure. Furthermore, the World Bank's Logistics Index puts the country at the 106th position worldwide, 16th in Africa and 5th in the subregion. The overall score is 2.57/5. The country comes 2nd in West Africa when it comes to the competence and quality of logistics services, and 3rd for the efficiency of customs clearance process.

STRONG MARKET POTENTIALS AND LOWEST COUNTRY RISK IN WEST AFRICA

According to the 2020 Market Potential Index, developed by the Michigan State University's International Business Center, Ghana is ranked 76th globally, 5th in Africa (with the Federal Democratic Republic of Ethiopia, the United Republic of Tanzania, and Morocco) and 3rd in West Africa. The contributing factors are the extent of economic freedom (the highest in West Africa), market receptivity (the strongest in the subregion) and country risk (the lowest in the subregion).

THE BEST COUNTRY FOR BUSINESS IN WEST AFRICA

Ghana is considered the 94th Best Country for Business worldwide, 9th in Africa and 1st in West Africa, according to *Forbes Magazine*. This performance is a combined result of the country's GDP growth, GDP per capita, trade balance and population size. In addition, the World Bank ranks the country 118th globally, 17th in Africa and 3rd in the West African subregion when it comes to the ease of which business is conducted, with a score of 60/100. The dimensions that stand out relate to getting credit (the easiest in West Africa) and protection offered to minority investors (the 2nd strongest).

INVESTING AND DOING BUSINESS IN GHANA

STRONG AND RESILIENT ECONOMY

Ghana's economy is the second largest in West Africa, and has enjoyed a robust growth averaging 6.1% in the last five years in the context of increasingly favourable macroeconomic and financing conditions. Large endowments of gold (Africa's biggest gold miner after South Africa), cocoa (world's second largest cocoa production) and, more recently, oil form the cornerstone of Ghana's economy have contributed to the economic boom. However, the ongoing COVID-19 pandemic has reduced growth to 0.41% in 2020, compared to the initial projection of 5.8%, as a result of 'lower oil production, weak global aggregate demand, global supply chain disruptions, and a steep decline in international travel, trade and retail and hospitality services'. However, the economy is expected to rebound in 2021, with a projected growth rate of 5.9%, suggesting a relatively strong resilience of the economy (the country is considered as the most resilient economy in West Africa, according to the 2018 African Attractiveness Index).

FRIENDLY AND LOW-COST BUSINESS ENVIRONMENT

Starting a business is among the least costly in Africa, with a paid-in minimum capital requirement of just 100 GHS ($17) and fees amounting to 390 GHS plus 0.5% of the stated capital as a commencement tax. The process involves eight procedures:

(1) Obtain a tax identification number (TIN) from the Registrar-General's Department (RGD) or Ghana Revenue Authority; although necessary to obtain before proceeding with the registration, it can be done at the time of the business registration by submitting the forms and required documents at the RGD; once validated, the applicant can collect the document;

(2) Check for availability of company name and submit company documents to obtain business operation permit and incorporation certificates at the RGD; applicants can request the search to be performed at the Companies Registry to ascertain the availability of the proposed name; the RGD can then reserve the name pending registration of the company;

(3) A Commissioner of Oaths, within the RGD, authenticates forms required for the certificate to commence business;

(4) Obtain, within 28 days, the certificate to commence business, the certificate of incorporation and temporary business operating permit certificates, all from the RGD;

(5) Receive inspection of work premises by the Metropolitan Authority, which has already automatically received information on the registered business (address and phone number); a visit is then scheduled to confirm the category of the business;

(6) Obtain final business operating permit upon payment of fees related to the permit at the Metropolitan Authority;

(7) Deposit the 100 GHS minimum paid-in capital in a bank account and the following documents are requested: copies of company regulations, the certificate of incorporation, the certificate to commence business and signatures of the authorized company representative; some banks may conduct physical inspection of the company's address, and most require introductory letters from the solicitors in order to open an account, as part of the 'KYC' (know your customer) procedures;

(8) Apply for social security at the Social Security and National Insurance Trust office; to do so, the company must provide a list of its employees, their respective salaries and social security numbers, and the company's certificate of incorporation.

These procedures take approximately 13 days to complete, well below the 21.5 sub-Saharan African average.

Furthermore, obtaining **construction permits** is also among the cheapest in West Africa, with an estimated cost of 3.5% of the warehouse value. For a standardized warehouse, the estimated value is 495,380 GHS ($84,215). **Registering property** involves five procedures, from obtaining a title transfer form to the issuance of title certificate at the Land Registration Division of the Lands Commission. The procedures take 33 days at a cost of 6.1% of the property value.

The rental price of a typical four-bedroom exclusive residential house is approximately 26,470.6 GHS ($4,500) per month. For non-residential properties, the price ranges from 58.8 GHS ($10) per square metre per month for industrial property to 235.3 GHS ($40) for retail space and 205.9 GHS ($35) for an office space.

Equal treatment is guaranteed by law to national and foreign investors when it comes to all business-related procedures, including the acquisition, registration or rental of any property.

The **labour force**, estimated at 12.9 million, is relatively skilled and vibrant. The country tops the World Bank's Human Capital Index in West Africa, with a score 0.44/1, which is suggestive of a large variety of relatively strong skill sets. **Visa rules** applied to investors and workers, similar to those in the ECOWAS region, grant a duration of stay that matches that of the business or the employment, with no further limitations.

The minimum **wage** is $45.1 per month. Salaries typically range between 1,280 GHS ($218) and 22,600 GHS ($3,842), depending on the skills and industries, and the average worker earns 5,070 GHS ($862) per month. These payments include housing, transport, and other benefits such as social security and pensions.

The country's **electricity system** is ranked 1st in the subregion by the World Bank (5th on the subcontinent), largely as a result the reliability of supply and transparency of tariffs. Obtaining a connection takes a typical business approximately 55 days, and the process involves hiring a registered electrical contractor and receiving an internal wiring inspection, submitting an application to Power Distribution Services Ghana Ltd, receiving site inspection by Power Distribution Services Ghana Ltd and awaiting estimate, and then receiving external works, meter installation and electricity flow. Total fees are 62,619.4 GHS ($10,645.3). Once connected, businesses pay a price of 1.39 GHS ($0.24) per kWh.

Water connection can be obtained within a month from Ghana Water Company Limited, at a total cost of 1,000 GHS ($170). At an average cost of 4 GHS ($0.68) per cubic metre applied to the bi-monthly consumption, basic drinking water services are accessible to more than 80% of the total population (93% in urban areas).

Business **tax and mandatory contributions** in Ghana include a corporate income tax (statutory rate of 25%), social security contribution (13% of employees' gross salaries), value-added tax (12.5%), tax on interest earned (8%), and contribution to the Ghana Education Trust Fund Levy (GETFL) and National Health Insurance Levy, municipal tax, fuel tax, and property tax at variable rates. These eight business-related taxes and contributions necessitate 36 payments in a typical year, take approximately 226 hours per year and cost an average of 55.4% of corporate profit.

In addition, individual income tax is 0% (annual chargeable income of less than 3,456 GHS – $587.5 GHS) to a maximum of 30% (240,001 GHS – $40,800.2 and more).

The **infrastructure network** is relatively dense and varied. There were 72,381 km of road network in Ghana in 2017, with 14,873 km being trunk road (used for long-distance travel), 15,463 km being urban roads and the remaining 42,045 km being feeder roads (turnpikes).

With more than 3 million passengers in 2019 and more than 23 passenger and cargo airlines, the Kotoka International Airport in Accra is the biggest airport in Ghana. In 2019–20, it was rated the Best Airport in Africa by the Airports Council International (ACI), a global trade representative of the world's airport authorities. The Kumasi Airport, more domestically oriented, is the second busiest airport, with an estimated 376,823 passengers in 2019.

The railway system comprises more than 900 km of tracks and is publicly managed by the Ghana Railway Development Authority. It connects major cities, resource-producing areas, the ports, and soon neighbouring countries such as Burkina Faso, as part of the ongoing 10-year rehabilitation and construction project that seeks to expand the network to 4,500 km.

Of Ghana's five major ports, the seaports and container terminals in Accra and Tema are the most important. Tema, the largest, is also home to one of the country's four SEZs, or export processing zones. The port system handles a combined transit traffic of more than 1.5 million tons, as well as a transhipment traffic of 602,778 tons. The corresponding soft infrastructure is well rated by the World Bank's Logistics Performance Index, with, for example, the customs clearance process being among the most efficient in the subregion. The regional scope of these port infrastructures (being used by landlocked countries such as Burkina Faso) contributes to making Ghana a trade and logistic hub in West Africa.

Customs duties are governed by the subregional CET, with five tariff bands: essential social goods such as medicines (0%); goods of primary necessity, raw goods and capital goods (5%); intermediate goods and inputs (10%); final consumption goods or finished goods (20%); and specific goods for economic development (35%). Additional trade-related measures aimed at protecting some industries and guaranteeing fair competition throughout the liberalized subregional markets include safeguard measures, anti-dumping measures, anti-subsidy and countervailing measures and supplementary protection measures.

Ghana's **banking and financial sector** is relatively sound, stable and open. It comprises 28 banks of national, continental and global scope, and the Bank of Ghana serves as the country's monetary authority. The system's soundness shows in the relatively low incidence of non-performing loans (NPLs) of banks, which represents 14.5% of total loans as of March 2020, down from 18.8% in 2019. While it is expected that the pandemic can derail the observed year-to-year slowdown in NPLs, prudent risk management policies are likely to help improve asset quality risks in the medium term. Further to the banking industry's solvency, the capital adequacy ratio is 21.1%, well above the revised regulatory minimum of 11.5%, while bank profitability has increased in the last three years.

The openness of the banking and financial industry means that any domestic and foreign business and individual can hold a **foreign currency bank account**, and international transfers (corporate revenue and remittances, etc.) are made easily. The country has opted for **a flexible exchange rate** regime and, in the last five years, currency has been on a depreciating trend, from $0.26 in April 2016 to $0.17 in April 2021, suggesting an increased price competitiveness of the country's exports that has resulted in trade surpluses.

The active **Ghana Stock Exchange** provides facilities and framework to the general Ghanaian and non-Ghanaian public for the purchase and sales of bonds, shares and other securities. As of June 2021, 37 companies are listed. They comprise national, regional and non-African companies, which can raise capital relatively easily.

There are great **incentives for foreign investment**, especially in opportunity-filled sectors such as agriculture and agroprocessing, and textiles and garments. They include: (i) reduced corporate income tax of 0%–22%; (ii) reduced excise duty for increasing the use of local raw material; and (iii) exemption from customs import duties for plant, machinery, equipment and parts.

The Ghana Investment Promotion Centre (GIPC) is the country's single window for all investors, domestic and foreign. It is the government agency in charge of showcasing Ghana as an influential leader for doing business in Africa. In addition to providing comprehensive and up-to-date information on the type of investment incentives, their eligibility criteria, and relevant laws and regulations, the centre is a place to register a business and most administrative procedures can be done there.

In summary, the Ghanaian economy's dynamism, resilience, vibrancy and innovative drive, along with the high quality and low cost of labour and energy and the business environment's friendliness and conduciveness (among the best in Africa), constitute key reasons why Ghana should undoubtedly be counted as one of the most favourable African destinations for foreign investors.

ICT INDUSTRY IN GHANA: AN OVERVIEW

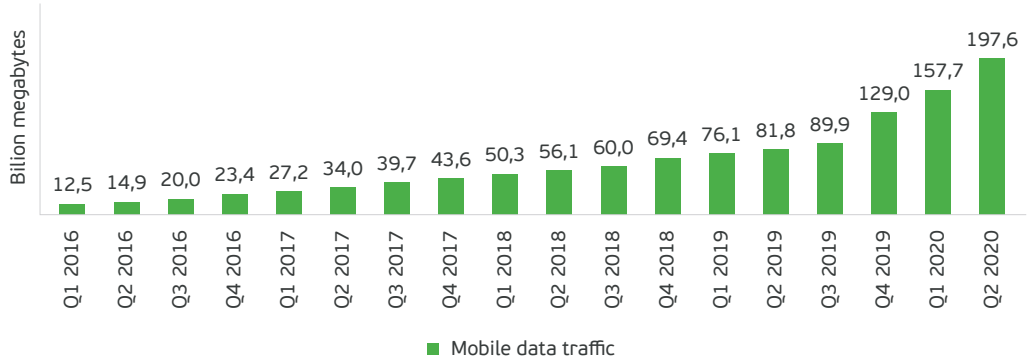
ICT INFRASTRUCTURE

The country has made steady efforts to develop strategic ICT infrastructure to support economic growth. Various projects targeted to the policy have been implemented with support from external donor agencies. These include primary and secondary national data centres, a national fibre backbone system, the National Cyber Security Centre, the National Information Technology Agency's Security Operations Centre, community information centres, regional innovation centres, a common monitoring platform and digital terrestrial television (DTT) facilities and stations.

Figure 15 presents the recent trend in mobile data traffic in Ghana. Mobile data traffic was 12.5 petabytes in the first quarter of 2016, but increased consistently in all the subsequent quarters. Compared to the first quarter value of 12.5 petabytes, the 197.6 petabytes recorded in the second quarter of 2020 constitutes a 15-fold increase. This shows a growing use of the internet in Ghana in the last few years.

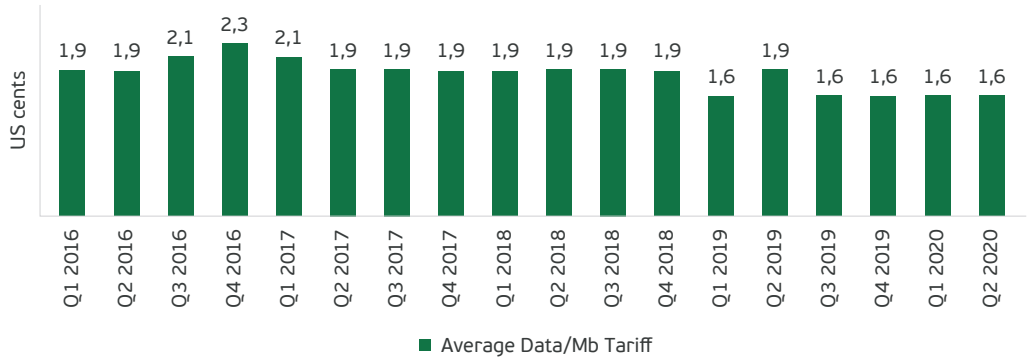
Figure 19 presents the average data tariff per megabyte in Ghana's telecommunication industry. The general increase in the consumption of mobile data has made it possible for service providers to reduce data tariffs. Average data tariff per megabyte was $0.019 in the first quarter of 2016, but reduced by 22% to $0.016 by the second quarter of 2020.

Figure 15: Mobile data traffic (Q1 2016 to Q2 2020)



Source: Data from National Communications Authority (NCA).

Figure 16: Average data tariff/MB (Q1 2016 to Q2 2020)



Source: Data from National Communications Authority (NCA).

National data centres

Data centres serve as a crucial feature of Ghana's e-government communication infrastructure network. Both the primary centre in Accra and the secondary one in Kumasi serve the entire government network with e-government applications, with all critical equipment and application housed there as well. There are many racks of computing equipment, including high-performance servers, fibre channel disk storage and back-up storage systems, and sufficient power conditioning and available resources that keep the centres running perpetually with or without power from the mains.

National fibre backbone system

The national fibre backbone ensures connectivity across the country and connects all public institutions to a single shared communications and computing infrastructure to facilitate effective delivery of government services to citizens, businesses and others.

National Cyber Security Centre

The National Cyber Security Centre has technology and resources for critical national information infrastructure protection (CRNIIP), child online protection (COP) and international cooperation.

National Information Technology Agency's Security Operations Centre

The National Information Technology Agency's Security Operations Centre (SOC) keeps organizational information assets secured from cyber threats. It is a command hub of highly skilled and talented ethical hackers and security analysts operating with defined processes and supported by integrated security intelligence technologies with focus on cyber threats, monitoring, forensic investigations, incident management, reporting, escalation and response with proper justification and root cause of events and incidents.

Community information centres

These are shared information and communication facilities provided to enable people in rural communities and isolated areas to gain access to ICT. They provide a range of services such as ICT training, printing and photocopy services, telephone and fax services, as well as other secretarial and computer-based services.

Regional innovation centres

They are facilities to be set up across all the regions of Ghana to create an ecosystem for the creation of technology-oriented businesses. The first of such centres is already in operation in Accra; it is widely known as Accra Digital Centre, and is the home of technology incubation hubs, call centres and several other technology-based establishments.

Common monitoring platform

A common monitoring platform is an installation that supports the smooth monitoring of traffic, revenue assurance, fraud management and mobile money transactions on telecommunications firms that operate in the country.

Digital terrestrial television (DTT) facilities and stations

Ghana's DTT installations enable TV stations to broadcast content to viewers' televisions via radio waves.

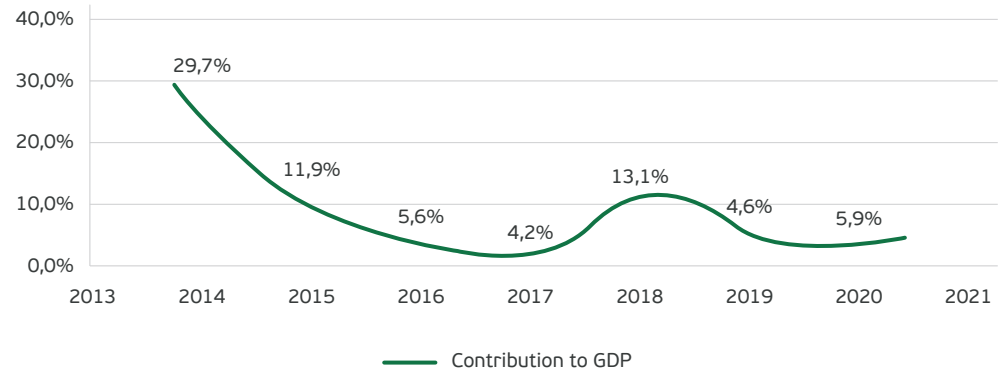
ICT SECTOR'S CONTRIBUTION TO GHANA'S ECONOMY

Figure 17 shows that, in 2014–20, the ICT sector contributed an average of 10.7% annually to Ghana's economy.

Ghana's ICT sector also constitutes a significant proportion of the nation's commercial services exports. Data from the World Bank (see Figure 21) indicates that, in 2010–18, the ICT sector contributed an average of 51.1% annually to the nation's total commercial services exports. Furthermore, the trend shows a general increase in the ICT sector's contribution to commercial services exports.

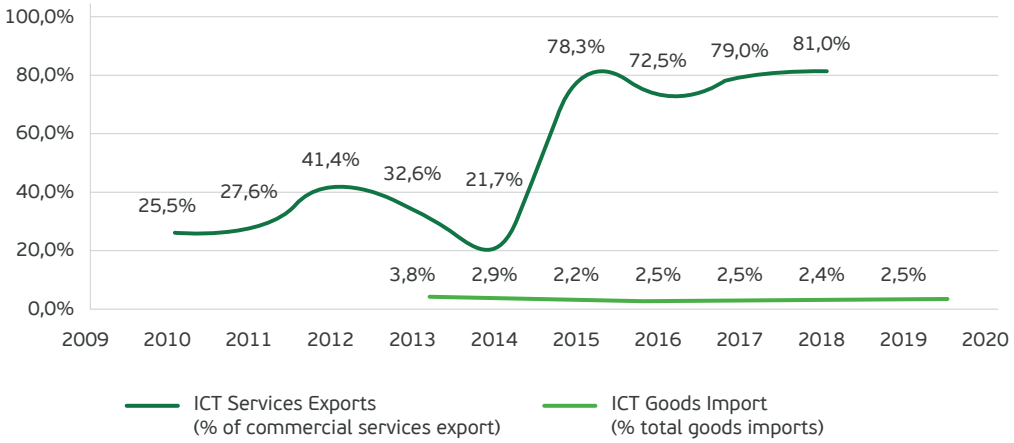
In contrast to the ICT sector's contribution to commercial services export, in 2013–19, ICT goods constituted an average of 2.7% of the total value of imports into the country. The size of ICT goods imports in relation to total imports suggest that the nation's ICT value chain is skewed towards the software, IT services and telecommunications spectrum of the value chain. This is due largely to market factors such as low barriers to entry and significance of demand.

Figure 17: ICT sector's contribution to Ghana's economy (2014–20)



Source: Data from Ghana Statistical Services.

Figure 18: ICT sector's contribution to commercial services exports and total imports

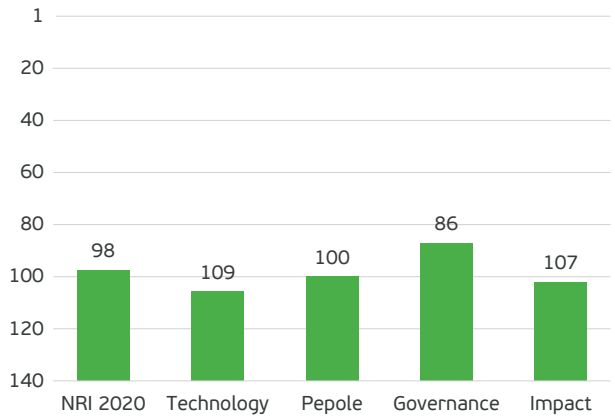


Source: Data from World Bank database.

ICT READINESS AND GROWTH

Ghana is ranked 98th out of 134 countries overall in 2020. According to the 2020 Network Readiness Index (NRI), Ghana ranked 6th in Africa and outperformed the African average scores in each of the four pillars. Furthermore, Ghana outperformed Africa in 10 of the 12 sub-pillars, namely: access, content, future technologies, individuals, governance, trust, regulations, inclusion, quality of life and Sustainable Development Goals (SDG) contribution.

Figure 19: Ghana's NRI global ranking (overall and by pillar)



Source: Portulans Institute (2021).

DIGITAL GOVERNANCE

The linkage of ICT to other sectors of the economy is deemed to be a major catalyst of overall development. This is seen in the vigorous efforts to integrate ICT into governance, delivery of healthcare, administration of justice, delivery of various public services, financial services, security and education. Key initiatives and interventions in this regard include national identification of citizens and residents, a national digital property addressing system and a paperless port system. Various e-applications are being implemented under the eTransform project aimed at improving the efficiency and coverage of government service. These are the e-governance system, e-immigration, e-parliament, e-procurement, e-justice, e-education, e-health, mobile money interoperability system and related QR code to facilitate payment of services online.

GOVERNMENT SUPPORT FOR ICT SECTOR

The ICT sector in Ghana is receiving renewed focus in recent years, because the Government of Ghana is pursuing a Digital Ghana Agenda. ICT infrastructural development, capacity building, strengthening regulatory responsibilities, digitization of services, protection of personal data, and securing cyber space and transactions online have been at the core of this agenda. This agenda is further boosted by the re-designation of the ministry as the Ministry of Communications and Digitalisation, indicating how Ghana's development goals and the use of ICT are intertwined, with a focus on the entire ICT value chain.

As the executive department responsible for ICT in the country, the ministry is currently developing a more holistic Ghana Digital Economy Policy. This policy is expected to clearly define and establish the relationship between the overall development agenda and the ICT ecosystem. It will also formulate a strategy on how the country should be positioned to take advantage of opportunities along the chain.

ICT SUPPORTING PROJECTS AND PROGRAMMES

According to the Ministry of Communications and Digitalization, below are some of the priority ICT programmes the government is implementing:

- Complete 2,016 rural telephony sites under the Ghana Rural Telephony and Digital Inclusion Project, provide an additional 1,400 sites for voice and data services and ensure reliable, affordable and secured broadband infrastructure to 12,000 rural communities;
- Extend aerial fibre coverage by 3,500 km as a backhaul for rural communities to improve quality of service and customer experience;
- Complete the implementation of a smart workplace programme;
- Complete digital terrestrial television (DTT) transition;
- Provide appropriate and affordable devices for digitalization of 7,000 institutions in rural communities;
- Provision of connectivity to 260 district assemblies, 16 regional coordinating councils, 100 district and regional hospitals and 500 other government locations (police stations, post offices and Ghana Integrated Financial Management Information System (GIFMIS) offices);
- Deployment of shared secure IT systems and platforms (cloud infrastructure, virtual office, data centre, call centre and security operations centre);
- Deployment of e-services: e-health – telemedicine solution; expanding e-justice – to other courts and supreme court; e-procurement – 560 procurement entities;
- Upgrade the national data centre with additional storage capacity and government cloud infrastructure as the primary data storage or disaster recovery (DR) site for all metropolitan, municipal and district assemblies in Ghana;
- Girls in ICT – train young girls in digital skills and coding; host Miss Geek contest;
- Develop a learning management system for virtual teaching and learning in public universities;
- Develop digital capacity and skills for the civil service;
- Implement the Cyber Security Act 2020 (Act 1038).

KEY ICT INVESTMENT SECTORS AND ACTORS

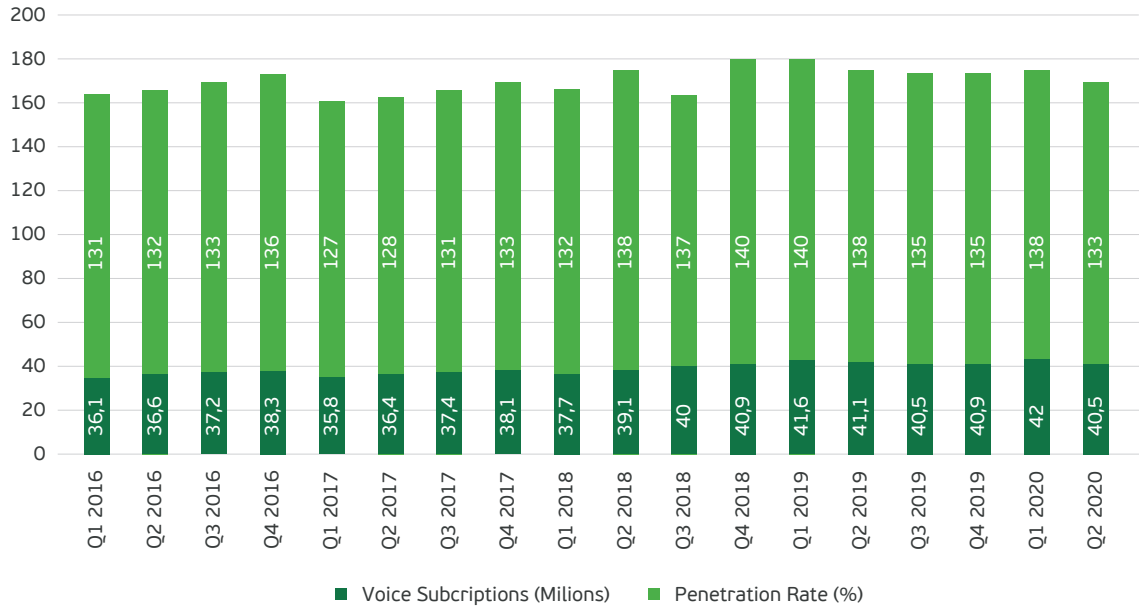
INVESTMENT OPPORTUNITIES IN THE ICT SECTOR

There are several business activities in Ghana's ICT value chain. Activities centred on hardware include computer sales, IT network equipment, storage devices, consumer electronics, and sale of smartphones. Another key activity is centred on software and relates to software products, design and development, big data and cloud, analytics, and system integration and support. IT services constitute the third section of the nation's ICT value chain. There are numerous IT outsourcing services, IT consulting services, e-commerce service, information security services, and education and training, among others.

Telecommunication infrastructure and services

The telecommunications subsector constitutes the largest segment of Ghana's ICT value chain with regards to contribution to GDP. A study conducted by the National Communications Authority (NCA) in 2017 showed that the telecommunications segment contributed 84.5% of total ICT gross value added to Ghana's economy in 2014. Figure 23 presents the voice subscription and penetration rate of mobile telecommunication in Ghana. Penetration rate was 127%–140% from the first quarter of 2016 to the second quarter of 2020. The penetration rate, which is computed as total active lines divided by the total population, is more than 100%, because many Ghanaians use more than one active mobile phone line. Currently, four telecommunication companies (MTN, AirtelTigo, Vodafone and Glo) provide telecommunications services.

Figure 20: Mobile subscription and penetration rate (Q1 2016 to Q2 2020)



Source: Data from National Communications Authority (NCA).

Financial services

The growth in the popularity of mobile money services has contributed to increasing financial inclusion in Ghana, according to the 2019 Ghana Economic Update published by the World Bank. Three out of four mobile telecommunications companies in Ghana now provide mobile money services. Not only is there mobile money interoperability, which allows users to send money to other mobile money service providers, there is also integration between mobile money accounts and bank accounts.

Software production

There are different types of software development companies. While software development in Ghana is not exclusively limited to one particular type of service provision due to the market's underdeveloped nature, most software developers fall under at least two categories: website development companies and retailers adapting existing software applications from international companies where necessary.

These categories include:

- **Bespoke companies:** These companies offer services at the specific request of a company or survey the market and meet particular needs based on their assessment of the market's needs. These services are usually in the form of solutions to address specific gaps in their clients' processes.
- **Consulting companies:** These are companies that build web, mobile and desktop applications for businesses and get paid for them. They either have the skill set to do so in-house or outsource the project to another company/team in-country or outside the country and oversee its lifecycle. These companies tend to be implementation companies or carry out some form of content management.
- **Retailers:** These companies typically partner with bigger software companies and serve as agents or distributors in the country. A large number of software developers in the country fall under this section exclusively or in some combination with other services.
- **Sector-focused/specific service oriented:** These companies occupy a niche in the industry and often stick to their relevant areas of expertise. They usually have their own engineering teams who design and build their own software, fix bugs, and manage and update them.
- **Website development companies:** These companies build websites for clients. The sites range from simple static HTML/CSS websites and static websites to more interactive sites with some type of content management systems, which make it easier for the client to manage and edit their own content.

ICT-related services and business process outsourcing (BPO)

Ghana's services sector is one area that has largely benefitted from the use of technology. In areas such as transportation, retail trade, courier and logistics, technology has been applied to facilitate service delivery. The influx of ride-sharing apps such as Uber, Bolt, Yango and others has enhanced convenience

for many passengers and created employment and income-earning opportunities for many vehicle owners. In recent times, retail outlets and courier services are beginning to integrate technology in their businesses in ways that enhance stock maintenance, processing of customer orders and virtual shopping.

That said, these initiatives need to be further strengthened to reduce the human element and thereby reduce the incidence of rent-seeking behaviours. This will introduce greater efficiency.

MAJOR ICT ACTORS

Being complementary to the other subsectors, the heightened activity of Ghana's other subsectors has created the demand for the ICT sector. The key ICT companies operating in the sector can be classified as follows:

- **Service providers:** These companies mainly undertake services that aid the activities of the other subsectors. Support service providers such as tower companies, optic fibre companies and submarine cable companies are also increasing in number. As of December 2015, there were 3 tower companies, 10 domestic fibre optic companies, 5 international submarine cables and 3 broadband wireless access providers supporting the ICT industry.
- **IT support providers:** These companies offer support services to the ICT industry. Repairers come under this category and offer maintenance checks and repairs. In Ghana, individuals and smaller companies direct all ICT-related issues to these IT support companies, whereas larger companies have some form of in-house IT department that handles any issues that might arise on a daily basis.
- **Manufacturers:** Manufacturing is the process through which raw materials are transformed into final products. These final products can be sold to other manufacturers for the production of more complex products or assembly. In Ghana, most ICT-related manufacturers only engage in the assembling and not the manufacture of the actual hardware.
- **Vendors:** These companies include retailers and wholesalers of ICT-related goods. There are a large number of vendors who deal exclusively in one particular ICT-related product, a range of ICT-related goods and a combination of non-ICT-related goods such as consumables with ICT-related goods.

Table 18: Major ICT actors in Ghana

Stakeholder	Examples
Public bodies	Ghana Innovation and Research Commercialisation Centre (GIRC-Centre) Data Protection Commission National Information Technology Agency Cyber Security Centre National Communications Authority GRATIS Foundation Ghana Investment Promotion Centre Ghana Free Zones Authority Ghana Investment Fund for Electronic Communications (GIFEC) Bank of Ghana Fintech and Innovation Office National Information Technology Agency
Private trade associations	Ghana Chamber of Telecommunications Ghana Chamber of Technology Private Enterprise Federation Ghana National Chamber of Commerce & Industry Information Technology Association of Ghana Ghana Association of Bankers Institute of ICT Professionals Association of Ghana Industries
Research	Council for Scientific and Industrial Research (CSIR) Private Universities Students Association of Ghana
Professional training bodies and providers	Accra Digital Centre Ghana-India Kofi Annan Centre of Excellence in ICT Ghana Hubs Network Soronko Academy

Table 19: Major firms in Ghana's ICT value chain	
Category	**Examples**
ICT hardware	Freddies Corner TECNO Ghana Compu Ghana IPMC Ghana KAB-FAM Ghana Limited
Software	SUKU Technologies Websoft Solutions SOFTtribe Ltd IT Consortium Hubtel Ghana expressPay Ghana Rancard Solutions
IT services	DreamOval ComSys Ghana Limited mPedigree Soronko Solutions Kamptech Ghana Limited
Telecommunications	**Masts and towers** (1) American Tower Corporation (ATC) Ghana (2) Eaton Towers Ghana Limited (3) Helio Tower Ghana (HTG) Managed Services Limited **Telecom (voice and data)** (1) MTN (2) AirtelTigo (3) Vodafone (4) Glo **Broadband wireless access (BWA) operators** (1) Surfline (2) Telesol (3) Broadband Home Limited (BBH) (4) Blu Telecommunications

CURRENT LEGAL AND POLICY FRAMEWORK FOR ICT SECTOR

In Ghana, all businesses are required to be registered in accordance with the new Companies Act 992 promulgated in 2019 to amend and consolidate the law (old Companies Act 1963, Act 179) relating to companies, establish the office of Registrar of Companies and provide for related matters.

Companies with foreign equity are required to comply with the Ghana Investment Promotion Centre (GIPC) Act 2013, Act 865. Apart from meeting capital thresholds mentioned above, such companies are also required to register with GIPC, the state agency responsible for promoting investments in Ghana and providing for the creation of an attractive incentive framework and a transparent, predictable and facilitating environment for investments in Ghana. In relation to the ICT ecosystem, the centre is responsible for registering and keeping records of all technology transfer agreements. Local companies can also register with the GIPC, but this is not mandatory.

In strategic sectors of the economy, entities are required to acquire special licences issued by designated regulatory authorities. Since technology traverses some of these sectors, ICT companies whose core services are in these strategic areas require licensing by the relevant regulatory body.

For example, the telecommunications industry is regulated by the National Communications Authority (NCA). According to the NCA Act, Act 769 (2008), the NCA is to 'regulate the provision of communication license in the country'. Its functions include establishing and monitoring the implementation of national communications standards and ensuring compliance accordingly, granting communication licences, regulating and monitoring licensees and holders of frequency authorizations, and ensuring fair competition among licensees and operators of communication networks and service providers of public communications, among other functions specified in the Act.

The NCA's mandate as the regulator of the communications space thus requires all ICT companies that offer communications services to obtain a licence from the NCA. The authority ensures a liberal environment that allows players in the industry to compete fairly. They have the power to apply sanctions to firms in the communications industry that fail to comply with regulations. Their mandate also includes ensuring fair competition among industry players.

SWOT ANALYSIS OF GHANA'S ICT SECTOR

Strengths	Weaknesses
▪ Relatively stable internet in cities across the country; ▪ Increasing number of hubs and co-working spaces for the industry; ▪ Stable political environment characterized by democratic elections and transitions every four years; ▪ Government incentives to attract FDI into ICT (ICT village, free zones, one District One factory); ▪ Prototyping and designing of ICT products and services; ▪ Young and energetic workforce; ▪ Supportive macroeconomic and legal environment.	▪ Skills gaps (caused by curriculum mismatch, low industry involvement, low financing, late start of ICT training, shortage of qualified ICT trainers and inadequate learning resources); ▪ Hard-to-fill vacancies (such as product managers, infrastructure engineers, cyber security experts, and mobile development (iOS)); ▪ Expensive internet data; ▪ Lack of investor support for IT start-ups; ▪ Huge gender gap; ▪ Power generation and distribution challenges.
Opportunities	**Threats**
▪ National digitization drive creating opportunities for public–private partnerships; ▪ Fintech, e-agriculture and e-education; ▪ Broadband wireless access services; ▪ ICT training institutions.	▪ Privacy and data protection concerns; ▪ Depreciation of the local currency as a result of little local content; ▪ Job losses for unskilled labourers

USEFUL CONTACTS

Below are the key contacts in Ghana for the ICT sector and investment facilitation.

Regulatory body	Contact
Registrar-General's Department (soon to spin off Registrar of Companies)	Mrs. Jemima Oware, Registrar-General Telephone: +233 302 664 691-93 Fax: +233 302 662043 E-mail: info@rgd.gov.gh Website: https://www.rgd.gov.gh/
Social Security and National Insurance Trust	Telephone: +233 302 611 622 E-mail: contactcentre@ssnit.org.gh
Bank of Ghana	Telephone: +233-30-2666174-6 E-mail: bogsecretary@bog.gov.gh
Data Protection Commission	Telephone: +233-(0)30 2222 929 E-mail: info@dataprotection.org.gh
Ministry of Communications and Digitalisation	5th & 6th Floors, MOC Office Complex Abdul Diouf Road, Ridge, Accra Telephone: +233 302 666 465 E-mail: info@moc.gov.gh Website: www.moc.gov.gh
Ghana Investment Fund for Electronic Communications	MOC Office Complex Abdul Diouf Road, Ridge, Accra Telephone: +233 302 766 907 Website: www.gifec.gov.gh
Ghana Investment Promotion Centre	Vivo Place, No. 1 A1 Rangoon Lane, Cantonments, Accra Telephone: +233 302 665 125/6, +233 302 961 745/6 Email: info@gipc.gov.gh Website: www.gipc.gov.gh
Ghana Free Zones Authority	5th Link Road, East Cantonments Telephone: +233 302 780 535/7 Website: www.gfzb.gov.gh
Accra Digital Centre	Ring Road West, Adjacent State Housing Company Telephone: +233 303 978 399 Email: info@gdcl.gov.gh Website: adc.gov.gh

3.3. SENEGAL

COUNTRY OVERVIEW

Senegal, known as the 'land of hospitality', is the westernmost point of mainland Africa. This coastal hub stands at a crossroads between Africa, Europe and the Americas. It shares borders with Mauritania, Mali, Guinea, Guinea-Bissau and Gambia. As part of the Sahel, its climate is semi-arid, mostly in the north, although there is a rainy season between July and October. Senegal is divided into 14 administrative regions and 45 provinces. Most of the 16.3 million Senegalese (70%) live in the coastal part of the country, with 48% in urban areas. Important cities include Dakar, the capital (home to 23% of the population), Thiès (13.3%), Diourbel (11.1%) and Saint-Louis (6.7%). Saint-Louis, and then Dakar, used to be the economic and political capitals of the French West Africa Colony (*Afrique Occidentale Francaise*). After gaining independence in 1960, the country went on to become a peaceful and stable presidential republic, with a renowned democratic social and political system. The country prides itself on being one of the oldest and strongest democracies on the continent, with a multiparty system starting in 1975, and fair and free presidential elections have led to two peaceful transitions of power in 2000 and 2012. The cultural setting is rich and diverse. In addition to French, the official language, Senegalese speak 36 languages (that are also associated with ethnic groups), Wolof being the most widely spoken.

Senegal – key facts	
Capital city	Dakar
Area	192,530 km^2
Population, total	16.3 million
0–14 years	*42.8%*
15–65 years	*54.1%*
Youth literacy (15–24 years)	69.5%
Male (%)	*75.6%*
Female (%)	*63.5%*
GDP (nominal)	$23.6 billion
GDP growth (real, 2014–19)	6.4%
FDI, inflows (million USD, 2019)	$4.2 million
Gross domestic private investment	$5.8 billion
Employment to population ratio (+15 years)	42.7%
Employment to population ratio (15–24 years)	25.8%
Exports of G&S, 2014–19 (billion USD, 2019)	22.8% GDP (5.4)
Main exported commodities	*Mineral fuels and oils; pearls, precious stones and metals; fish and crustaceans*
Imports of G&S, 2014–19 (billion USD, 2019)	37.7% GDP (8.9)
Main imported commodities	*Mineral fuels and oils; cereals; vehicles*
Inflation	1.8%
Bank credit to private sector (% GDP)	29.3%
Government expenditure	$5.7 billion
Government revenue	$4.8 billion
Total public debt	$15.1 billion
Currency	XOF franc (XOF)
Languages	French (official), Wolof, Mandinka, Jola (Diola), Pular, Serere

Note: Data is for the most recent years.

Source: World Bank; IMF; UNCTAD; Comtrade.

BROAD ECONOMIC OVERVIEW

A COMPETITIVE AND INNOVATIVE ECONOMY

Senegal ranked 114th in the 2019 Global Competitiveness Index, with an overall score of 49.7/100. It is the 10th most competitive economy in Africa and 3rd in West Africa, largely thanks to its strong and historically renowned institutions (86th worldwide, 8th in Africa and 2nd in the West African subregion), its high-quality infrastructure network (2nd), the quality of the health system and the depth of its financial system (3rd).[84]

Moreover, the 2020 Global Innovation Index ranks Senegal the 2nd most innovative economy in West Africa (11th in Africa, 102nd globally), with a score of 23.7/100. Its top-ranked technology and institutional quality and knowledge outputs and 2nd - ranked market sophistication in the subregion, have contributed to this relatively strong innovative drive.

FAIRLY GOOD INFRASTRUCTURE QUALITY

The World Bank's Logistics Performance Index ranks the country 141st globally, 33rd in Africa and 10th in the West African subregion, with a score of 2.25/5. The logistics environment's most favourable dimension is the efficiency of the customs clearance process. The 2020 Africa Infrastructure Development Index of the African Development Bank ranks it higher, at 15th in Africa, and 4th in West Africa, with an overall score of 29.2/100. This is mainly due to the density and quality of its transport infrastructure system.

GOOD ENVIRONMENT FOR DOING BUSINESS

In terms of ease of doing business in the country, the World Bank ranks Senegal 123rd worldwide, 20th in Africa and 4th in West Africa, with an overall score of 59.3/100. While starting a business involves only four procedures (second fewest in Africa) and takes only six days (second lowest in the subregion), the time it takes to comply with border and documentary requirements when trading across borders is the lowest in the subregion (9th in Africa). However, *Forbes Magazine* ranks it higher, as the 100th Best Country for Business in the world, the 12th in Africa and the 2nd in West Africa.

INVESTING AND DOING BUSINESS IN SENEGAL

ONE OF THE FASTEST-GROWING ECONOMIES IN AFRICA

The Senegalese economy, with a GDP of $23.6 billion, is the fourth largest in West Africa and the 17th across the continent. It has enjoyed a relatively strong economic growth, averaging 6.4% in 2014–19 (the 3rd highest in the subregion and 4th in Africa). The services sector continues to be the largest contributor to GDP growth and, on the demand side, investment and exports are the strongest drivers of growth. The ongoing COVID-19 pandemic reduced growth to 1.1% in 2020, but the economy is expected to rapidly return to its buoyant growth trajectory, with GDP growth projected at 6% in 2021 and a historic 12.2% in 2022 when extraction of newly discovered gas and oil reserves starts, effectively opening up unparalleled opportunities for investment, trade, growth and economic development.

A COMPETITIVE BUSINESS ENVIRONMENT

The country's business environment has been greatly improved as a result of approximately 50 reforms in the last few years. They have resulted, for example, in a reduced cost of **starting a business**, with a paid-in minimum capital requirement of XOF 25,000 (less than $50), representing 37% less than the continental average. The process involves only four procedures with the one-stop shop (*Agence de Promotion de l'Investissement et des Grands Travaux* – APIX):

(1) Deposit the founding capital with a bank (*compte de société en formation*) or through a public notary; once the registration is complete, the account will be liberated;

(2) Check the availability of the company name;

(3) Notarize company by-laws and bank deposit of subscribed capital; the involvement of a notary is required, and he/she can be asked by the company to complete additional formalities requested during registration;

(4) Register the business at the one-stop shop, which specifically involves (i) registering the company bylaws with the tax authority and the commercial registry (*Registre du Commerce et du Crédit Mobilier* – RCCM); (ii) getting the company identification number (NINEA[85]); and (iii) registering workers and commencement

84 'Subregion' here means West Africa (ECOWAS), while 'region' refers to the African continent as a whole.

85 National Identification Number of Companies and Associations.

of operation with the labour authority. Two additional procedures are: registering with social security (*Caisse de Sécurité Sociale* – CSS) and the pension fund (*L'institution de Prévoyance Retraite du Sénégal* – IPRES).

Obtaining a **construction permit** generally costs 7.8% of the warehouse value. The latter is estimated at XOF 41 million ($74,500). A total of 14 procedures are involved and they take 177 days to complete.

As in all the other business-related formalities, foreign investors are guaranteed **equal treatment** compared to their national and West African counterparts, and **visa rules** guarantee a duration of stay for expatriates that matches that of the business or the employment.

Labour force is estimated at 4.26 million individuals. The country scores 0.42 on the World Bank's Human Capital Index (13th highest in Africa, 2nd in the subregion), which indicates the extent of labour productivity as a result of education and health. The minimum wage is XOF 89,730 ($170), and monthly salaries typically range from an average of XOF 88,600 ($161.1) to XOF 1,560,000 ($2,836.4).

Electricity supply is considered the most reliable and the tariffs the most transparent in West Africa (3rd in sub-Saharan Africa), according to the latest World Bank's Doing Business survey. It is priced at an average of XOF 100.1 ($0.18) per kWh.

Water is readily available, with an estimated 75% of the population having access to at least a basic water source (91% in urban areas). The average tariff is XOF 419 ($0.76) per cubic metre, with XOF 372 ($0.68) for household and XOF 639 ($1.2) for commercial use.

Infrastructure network in Senegal includes a new airport (Blaise Diagne International Airport – AIBD), which replaced the previous, smaller airport. It opened in December 2017 and is located near the town of Diass, 43 km east of Dakar. It is estimated to accommodate 3 million passengers and handle 50,000 tons of cargo and 80,000 aircraft movements annually.

The road infrastructure network is estimated at 14,500 km, of which 4,500 km are paved. It has been greatly improved in the past decade and a half, mostly in Dakar, with a toll highway linking with the nearby regions of Thiès and Diourbel.

The railroad network is made up of a cargo railway between Senegal and Mali, which has been operating since early the 1900s. It comprises 1,287 km, with 641 in Mali, and passengers admitted only on the Dakar–Thiès segment, a passenger train that provides regular commuter services between Dakar and Thiès via its suburb (a capacity of more than 4 million passengers per year), and the newly developed Train Express Regional, inaugurated in 2019, but not fully operating, and linking Dakar and the new airport (with a capacity of 531 passengers on its 1st and 2nd classes.

The port of Dakar is a major transit hub of subregional scope. It has tanker vessel loading and unloading terminals, and a container terminal with a storage capacity of 3,000 20-foot-equivalent units. It is also a cereals and fishing port, and has a dedicated phosphate terminal and a privately run ship repair facility.

The **taxation** system includes payroll tax (with statutory tax rate at 3%), social security contributions (10%) and retirement contributions (8.4%). Additional taxes paid by businesses include corporate income tax on taxable profits (30%), value-added taxes (VAT) (18%), local economic contribution (15% for rental or 20% on owned properties) and interest tax (16% on interest income). In total, taxes and contributions made by companies represent 44.8% of total profits, and involve 53 payments in a typical year. Furthermore, personal income tax is 0% (on annual

income less than XOF 630,000) to 40% (more than XOF 13.5 million).

Customs duties follow the ECOWAS common external tariff (CET), which comprises five tariff bands, from 0% (essential social goods) to 35% (specific goods for economic development). Additional measures to protect vulnerable industries and guarantee fair competition in the liberalized subregion include safeguard measures, anti-dumping measures, anti-subsidy and countervailing measures and supplementary protection measures.

The **banking and financial system**, under the framework of the WAEMU, is relatively well structured, open, sound and stable, with: (i) almost 30 banks with a relatively dense web of local branches, moderate interest rates on loans (7.6% average), a system-wide regulatory capital to risk-weighted assets of 13.2%, and relatively low net non-performing loans (5.5% of total bank loans); (ii) a greater number of microfinance institutions; and (iii) a subregional stock exchange market with 65 listed companies (as of June 2021), including FDI companies.

Senegal's banking sector that offers credit to the private sector represents 58.7% of GDP, and has the largest contribution to the economy in the entire subregion. The openness of the banking and financial system means that foreigners and nationals alike can maintain **foreign currency accounts**, and international flows of capitals (including remittances and profit transfers) are relatively free. The **exchange rate** against the euro is fixed at XOF 655.96, reducing the risk and uncertainty associated with unpredictable fluctuations.

Incentives for foreign investors include special economic zones (SEZs). Companies located in one of the three newly developed SEZs in Diamniadio, Diass and Sandiara (on the outskirts of Dakar, close to the new airport, and accessible via the recently built toll highway and the national road) can enjoy special fiscal treatment. This includes an exoneration from all income taxes, 15% business tax in case of positive profit and no tax in case of losses (similarly to newly established firms since early 2020), as well as no import or export duties (except the ECOWAS solidarity tax of 0.5% on imports from third-party countries).

Overall, the competitiveness and innovative drive of the Senegalese economy, the strength and stability of the institutional and legal framework, and the conduciveness of the business climate contribute to making the country a viable destination for foreign investors seeking a favourable destination in Africa.

ICT INDUSTRY IN SENEGAL: AN OVERVIEW

A COMPETITIVE AND CONDUCIVE BUSINESS ENVIRONMENT

According to the 2016 World Bank Doing Business report, Senegal is one of the world's top business reformers and among the top 10 business environment improvers for two consecutive years on the African continent. Senegal is also actively involved in several international investment-related organizations, and is a member of the African Intellectual Property Organization (OAPI), the International Centre for Settlement of Investment Disputes (ICSID) and the Multilateral Investment Guarantee Agency (MIGA).

Investors enjoy a conducive and ever-improving legal and regulatory framework in Senegal. The World Bank ranks the country 4th in the subregion (17th in Sub-Saharan Africa) according to the Ease of Doing Business, thanks to a strong pace of reforms that makes the country the fourth-best performer in the last decade.

More specifically, the friendliness of the country's business environment hinges on factors such as:

(i) The low cost of starting a business, with a paid-in minimum capital of 3% of the country's income per capita;

(ii) A moderate construction permit cost of 7.8% of the warehouse value;

(iii) The most reliable electricity supply and transparent tariff in West Africa (3rd in Sub-Saharan Africa), priced at $0.18 US cents per kWh;

(iv) A good corporate transparency culture (3rd in the subregion);

(v) A strong protection of minority investors (4th in the subregion).

Trading across border is getting easier, as the country is also engaged in streamlining border procedures and reducing non-tariff barriers as part of its commitments under the WTO trade facilitation and trade liberalization with the rest of the ECOWAS region, and soon with the rest of the continent (under the African Continental Free Trade Area).

Investors can also benefit from a well-educated labour force, estimated at 4,255,475. Labour taxation and contributions amount to 23.6% of commercial profits, while monthly wages average CFA 89,730 (approximately $170).

ICT INFRASTRUCTURE

In 2013, Senegal was ranked 1st African country for the share of internet in the economy (I-PIB) estimated at 3.3%, mainly due to good international connectivity and a good national transmission network.[86] Nevertheless, the breakdown of Senegal's I-PIB shows that 91% of its value is due to private consumption, while other dimensions such as the contribution of private and public investment and exports remain low.

In 2017, the ICT sector generated $1.56 billion in revenue, thus 5.1% of Senegal's GDP, which is approximately $860 million. Meanwhile, in 2017, telecoms services recorded a slight increase of 0.8% against +5.7% in 2016. 'Other information and communication services' they generated $300 million.

The State has made sizable investments to modernize the telecommunications infrastructure. Today, Senegal provides businesses with an uninterrupted connection to the rest of the world, thanks to the fastest connections (submarine cables with optical fibre: ACE, SAT-3, ADSL and international leased lines, etc.). ICT and telecom services in Senegal can be summarized in the following key figures:

	Snapshot of ICT infrastructure in Senegal
1	100% digitized high-speed network across the country offering a variety of products (ADSL, Frame Relay, ISDN and VSAT, etc.)
2	Africa Coast to Europe (ACE), submarine cable 17,000 kilometres in length, serving West Africa and belonging to a consortium of 20 operators, including Sonatel–Orange: initial capacity of 200 gigabits/s on segment 1 and 160 gigabit/s on segments 2 and 3, with a maximum capacity of 5.12 terabits
3	Atlantis 2: 20 gigabits, connecting Portugal, Spain, Senegal, Cape Verde, Brazil and Argentina
4	SAT-3 /WASC/SAFE: 120 gigabits/s, connecting Europe, Africa and Asia
5	GLO-1 (Globacom-1), 9,800 km submarine cable along the West African coast, connecting Great Britain to Nigeria, with a maximum capacity of 2.5 terabits/s
6	Satellite telecommunications centre pointing to the Intelsat 355.5° satellite
7	Hub offering VSAT services pointing to the 328.5° Intelsat satellite
8	100% digitized telecommunications network with a 3,000 kilometre loop of optical fibre across the country
9	National IP network and specialized links from 64 kbps to 2 mbps
10	Generalization of 2.5 gigabit systems on all links since 2007
11	Broadband in all departmental capitals (ADSL) since 2008
12	Presence of three major telecom operators on the market

Table 20: Telecommunications indicators

GSM coverage	90%	Mobile subscription	110,73%
Number of cellular operator	3	Number of ISP/MVNO	3
Number of internet users	13,141,900	mbps	1,7
Internet penetration	88%	Cost of connection	1Go – CFA 2,500

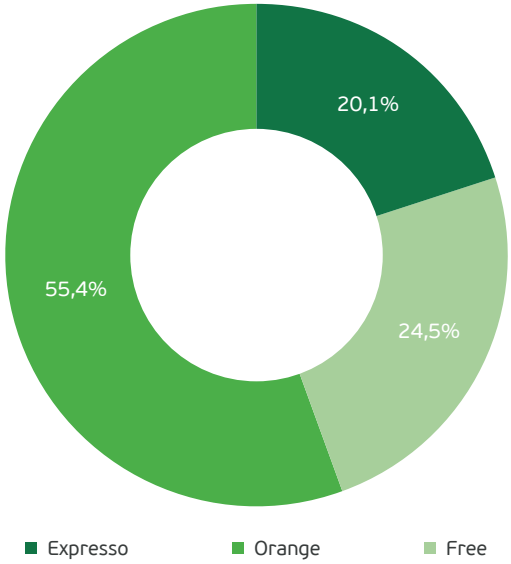
Source: www.artp.sn.

86 https://asp.embassyofindiadakar.gov.in/eoiaspHtml/MARKET%20SURVEY%20ON%20ICT.pdf?s_keyword=market+sur.

ICT SECTOR'S CONTRIBUTION TO SENEGAL'S ECONOMY

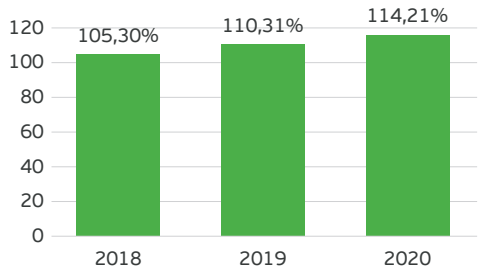
According to DPEE's[87] forecasts for 2018, the share of ICT in GDP will slightly decline at 5% despite higher revenues ($1.238 billion), spurred by the strong growth of 'other information and communication services' (+19.2% in 2018 against +19.7% in 2017), while telecoms services are expected to grow slowly (+2% in 2018 compared to +0.8% in 2017). However, the division said that telecoms services should benefit from 4G's launch and growing innovation in the ICT sector.

Figure 21: Senegal telecommunication operators market share (2019)



Source: Regulatory Authority for Telecommunications and Posts (ARTP).

Figure 22: Senegal's mobile penetration rate (2018–20)



Source: Regulatory Authority for Telecommunications and Posts (ARTP).

ICT READINESS AND GROWTH

Senegal has made substantial progress on its ICT infrastructure agenda.[88] This is backed by the Senegalese Government's Digital Senegal 2025 strategy, which aims to breathe new life into the sector by providing stakeholders with new growth drivers and resources, by raising the contribution of digital technologies to GDP by 10%, and by creating 35,000 direct jobs by 2025. The cost of the 28 reforms and 69 projects is approximately €2.5 billion. The progress expected by 2025 is measured in terms of international rankings based on the following indices:

- Under the World Economic Forum's Network Readiness Index, the goal is to rank in 70th place worldwide and 4th within Africa.
- Under ITU's ICT Development Index, the goal is to rank in 90th place worldwide and 4th within Africa.

DIGITAL GOVERNANCE

Senegal has made significant progress in the use of digital technologies to promote internal efficiency, simplify government procedures and improve public services. Various agencies have now introduced online platforms and portals to provide services to the public. A leader in this development is the government ICT agency, ADIE, which manages digital services across multiple government ministries and continues to drive digitalization initiatives throughout the public sector.

Further examples include the Ministry of Interior, which offers an online platform to manage passports as well as identification and voting cards, expanding also into other services within their mandate.[89] The Ministry of Finance and Ministry of Education also have their own digital innovation initiatives, both having launched digital platforms to aide in offering their services more efficiently.

GOVERNMENT SUPPORT FOR ICT SECTOR

TAX INCENTIVES

The sector can benefit from the support of the political authorities through the Plan for an Emerging Senegal (PES), the qualified and available local labour force as well as the new innovations that would enable it to adapt to the country's sociocultural realities.

87 http://www.dpee.sn/.

88 https://www.itu.int/net4/wsis/archive/stocktaking/Project/Details?projectId=1488401022.

89 http://www.policenationale.gouv.sn.

The regulatory framework is mainly based on an Investments Code (Code des Investissements), a General Tax Code (Code Général des Impôts) and a Customs Code (Code Douanier). It is pertinent to point out that the business climate in the digital sector is marked by a fiscal environment to be improved compared to other sectors of Senegal's economy. Branches and companies are liable for corporate tax (IS) at a rate of 30% against 35% for the telecommunication sector.

The telecommunication sector's legislative and regulatory framework, which complies with WAEMU and ECOWAS regulations, facilitates the opening of the market to new participants, the attractiveness of private investment and fair and effective competition among stakeholders while ensuring users' digital trust.

TRAINING AND CAPACITY-BUILDING REFORM PROGRAMMES

At the tertiary level, the Ministry of Higher Education and Research (MESR) is leading an ambitious reform programme to promote the digital agenda. Since 2012, a reform process has been unfolding within public and private universities to prioritize digital technologies. The MESR has geared this reform to achieve an ambitious national vision of making higher education the key driver of the country's economic and cultural development. Various advances have included adopting a decentralization plan for higher education, opening 14 specialized universities and graduate schools throughout the country, and launching the Virtual University of Senegal (UVS), which represents a digital educational infrastructure open to more than 20,000 students.

Also, Senegal's current labour market registers a relative low inflow of technicians and engineers every year. Hence, the strategic options adopted also include reorienting the education system to science, technology, engineering and mathematics (STEM) and short technical vocational education and training (TVET).

OTHER INITIATIVES

A universal telecommunications service (Fonds de Développement du Service Universel des Télécoms) was initiated by the government and has national coverage.[90] The fund targets the development of telecom and internet infrastructure in rural areas. It is funded by telecom operators that are paying 3% of their annual revenue to the fund and it is hosted by the telecommunication regulator (Autorité de Régulation des Télécommunications et des Postes). The major objectives of the aforementioned Universal Service Fund (FDSUT) are to extend ICT infrastructure services of public interest even when not commercially attractive in order to make telecommunication more accessible throughout the country.

The government also embarked on the Smart Senegal programme, which is powered by the IT agency (Agence de l'Informatique de l'Etat). It aims to deploy network and telecommunications infrastructures and set up technological platforms in order to contribute significantly to improving the living conditions of populations through greater security of cities, access to education, health and public information.

Additionally, in 2018, the government launched the Integrated Industrial Park of Diamniadio (P2ID), funded by the Government of Senegal and the African Development Bank (AfDB). The park provides industrialists with dedicated spaces combining efficient infrastructure and services as well as significant and exceptional customs, tax and non-tax incentives.[91] An integral part of the Diamniadio Urban Pole (PUD), the digital technology park aims to contribute to the diversification and modernization of the economy, the development of the private sector and the promotion of inclusive growth in Senegal through the development of the ICT sector.

90 http://www.adl.sn/acteur/fdsut.

91 http://senegal-emergent.com/fr/plateforme-industrielle-integree-de-diamniadio.

KEY ICT INVESTMENT SECTORS AND ACTORS

Senegal is witnessing the emergence of Senegalese companies that are developing on the local and subregional market, and with international ambitions. This is the case with companies like People Input (digital marketing), By Filling (inbound marketing), Nelam Services (digital creation), Niokobok (e-commerce dedicated to the diaspora), Neurotech (IT solutions provider, 2SI (IT solutions provider), Chaka Computer (IT solutions and fintech provider), Gaindé 2000 (trade facilitation and means of payment), Neticoa (IT engineering), Cisix (IT solutions provider), Solid'Africa (IT solutions provider) and PCCI (major call centre). There are also major IT companies such as Microsoft, Google, IBM, Samsung, ATOS and several others that are also implemented in Senegal.

FINANCIAL SERVICES

A multitude of mobile banking services are offered by financial institutions, including transfer agencies, due to the central importance of money transfer. The development of mobile banking and e-banking contributes to a better financial inclusion of populations, with money transfer solutions increasingly used. Examples in Senegal include Nafa Express Ecobank mobile money, Orange mobile money, and Free mobile money, among others. Apart from mobile money, the GIM-UEMOA[92] approves electronic payment services in the West African Economic and Monetary Union (UEMOA) zone, in single currency, and regulates the market in connection with the Central Bank of West African States (BCEAO). Increasingly, the unbanked population in Senegal are being included in formal financial services, and ICT is at the forefront of this development. This opens myriad opportunities for investors given that there is yet much room for growth as digital connectivity also continues to grow.

E-EDUCATION

In addition to the government's efforts, new e-learning platforms are emerging, such as www.ecolesausenegal.com, www.samaskull.com, www.mjangale.com and www.teachersdunet.com. With a predominantly young population, there is a high demand for education. With traditional forms of education delivery requiring greater investment to increase capacity and variety of educational offerings, many youth are turning to digital solutions to satisfy their desires for education. As education levels improve, more advanced educational material and services will be required. The government and the private sector would need to respond to this increased demand.

E-AGRICULTURE

The agribusiness sector offers room for growth, especially in conservation and versatility of producing equipment. Special programmes for products such as rice, corn and sesame were implemented, followed by grants for agricultural inputs and equipment, leading to satisfactory crop yields.

An example of how the sector is building a foundation in Senegal is five agri-tech start-ups that have been selected to join the Senegal Start-Up Accelerator run by the Kosmos Innovation Center. The Senegal Start-Up Accelerator aims to support young Senegalese entrepreneurs with innovative ideas, tackling the challenges facing the agriculture sector using technology.

In general, the ICT sector in agriculture in the country is not as well developed as in East Africa, but the interest in investing in this sector is growing. This interest is demonstrated by initiatives organized with the support of the IT incubators CTIC Dakar[93] or the Regulatory Authority for Telecommunications and Posts (ARTP), which encourage youth to get involved in innovation and support the primary sector such as ICT4 health, ICT4 agriculture and farming.

92 https://www.gim-uemoa.org/.

93 https://www.cticdakar.com/.

E-HEALTH

In Senegal, e-health is at an exciting, yet formative stage. A number of groups across a spectrum of global health and development agencies, corporations, non-governmental organizations and social enterprises have deployed e-health pilots and projects. These groups have carried out interventions with the aim of reducing maternal, infant and child mortality and morbidity, fighting disease, improving health systems and facilitating access to the availability of essential drugs and family planning products. Their efforts have realized efficiencies in health service delivery and improvements in health outcomes, yielding promising results on which implementing agencies can continue to build by learning from each other's experiences through improved coordination and communication efforts.

While Senegal has individually targeted specific areas such as training and data collection using a variety of approaches and technologies, there was a need for a more coordinated and strategic approach to align e-health activities and work toward a shared vision.

BUSINESS PROCESS OUTSOURCING (BPO)

The various projects in Senegal's digital sector have not yet experienced real progress and companies in the IT-BPO sector for export are encountering real growth problems due, according to the players, to the lack of tailored and coordinated reforms and support activities. This is the reason a strategy has been put in place with a particularly ambitious objective: to make Senegal the African leader in the IT-BPO export sector. Current actors in the BPO space include the following:

BPO services	Players
Customer interaction services	PCCI, Call Me, Computer Frontiers Senegal, IBEX, Africatel AVS
Back-office operations	PCCI, Computer Frontiers Senegal, IBEX, FINETECH, Africatel AVS
Other services	PCCI, IBEX, Call Me

MAJOR ICT ACTORS

The market of primary telecommunication services is shared by three suppliers: Orange, Free (former Tigo) and Expresso. There are also three internet service providers: WAW SAS, ARC Informatique and Africa Access. Major traditional IT companies such as 2SI, which is a computer engineering services company specialized in software engineering and automation. In West Africa, it is one of the major providers of innovative solutions and services in the field of ICT for businesses, e-government and organizations.

Neurotech, created in 2003, is recognized as an essential integrator in ICT networks and security. The company's business portfolio has gradually expanded and includes data centre management, unified communications, the provision of management and business intelligence solutions, and a wide range of high-added-value services.

CURRENT LEGAL AND POLICY FRAMEWORK FOR ICT SECTOR

THE ICT SECTOR'S LEGISLATIVE AND REGULATORY FRAMEWORK

The Telecommunications Code adopted in February 2011 provides the ICT sector with an effective and transparent legal framework. It helps to promote fair competition for the benefit of network users and telecommunications services and provide regulatory certainty for the sector.

The government further reshaped the sectoral legal and regulatory framework in December 2018 by adopting a new Code on Electronic Communications that focuses on accelerating competition and improving the efficiency of universal access to public policy and programmes. Concurrently, key accompanying implementation decrees on critical aspects related to competition, sector regulation and universal access policy were approved. Details could be found at http://www.jo.gouv.sn/.

THE ICT SECTOR'S MAJOR REGULATORY BODIES

The main regulatory body in the ICT sector is the Regulatory Authority for Telecommunications and Posts (ARTP). The ARTP was created as an independent administrative authority, responsible for regulating the telecommunications and postal sectors. The agency also assigns and controls band spectrum, and has legal personality and financial and managerial autonomy.

SWOT ANALYSIS OF SENEGAL'S ICT SECTOR

It is obvious that the ICT sector's development offers various opportunities in Senegal, as the sector is highly regulated and concrete tax measures are in force. In the past 10 years, Senegal has become a top destination for the externalization of client relationships and IT services with added value. In addition to the significant level of development of technologies, the availability, at competitive costs, of a qualified workforce makes Senegal a preferred destination for the outsourcing of customer relations and value-added IT services. It has growing international recognition and is among the preferred destinations of such services. The country provides competitive ICT labour cost with a monthly base salary of approximately $200.

However, low access to electricity in some rural areas, inadequate training in relation to business needs and low interest by financial institutions in lending to these sectors remain real challenges. With the growing numbers of national start-ups and IT companies as well as international ones coming to Senegal, a lack of highly talented IT professionals has begun to be felt.

Strengths	Weaknesses
▪ Geographic location six hours from Europe, with an international airport and a modern seaport ▪ 700 km of coastline ▪ Robust telecom infrastructure ▪ High internet penetration rate ▪ Educated and competitive young workforce ▪ High telephony penetration rate (+109%) ▪ Free access to the EU market	▪ Despite relatively robust access, electricity supply and digital access in Senegal is still expensive ▪ Lack of reliable internet connection in rural areas ▪ Complex administration of taxation ▪ Insufficient appropriation of technological developments and innovative technical production ▪ Insufficient digitalization of administrative processes and e-governance
Opportunities	**Threats**
▪ 3.8 million hectares of cultivable land, of which only 2.6 million are in use ▪ Hundreds of very innovative digital start-ups ▪ Presence of several investment and impact funds ▪ Dedicated funds through for digital entrepreneurs ▪ Transition to digital terrestrial television ▪ Existence of integrated industrial platforms development project ▪ Programme for the establishment of industrial parks	▪ Difficult access to API from telecommunication operators ▪ Lack of R&D funds in the ICT sector ▪ Low valuation and promotion of R&D results ▪ Lack of ICT prototyping funds ▪ Limited sharing of infrastructure and relatively high cost of radio frequencies

USEFUL CONTACTS

Below are the key contacts in Ghana for the ICT sector and investment facilitation.

Regulatory body	Contact
National Agency for the Promotion of Investments and Major Works (APIX)	Website: https://investinsenegal.com/ E-mail: mmdiop@apix.sn
International Center for Foreign Trade of Senegal (CICES)	Website: https://cices.sn/ E-mail: cices@cices.sn
General Delegation for Rapid Entrepreneurship of Women and Youth(DER)	Website: https://www.der.sn/fr/accueil E-mail: thierno.sakho@der.sn
State IT Agency (ADIE)	Website: https://www.adie.sn/ E-mail: cheikh.bakhoum@adie.sn

3.4. NIGERIA

COUNTRY OVERVIEW

Nigeria is the largest African economy and the 26th worldwide. As such, it represents a major economic and political player in the region and in Africa. It is a federation of 36 states, in addition to the Federal Capital Territory of Abuja. It shares land borders with Benin to the west, Cameroon to the east, Niger to the north and Chad to the north-east. It has maritime borders with Equatorial Guinea, Ghana, and Sao Tomé and Príncipe on the Gulf of Guinea. Nigeria has a tropical climate with variable rainy and dry seasons, depending on the location: the south is hot and wet most of the year, the inland tends to be dry and the far north is dominated by a semi-arid climate with little precipitation. The length and precipitation of the rainy season follow this climatic pattern, with short-period rainfall averaging 500 mm per year in the north and longer-period rainfall of 3,000 mm on average in the south-east.

Nigeria's rich history is marked by many ancient African civilizations, such as the Kingdom of Nri, the Benin Empire and the Oyo Empire. The Songhai Empire that dominated the Western Sahel in the fifteenth and sixteenth centuries also occupied part of the region known today as Nigeria. British colonization started in 1851 with the invasion and later formal annexation of Lagos, and lasted until 1960 when the country gained independence. In 1999, the advent of the Fourth Republic and a new constitution mark a democratic renewal of the political system. The latter occurs within the framework of a federal, presidential, representative democratic republic, in which executive power is exercised by the government, and legislative power by the federal government and the two chambers of the legislature: the House of Representatives and the Senate.

The Nigerian population is estimated at 210.1 million, representing close to half of the total West Africa population, and the largest in Africa. More than half of Nigerians live in urban areas, mostly in the States' capital cities such as Kano, Lagos, Abuja, Kaduna, Katsina, Oyo and Rivers. The rich multicultural setting consists of an estimated 250 ethnic groups in Nigeria, each one corresponding to a specific language. The major ethnic groups are the Hausa-Fulani, the Yoruba and the Igbo. English remains the official language.

Nigeria – key facts	
Capital city	Abuja
Area	910,770 km^2
Population, total	201 million
0–14 years	*43.7%*
15–65 years	*53.6%*
Youth literacy (15–24 years)	75%
Male (%)	*81.6%*
Female (%)	*68.3%*
GDP (nominal, billion USD, 2019)	$448.1 billion
GDP growth (real, 2014–19)	1.18%
FDI, inflows (million USD, 2019)	3,299 (73.6% of GDP)
Gross domestic private investment (million USD, 2019)	110,233 (24.6% of GDP)
Employment to population ratio (+15 years)	48.6%
Employment to population ratio (15–24 years)	25.3%
Exports of goods and services (million USD, 2019)	63,630 (14.2% of GDP)
Main exported commodities	*Crude petroleum; petroleum gas; refined petroleum; cocoa beans; gold*
Imports of goods and services (million USD, 2019)	88,723.8 (19.8% of GDP)
Main imported commodities	*Refined petroleum; wheat; non-fillet frozen fish; rubber tyres; raw sugar*
Inflation (2019)	11.4%
Bank credit to private sector (million USD, 2019)	46,602 (10.4% of GDP)
Government expenditure (million USD, 2019)	57,805 (12.9% of GDP)
Government revenue (million USD, 2019)	35,400 (7.9% of GDP)
Total public debt (million USD, 2019)	130,397 (29.1% of GDP)
Currency	Nigerian naira (NGN)
Languages	English (official), Hausa, Yoruba, Igbo, Fulfulde, Ibibio, Kanuri, Tiv

Source: World Bank, IMF, UNCTAD and Comtrade.

BROAD ECONOMIC OVERVIEW

AMONG THE MOST COMPETITIVE AND INNOVATIVE AFRICAN ECONOMIES

The World Economic Forum's 2019 Global Competitiveness Index ranks Nigeria 116th worldwide, 12th in Africa and 4th in West Africa. This performance owes to the sheer size of its economy and population (1st in Africa), the strength of its business dynamism (1st in West Africa; 6th in Africa) and the functioning and outcomes of its labour market (2nd in the region). Additionally, the country comes 117th in the world, 18th in Africa and 5th in West Africa according to the Global Innovation Index, jointly published by Cornell University, INSEAD and the World Intellectual Property Organization (WIPO). This is largely due to the level of business and market sophistication, respectively ranked 2nd and 3rd in the region.

FAIRLY GOOD INSTITUTIONAL QUALITY

When it comes to the strength of the political institutions, the country is ranked 182nd globally, 37th in Africa and 15th in the West African region, according to the World Bank's Governance Indicators. The dimension in which the country is ranked the highest is voice and accountability, at the 10th position in the region.

RELATIVELY GOOD INFRASTRUCTURE NETWORK

The level of development of the country's overall infrastructure comes 23rd in Africa and 6th in the region, with a score of 23.3/100, according to the African Development Bank's 2020 Africa Infrastructure Development Index. Moreover, the quality of the country's logistics system is ranked 110th globally, 19th in Africa and 6th in the West African region, with a score of 2.53/5, according to the World Bank's Logistics Performance Index. For the dimension related to trade and transport-related infrastructure, the country comes 2nd in the region.

AMONG THE GREATEST MARKET POTENTIALS AND BEST COUNTRIES FOR BUSINESS IN AFRICA

From the perspective of the Market Potential Index, developed by the Michigan State University – International Business Center (MSU-CIBER), the Nigerian economy is ranked 72nd worldwide, 5th in Africa and 2nd in West Africa. The driving factors are its market size and intensity, and consumption capacity.

In addition, *Forbes Magazine* considers Nigeria as the 110th best country for business globally, the 15th in Africa and the 4th in West Africa, as a result of its GDP growth, GDP per capita level, trade balance and population size.

As far as the World Bank's Ease of Doing Business is concerned, Nigeria is ranked 131st globally, 22nd in Africa and 6th in West Africa, with a score 56.5/100. The country ranks among the top regional countries with the cheapest paid-in minimum capital to start a business ($0), in addition to being top-ranked when it comes to getting credit and protecting minority investors.

INVESTING AND DOING BUSINESS IN NIGERIA

THE LARGEST ECONOMY IN AFRICA

The Nigerian economy, which accounts for more than two-thirds of the regional GDP, grew at an annual average rate of 1.18% in the five years prior to the COVID-19 pandemic, the 13th highest in West Africa. In 2019, growth settled at 2.21%. The economy relies heavily on its abundant natural resources: it is Africa's biggest oil exporter and has the largest natural gas reserves on the continent. The COVID-19 pandemic, which led to a significant decline in oil prices, and the containment measures that affected aviation, tourism, hospitality, restaurants, manufacturing and trade, reduced growth to -1.79% in 2020. However, thanks to stimulus measures and an expected recovery in the crude oil market, the economy is expected to bounce back, and growth is projected at 2.5% in 2021.

A COMPETITIVE BUSINESS ENVIRONMENT

In 2019, Nigeria attracted $3.3 billion worth of **FDI**, by far the largest in the region, representing one-third of total regional inward FDI. The quality of business-related administrative procedures has been one of the key contributors to the country's attractiveness to foreign investors.

Starting a business in Nigeria requires a total of seven procedures, the 5th lowest number on the continent. They include:

(1) Reserve a unique company name with the Corporate Affairs Commission (CAC);

(2) Prepare the requisite incorporation documents and pay the stamp duty using the Federal Inland Revenue Service (FIRS) e-stamping portal;

(3) Sign the declaration of compliance before a Commissioner for Oaths or a public notary;

(4) Register the company at CAC, pay registration fees and receive the income tax and VAT registration numbers;

(5) Make a company seal;

(6) Register for personal income tax at the State Tax Office;

(7) Register business premises with the government and pay the business premises levy.

These procedures take an average of seven days to complete, and the corresponding fees are at least NGN 15,900 ($30).

When it comes to **construction**, obtaining a permit involves 16 procedures, mostly with agencies such as the Lagos State Building Control Agency (LASBCA) or the State Physical Planning Permit Authority (LASPPPA), or similar agencies in other states. The whole process takes 111 days, and it costs approximately NGN 1,420,374 ($3,696), representing 4.8% of a standardized warehouse value of NGN 31,365,220.7 ($88.24).

Nigerian laws guarantee **equal rights and treatment** to all investors, national and foreign alike, and **visa rules** allow foreign investors and workers to operate in the country for the duration of their activities.

The Nigerian **labour force** is estimated at more than 62 million individuals, representing 30.2% of the total population. The country scores 0.35 on the 0–1 scale of the World Bank's Human Capital Index (45th in Africa), and 40.1 out of 100 according to the Global Competitiveness Index (47th in Africa). Workers are typically paid **salaries** ranging from NGN 85,700 ($209) to NGN 1,510,000 ($3,670) per month, and the average is NGN 339,000 ($824). The monthly minimum wage has recently been raised to NGN 30,000 ($73).

Electricity consumption is tariffed at different rates across states. For example, $0.11 per kWh in Lagos (the cheapest in West Africa) or $0.14 in Kano (4th). Approximately seven procedures are required to get connection from the state company (Eko Electricity Distribution Company in Lagos or Kano Electricity Distribution Company in Kano), and the corresponding fees are approximately $4,500. Access rate is 55.4% nation-wide and 83.9% in urban areas.

Water tariff varies also across states. For example, the cubic metre is priced at $0.55 in Lagos and $0.30 in Oyo. It is estimated that 77.6% of the population are using at least basic drinking water services, and 92.4% in urban areas.

The country's **infrastructure network** consists of 32 airports. Eight of them are international, mainly located in largest cities (Abuja, Lagos, Kano, Kaduna, Port Harcourt, Enugu, Ilorin and Sokoto), and 10 are major domestic airports. The Murtala Muhammed International Airport in Lagos is the country's biggest airport, with 60% of international flights in Nigeria, operated by major African, European, Asian and American carriers. The average capacity is estimated at more than 5.5 million passengers annually.

The country has approximately 108,000 km of surfaced roads, of which 32,000 km are called federal highways. Approximately 35% of the road network is considered to be in excellent condition. Some of the roads reach the national borders and allow movement of goods and persons with neighbouring countries (such as Benin).

The railway network, operated by the Nigerian Railway Corporation, consists of an estimated 4,174 km of tracks. The dense web of branches links the major states and cities. Long-distance, express passenger services are offered, including between Lagos and Ibadan, Abuja and Kaduna, and Warri and Itakpe. Freight services are also available, with linkages to the ports.

The major ports in the country are operated by the Nigerian Ports Authority (NPA). They are located in the states of Lagos, Cross River, Delta and Rivers. Referred to as Premiere Port (Apapa Quays) and located in Apapa, the Lagos Ports Complex is the largest. It has a capacity to handle up to 22 thousand TEUs of containerized cargo, and is responsible for a large share of the country's international trade.

The **tax system** in Nigeria comprises several taxes and mandatory contributions for businesses. They include corporate tax (30%), social security contribution (10%), capital gain tax (10%), value-added tax (5%) and contribution to National Housing Fund (2.5% of gross salaries). In total, 48 payments are made annually, and their cumulative value represents 34.8% of corporate profit.

As a member of ECOWAS, Nigeria applies the regional CET. Imported goods from third-party countries are categorized into five tariff bands, going from 'essential social goods' (0% tariff) to 'specific goods for economic development' (charged at the maximum of 35%). Safeguard, anti-dumping, anti-subsidy and countervailing measures as well as supplementary protection measures are applied with the aim to protect vulnerable industries and promote fair competition in the liberalized regional market.

The soundness and the low level of risk of the **banking and financial system** in Nigeria are shown in the regulatory capital to risk-weighted assets at 15.4%, and the non-performing loans ratio to total gross loans at 6%. The Nigerian Stock Exchange (NGX) offers investors possibilities to levy funds as well as to seek returns. A total of 106 banks operate in Nigeria, including some Nigerian Pan African banks such as the United Bank for Africa (UBA). Their credit offering to the private sector reached 10.4% of GDP in 2019. The openness of the system allows anyone to hold a **foreign currency account**, and international transfers are unrestricted. The **exchange rate** has been on a downward trend in the last five years, against the US dollar. However, since May 2021, it has settled at approximately 411.

The Nigerian Investment Promotion Commission (NIPC) is charged with the promotion of the country as an international investment and business destination. The wide range of **government incentives** include: (i) free transferability of capital, profits and dividends; (ii) protection against nationalization and expropriation; (iii) recourse to international arbitration; (iv) exemption of interest on loans granted by banks for any agricultural trade or business and the fabrication of any local plant and machinery; (v) tax exemption on gain arising from take-overs, and absorption or merger; and (vi) tax exemption on proceeds reinvested. These are in addition to bilateral investment treaties that include many European countries and pertain, for example, to double taxation agreements and investment promotion and protection agreements.

The incentive scheme also includes a large number of special economic zones (SEZs) of various types: 29 free zones, three industrial parks, three economic cities, two export processing zones, and one oil and gas free zone located in Onne, Port Harcourt. Businesses operating within those zones can benefit from a host of advantages, including full tax holiday from federal, state and local governments, duty-free and tax-free on import of raw materials for goods destined for re-export, and waiver on all import and export licences and all expatriate quotas.

Nigeria definitely has a lot to offer to foreign investors. The sheer size of its economy, the friendliness of its business climate and the wide range of government incentives are key reasons for investors to do business in the country.

ICT INDUSTRY IN NIGERIA: AN OVERVIEW

ICT INFRASTRUCTURE

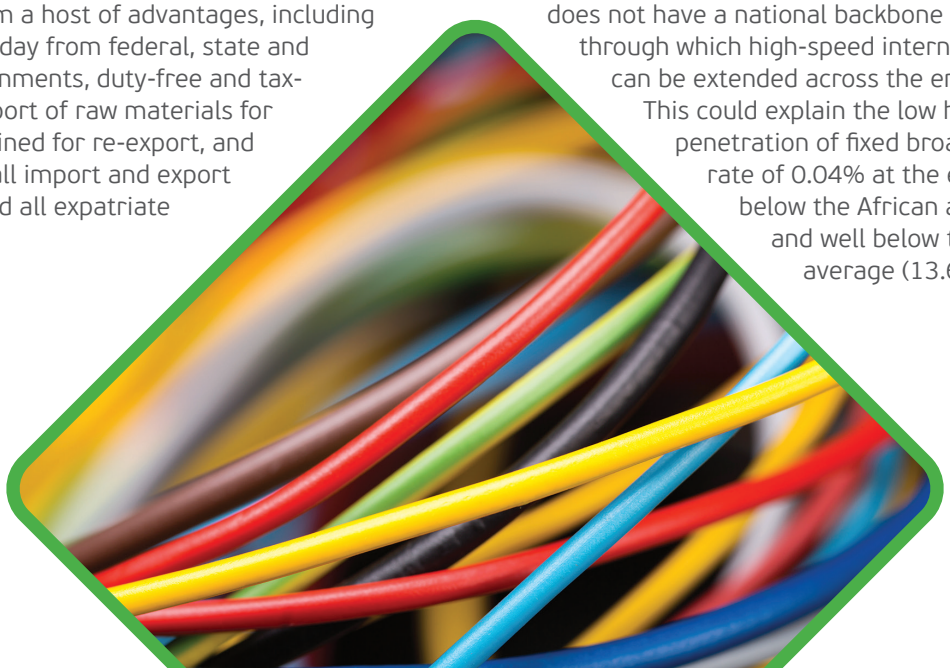
General context and fibre-optic backbone

From 2009, the Nigerian mobile sector also benefitted from the arrival of a series of submarine fibre optic high-bandwidth cables with landing points into Lagos, linking Nigeria to Europe. A massive 2,705% increase in the wholesale submarine bandwidth capacity became available to Nigerian telecommunications operators. With an increased capacity and still room for growth in internet penetration, investment potential remains for telecommunication infrastructure and strategies to lower costs to consumers in order to capture new clients.

However, this sizable international connectivity still has limited impact on the domestic market, as the cost of moving traffic inland from any of the submarine cable landing points in Lagos to any location within the country is higher than the cost of purchasing the inbound bandwidth into the country. This creates obvious potential for significant returns for investors who are able to address these challenges in terrestrial networks.

Fixed telecommunications

According to the Nigeria Digital Economy Diagnostic Report (World Bank Group, 2019), 'unlike its West African peers such as Ghana and Senegal, Nigeria does not have a national backbone network through which high-speed internet connectivity can be extended across the entire country'. This could explain the low household penetration of fixed broadband, with a rate of 0.04% at the end of 2018, below the African average (0.6%) and well below the world average (13.6%).



Mobile telecommunications

The relatively slow growth of fixed telephony and broadband infrastructure in the country has given way to a rapid development of voice and data communications through mobile phones. Unshackled by legacy infrastructure or embedded commercial interests, mobile communications are leapfrogging their developed market counterparts by taking advantage of the latest waves of innovation. At the end of 2020, telecom operators counted approximately 200 million subscribers in Nigeria.

ICT CONTRIBUTION TO ECONOMY

In a 24 October 2020 statement, the Ministry of Communications and Digital Economy estimated that the ICT sector (in its strict definition) contributed 17% of the GDP in the second quarter of 2020 (of which 14.3% was with the telecommunications sector, which is already higher than the oil sector contribution). However, the ICT sector could represent as much as 45% of GDP, considering that services in other sectors are being digitized. Indeed, ICTs represent one of the largest opportunities for further diversification of the Nigerian economy, beyond the exploitation of natural resources and the development of its traditional sectors.

ICT READINESS AND GROWTH

While the Network Readiness Index ranks Nigeria 117th out of 134 countries, the Government of Nigeria seemingly realizes the opportunity for growth and ensures that infrastructure development forms an important pillar of the Federal Government of Nigeria's National Digital Economy Policy and Strategy 2020–2030. The policy's objectives are:

(i) To accelerate the penetration of affordable and quality broadband internet in the country;

(ii) To foster broadband usage for national development;

(iii) To ensure the rapid development of a broadband policy support and implementation framework;

(iv) To harmonize physical infrastructure planning and deployment to include planning for telecoms services;

(v) To support the proliferation of data centres across the country.

DIGITAL GOVERNANCE

Implementing digital governance in Nigeria is central to reduce costs, improve effectiveness of services to citizens, increase payment transparency, fight against corruption and develop the social and financial inclusion of disadvantaged people. As such, the Government of Nigeria has recently launched the Central Portal for Government Services (www.services.gov.ng), created to reflect ease of doing business initiatives of government ministries, agencies and departments in line with the federal government executive order. The portal's objectives include creating a single point of entry to government information and services, enhancing accountability to improve the delivery and quality of public services through technology-enabled civic engagement, and transforming public administration efficiency through use of the portal. The portal currently offers the following categories of services (Government of Nigeria, 2019): (i) government-to-citizen services; (ii) government-to-foreigners services; (iii) government-to-business services; and (iv) other e-government services.

GOVERNMENT SUPPORT FOR THE ICT SECTOR

TAX INCENTIVES

With respect to tax incentives for ICT in Nigeria, high among the most supportive for promoting investment is the Pioneer Status Incentive[94] – as initiated by the Nigerian Industrial Development (income tax relief) Act. It is a tax holiday scheme that allows qualifying industries an initial period of three years' tax exemption, extendable under certain conditions. To qualify, companies must demonstrate contribution to economic diversity and growth, industrial and sectorial growth, and employment opportunities. These are conditions that can be leveraged by ICT investors.

TRAINING AND CAPACITY-BUILDING REFORM PROGRAMMES

There is a big challenge for the educational system to provide the foundation literacy and numeracy skills required to be effective in the digital age. Integrating digital skills in the education curriculum, starting in primary school, and all the way to tertiary and technical vocational education and training (TVET), as well as to support innovation in the digital space in most universities would require an increase in public funding for education and targeted programmes.

94 More information is available on the Nigerian Investment Promotion Commission website: https://www.nipc.gov.ng/pioneer-status-incentive/#pre.

The Federal Government of Nigeria recognizes the importance of strongly developing the population's digital literacy and skills. Hence, education is also well captured in the National Digital Economy Policy and Strategy 2020–2030 issued end of 2019 by the Federal Ministry of Communications and Digital Economy.

KEY ICT INVESTMENT SECTORS AND ACTORS

TELECOMMUNICATION INFRASTRUCTURE

With the largest population for a country in Africa, telecommunication infrastructure remains a key area for new investors in Nigeria, given the market's sheer size and its potential for further growth. As described, fixed and mobile broadband infrastructure in the country is not sufficient to provide wide internet access in the country, especially far from the coast and in rural areas. By the end of 2019, 2G networks had been deployed across the country, but the reach of the 3G and 4G networks were still at a low level, with a spread of 26.03% and 9.07% respectively.

It was estimated that, to achieve full broadband penetration, 120,000 km of fibre needs to be installed, given Nigeria's land mass. This leaves significant opportunity for investment to capture a growing market that is yet to be tapped into adequately.

E-COMMERCE AND LOGISTICS

Nigeria is Africa's biggest business-to-consumer (B2C) market, both in terms of revenue and shoppers. In 2018, e-commerce spending in Nigeria was estimated at $12 billion and was projected to increase to $75 billion in revenues by 2025 according to McKinsey & Co.

Nigeria's e-commerce sector has attracted foreign investments, with leading players having received multimillion-dollar investments in recent years. This subsector shows tremendous potential for growth and for contributing jobs and tax revenues that would remain in Nigeria. Most shoppers (67%) opt for cash on delivery, and only 23% use credit cards, with another 10% using mobile payments. This leaves further value to be had should investment solutions be developed to ease transactions.

FINANCIAL SERVICES

The fintech ecosystem has grown steadily and has contributed immensely to the development of the Nigerian digital economy. According to the McKinsey report, 'Harnessing Nigeria's fintech potential', Nigerian Digital Financial Services (DFS) start-ups offer banking, e-payment, loans and saving services to individuals (for 58% of them) and SMEs (for 22% of them). They have raised $600 million in funds in the last five years. Fundraising operations were done mostly by foreign investors, such as VISA investing $200 million in Interswitch in November 2019, Chinese investors investing $120 million in OPay (a banking and e-payment platform) in December 2019 and a Brazilian fund investing $20 million in Migo (a platform offering loans). According to a report issued by Ernst & Young in early 2021, fintech companies raised $439 million in 2020, of which 43% was for payment solutions, 27% for financial software and 23% for online banking.

Although they appear to be in competition with traditional financial institutions, DFS provide more of a complementary solution that helps address some of the gaps in financial services in the country. From the point of view of traditional banks, the expansion of alternative delivery channels can be imperative if they are to remain internationally competitive. More investment into the sector can be expected.

E-EDUCATION

With the most significant youth population in Africa, digital forms of education will be required to satisfy the demand for training and, hence, remains a key sector for investors looking to enter the market. The education sector can largely benefit from digital technologies, because Nigerians are very willing to invest in education to access qualified jobs, and internet brings possibilities for them to follow online courses from home. The COVID-19 pandemic has accelerated the use of online education. In addition, high-quality online courses can be provided without necessarily recruiting or developing more teachers.

E-HEALTH

While access to healthcare remains a challenge, digital health start-ups in Nigeria have developed applications in many areas where internet and associated technologies can bring improvements to the quality and efficiency, as well as financing of treatments.

Co-founded in 2016 by Adegoke Olubusi, Dimeji Sofowora and Tito Ovia, Helium Health aims to

improve access and quality of medicine in Africa through the digitization of medical data and telemedicine. Founded in 2019, 54Gene is a biotech aiming to build a map of genetic data of the African populations, which represent only 3% of the genetic data used in medical research.

Other health digital services developed in Nigeria include:

(i) Online health insurance subscription plans (Avon HMO and Soco Care);

(ii) Medical support to pregnant women and mothers through mobile technologies (Natal Care);

(iii) Telemedicine (Kangpe, Mobidoc and Mobihealth);

(iv) Medical devices (MDaaS);

(v) Blood centre services (Life Bank Nigeria);

(vi) Clinical reference information and e-learning (MedEnhanz);

(vii) Medication supply (Medsaf and DrugStoc);

(viii) Aviation emergency ambulances such as Flying Doctors Nigeria (Dr. Hempel Digital Health Network, 2018).

E-AGRICULTURE

Indications show that e-agriculture is an area into which the government aims to draw further private investment. The National E-Agriculture Web Portal is a strategic initiative of the National Information Technology Development Agency (NITDA) in collaboration with the Federal Ministry of Agriculture and Rural Development (FMARD), to showcase the essential features and key aspects of Nigeria's food and agriculture industry. It also highlights the strategic and operational components of the country's agricultural value chain, particularly as it relates to the government's Green Alternative roadmap, as developed and implemented by the Federal Ministry of Agriculture and Rural Development.

BUSINESS PROCESS OUTSOURCING (BPO)

BPO services such as call centres, while present, did not gain traction in Nigeria until the early 2010s due to obvious infrastructural requirements. They have since grown in size and the number of participants. More encouraging is the different BPO industry subsectors that have been tapped into, including professional services such as recruitment services, IT services, and financial and accounting services.

Examples of leading BPO services in Nigeria include DelonApps and Kiote Services call centres, as well as MyJobMag and Rovedana Limited. Increasingly, local companies are turning to such professional services. This adds so much to the growth of the sectors locally that the economic value added of the industries sector was almost 60% of GDP in 2019, prior to the global COVID-19 pandemic.

MEDIA AND ENTERTAINMENT

Altogether, the media and entertainment sector (including internet access, media on paper, TV and video, radio, music, video games and out-of-home advertising) reached $4,5 billion of revenues in 2018 (of which 69% is from internet access). The sector is expected to grow by 20% p.a. to reach $10,8 billion (of which 81% is from internet access) in 2023, according to PricewaterhouseCoopers in its Entertainment and Media Outlook Report (October 2019). Outside internet access (with variable quality and reliability of service), the media and entertainment industry would grow 7% p.a., which is still a good rate.

THE ICT SECTOR'S MAJOR REGULATORY BODIES

The Ministry of Communications and Digital Economy was created in 2011 to foster a knowledge-based economy and information society in Nigeria and to facilitate ICT as a key tool in Nigeria's transformation agenda in the areas of job creation, economic growth and transparency of governance. It has four mandates:

- Facilitate universal, ubiquitous and cost-effective access to communications infrastructure throughout the country;
- Promote the use of ICT in all spheres of life to optimize the communications infrastructure – digital content creation, domestic software applications and the delivery of private and public services over the internet;
- Promote and facilitate the ICT industry's development and increase its contribution to GDP;
- Use ICT to drive transparency in governance and improve the quality and cost effectiveness of public service delivery in Nigeria.

The Nigerian Communications Commission (NCC) is the independent national regulatory authority for the telecommunications industry in Nigeria since 2003. The commission is responsible for creating an enabling environment for competition among operators in the industry, and ensuring the provision of qualitative and efficient telecommunications services throughout the country.

SWOT ANALYSIS OF NIGERIA'S ICT SECTOR

Strengths	Weaknesses
▪ Largest mobile market in Sub-Saharan Africa and high mobile phone ownership rate ▪ International connectivity ▪ Telecom market competition ▪ Tower infrastructure sharing ▪ Lagos (and other large cities) digital ecosystem ▪ Some strong digital service developments and successes (e.g. in the digital financial services (DFS) ecosystem)	▪ Poor fixed broadband infrastructure and penetration ▪ 3G mobile broadband lack of coverage in rural areas; low 4G coverage nationwide ▪ Variable quality of telecom service ▪ Variable electricity availability
Opportunities	**Threats**
▪ Growing demand and economies of scale from the large and young population ▪ Entrepreneurial culture ▪ Developing mobile broadband infrastructure (2G in the entire country; 3G only in urban areas, capitals and main corridors); 4G roll-out ▪ Access to international financing (mainly at growth stage, increasingly at earlier stages) ▪ Diaspora's economic power and education level ▪ Government sponsorship of digital agenda and digitalization of government services	▪ Poverty/low bank account ownership, especially in the north ▪ Access to 4G limited by low-cost smartphones ▪ Business informality ▪ Mental barriers against the use of digital services (lack of trust from potential users) ▪ Lack of digital literacy and skills ▪ Difficult access by digital entrepreneurs to early-stage financing and bank credit ▪ Cyber security issues ▪ Complex, restrictive regulations for DFS (e.g. licensing requirements, e-KYC based on Bank Verification Number (BVN)

USEFUL CONTACTS

Below are the key contacts in Ghana for the ICT sector and investment facilitation.

Regulatory body	Contact
Federal Ministry of Communications and Digital Economy	E-mail: info@commtech.gov.ng
National Information Technology Development Agency	E-mail: info@nitda.gov.ng
Nigeria Investment Promotion Commission	E-mail: infodesk@nipc.gov.ng
Nigerian Communications Commission	E-mail: ncc@ncc.gov.ng
National Office for Technology Acquisition and Promotion	E-mail: info@notap.gov.ng
Other institutions can be contacted if the investment is about providing digital services to specific economic sectors (finance, industry, agriculture or education, etc.):	
Federal Ministry of Finance, Budget and National Planning	E-mail: info@finance.gov.ng
Federal Ministry of Education	E-mail: info@education.gov.ng
Federal Ministry of Agriculture and Rural Development	E-mail: info@fmard.gov.ng
Federal Ministry of Industry, Trade and Investment	E-mail: info@fmiti.gov.ng
Federal Ministry of Science and Technology	E-mail: info@scienceandtech.gov.ng

3.5. THE GAMBIA

COUNTRY OVERVIEW

The Republic of the Gambia is the smallest country on the African mainland, with just 11,295 km². It shares borders only with Senegal, which effectively surrounds it, except on the western coast on the Atlantic Ocean. Approximately 11% of its landmass is covered by water, mostly the Gambian River. The latter is 1,120 km long and flows through the centre of the Gambia. The country's small size is synonymous with less diversity of its climate, which is mainly Sahel, with a dry season from November to May and temperatures ranging between 18°C to 30°C, and a wet season from June to October that sees temperatures varying between 23°C to 33°C.

Within the broader historical context of West Africa, the Gambia was part of the slave trade. First the Portuguese (until May 1765) and then the British set up a colony along the Gambian River. The Gambia Colony and Protectorate under the British rule ended in 1965 when the country gained independence. The initial rule of Dawda Jawara ended in a non-violent military coup by Yahya Jammeh in 1994. The latter was then removed by a military intervention from the Economic Community of West African States (ECOWAS) after its refusal to concede defeat during the 2017 election, which plunged the country into a constitutional crisis. The current political leadership is well on its way to restore citizens' trust and confidence in the public sector, as well as political and social stability, in line with the 1996 constitution, which lays out the general framework of a presidential republic.

Most of the 2.35 million Gambians live in cities such as Serekunda (a population of 340,000), Brikama (77,700), Bakau (43,098) and Banjul, the capital city (34,589). These cities are located in the western part of the country on the Atlantic coast. The cultural setting is very diverse. There is a large variety of ethnic groups with distinct languages and traditions, the most dominant being the Mandinka, Fula, Wolof, Jola/Karoninka, Serahule or Jahanka, Serer, Manjago, Bambara, and Bainunka. They share their historical and cultural roots with ethnic groups in Senegal, Mali, Guinea and Sierra Leone. English is the official language, and French is also relatively widespread, owing to its neighbour (Senegal).

The Gambia – key facts	
Capital city	Banjul
Area	11,295 km²
Population, total	2.35 million
0–14 years	*44.1%*
15–65 years	*53.3%*
Youth literacy (15–24 years)	67.2%
Male (%)	*60.7%*
Female (%)	*64.4%*
GDP (nominal, billion USD, 2019)	1.83
GDP growth (real, 2014–19)	4.7%
FDI, inflows (million USD, 2019)	32.3 (1.76% of GDP)
Gross domestic private investment (million USD, 2019)	411.8 (22.5% of GDP)
Employment to population ratio (+15years)	53.9%
Employment to population ratio (15–24 years)	35.7%
Exports of goods and services (million USD, 2019)	377.0 (20.6% of GDP)
Main exported products	*Peanuts; fish; cotton*
Imports of goods and services (million USD, 2019)	638.7 (34.9% of GDP)
Main imported products	*Woven cotton; refined petroleum; rice; raw sugar; palm oil*
Inflation (2019)	7.1%
Bank credit to private sector (million USD, 2019)	129.9 (7.6% of GDP)
Government expenditure (% GDP, 2019)	559.9 (30.6% pf GDP)
Government revenue (% GDP, 2019)	528.9 (28.9% of GDP)
Total public debt	1,925.2 (105.2% of GDP)
Currency	Gambian dalasi (GMD)
Languages	English (official), Mandinka, Wolof, Pulaar (Fulbe), Serer, Diola, Soninke

Source: World Bank, IMF, UNCTAD and Comtrade.

BROAD ECONOMIC OVERVIEW

MACROECONOMIC STABILITY AND COMPETITIVE LABOUR MARKET

The World Economic Forum's 2019 Global Competitiveness Index ranks the country 124th globally, 20th in Africa and 7th in the West African region, with an overall score of 45.9/100. The economy's competitiveness is mostly due to the macroeconomic stability (inflation, debt, country bond ratings and human capital, with a score of 65.4/100), the labour market structure (5th in West Africa, as a result of its flexibility, ease of hiring foreign workers, pay and productivity, etc.), and the product markets (competition, distortive effect of taxes, trade openness and prevalence of non-tariff barriers, etc.; the country came 7th in Africa and 3rd in the region).

POLITICAL STABILITY AND RULE OF LAW

The World Bank's Governance Indicators ranks the country 153rd globally, 21st in Africa and 8th in West Africa, with an overall score of 36.7/100. The relative strength of the country's institutional setting rests mainly on political stability and non-violence (2nd in the region), the extent of rule of law (4th), control of corruption (5th) and regulatory quality (8th).

FAIRLY COMPETITIVE INFRASTRUCTURE

According to the World Bank's Logistics Performance Index (LPI), the country comes 127th worldwide, 26th in Africa and 8th in the region, scoring 48.0/100. Most favourable dimensions include the ability to track and trace consignments (a score of 56.2/100, and 4th ranking in West Africa), and the ease with which competitively priced shipments are arranged (54.2, and 5th).

When it comes to the African Development Bank's 2020 Africa Infrastructure Development Index, Gambia ranks 14th in Africa and 3rd in the region, with a score of 29.5/100. The water and sanitation system, ranked 3rd in the region with a score of 75.7/100, is the best-performing dimension.

GOOD ENVIRONMENT TO START A BUSINESS AND TRADE ACROSS BORDERS

On *Forbes Magazine's* list of Best Country for Business, Gambia is ranked 155th globally, as a result of its combined economic growth, GDP per capital, trade performance and population size. It comes 41st in Africa and 14th in West Africa.

Furthermore, according to the World Bank's 2020 Ease of Doing Business, the country appears in the 155th position worldwide, 31st in Africa and 11th in the region, with an overall score of 50.3/100. Starting a business and trading across borders are the dimensions of the business climate that are most favourable, with respective scores of 84.6 and 67.8/100.

INVESTING AND DOING BUSINESS IN THE GAMBIA

A STRONGLY GROWING ECONOMY

The Gambian economy grew at an average of 4.6% in the five-year period prior to the COVID-19 pandemic, the 11th highest in the region. In 2019, the economy expanded by 6.1%, mainly supported by improving confidence and record tourist arrivals, as well as sound economic policies. In 2020, the economy did not grow, as a result of a sharp decline in the tourism industry and major disruptions in trade due the global pandemic. It is expected that the economy will rebound fairly strongly in 2021, thanks to government responses to the crisis and support from development partners, with growth projected at 6%, eventually culminating to 7% in the medium term.

A COMPETITIVE, LOW-COST BUSINESS ENVIRONMENT

In 2019, the Gambian economy attracted foreign investment to the tune of $32.3 million, above the yearly $24.3 million of the decade, which is relatively important given its small size. The quality and low cost of its business-related administrative procedures have contributed to the country's attractiveness. For example, it takes an average of eight days to go over the six procedures required to **start a business**. They include:

(1) Reserve a unique company name with the Companies Registry;

(2) Notarize company statutes;

(3) Obtain a tax identification number (TIN) from the Gambia Revenue Authority;

(4) Register employees with the Social Security and Housing Finance Corporation;

(5) Register with the Commercial Registry;

(6) Obtain the operational licence from the municipal authority.

Total administrative fees amount to GMD 16.650 ($325).

Business looking to **construct** can obtain a permit by going through 12 administrative procedures, mostly with the Department for Physical Planning and Housing (DPPH), the Development Control Unit (Department of State for Local Government), and the National Water and Electricity Company (NAWEC). It takes an average of 173 days to complete the process, at a cost of GMD 52,209 ($1,020), which represents 2.1% of the value of a typical warehouse estimated at GMD 1,682,533 ($32,872).

Gambian laws prohibit any form of discrimination against foreign investors, who benefit from **equal treatment. Visa rules** allow a duration of stay for non-ECOWAS workers and investors that corresponds to that of their activity or contract.

Approximately 775,000 individuals make up the country's **labour force**, representing 32.1% of the total population. The World Bank ranks the quality of the workforce 18th in Africa and 4th in the region, according to its Human Capital Index, with a score of 0.40 on a 0–1 scale. A typical worker earns a monthly **salary** of GMD 4,020 ($79) to GMD 71,000 ($1,387), the average being GMD 15,900 ($310). The minimum wage is GMD 50 (close to $1) per day.

Electricity consumption is tariffed at $0.20 per kWh on average, the 7th cheapest in the region. Getting a connection from the NAWEC involves five procedures and can take up 101 days. The fee is GMD 879,300 ($17,180), mostly for the purchase of materials and the conduct of all external connection works by a NAWEC pre-qualified contractor. It is estimated that 60% of the Gambian population has access to electricity (80% in urban areas).

Water is priced at an average of $0.21 per cubic metre. It is readily available to 78% of the population (87.5% in urban areas).

The **infrastructure network** comprises the country's unique airport: Banjul International Airport, also known as Yundum International. It is used by approximately 15 foreign airlines to link the country with regional and European capitals, as well as Istanbul, with an average of three daily departures. It handles an estimated 346,570 passengers and 1,402 tons of cargo annually.

The length of the country's total road network is estimated at more than 4,000 km, mostly concentrated in and around the capital city of Banjul. The Trans-Gambia Highway is considered the most important road, running in a north-south direction across the River Gambia. The Senegambian bridge, also known as the Trans-Gambia Bridge, carries the Trans-Gambia Highway to the northern and southern parts of the Gambia, and greatly improves the country's connection with Senegal, allowing a better flow of goods and people.

The Port of Banjul is located on the estuary of the River Gambia, approximately 50 km from the Atlantic Ocean. It is capable of handling up to 1.5 million tons of cargo annually, and is relatively well known in the region for its simplified cargo documentation procedures and flexible tariff system (as documented by the World Bank's LPI).

Passenger railway is non-existent, and only a small internal railway network was developed by the Gambia Groundnut Corporation to serve its oil mill at Denton Bridge.

The **tax system** comprises a total 14 taxes and mandatory contributions to be paid by businesses. They include corporate tax at 27%, social security contributions at 10% of gross salaries, value-added tax at 15% and a property tax at 0.3% of assessed property value. In total, in a given year, the paid amount represents 48.4% of corporate profits.

Customs duties follow the ECOWAS CET, which categorizes imported goods into five tariff bands, ranging from 0% (essential social goods) to a maximum of 35% (specific goods for economic development). Additional provisions include safeguard measures, anti-dumping measures, anti-subsidy and countervailing measures and supplementary protection measures. They aim to protect vulnerable industries and guarantee fair competition in the liberalized regional market.

The Gambia's **banking and financial sector** is relatively sound, with, for example, a capital adequacy ratio of 34.4%, and non-performing loans to total loan ratio of 9.4%. The system is part of the West African Monetary Zone (WAMZ), which aims at financial and monetary integration of the subregion outside the West African Economic and Monetary and Union (WAEMU), with an ultimate goal to have a single currency in the whole region (the Eco). Approximately 14 commercial banks operate in the country, and together they provide credit to the private sector representing 6.8% of the country's GDP. Furthermore, as a result of the system's openness, **foreign currency denominated bank accounts** can be held by anyone (individuals or businesses, domestic or foreign), and **international money transfers** (including remittances) remain unrestricted. The **exchange rate** has been relatively stable since the end of 2019 (fluctuating around 49 and 52 against the USD), reversing the depreciating tendency started in the 4th quarter of 2007.

Government incentives to attract foreign investors include no restrictions on the range of business activities in which investors can engage, safeguards against double taxation, and attractive packages to investors under the Gambia Investment Promotion Act 2001 and Free Zones Act 2001 for all sectors of the economy. The latter include exemptions from import duties and tax holidays. Additionally, the country has set up an agency (Gambia Investment and Export Promotion Agency), which provides a one-stop shop for investors and is responsible for attracting FDI, mostly in priority sectors such as agriculture, forestry, skills development, energy (solar, wind, biomass and hydro), fisheries, manufacturing, tourism, and minerals exploration and exploitation.

The Gambian economy definitely has plenty to offer foreign investors, who will enjoy a friendly business environment, relatively strong human capital and a privileged access point by sea to the ECOWAS market (and soon the African market under the African Continental Free Trade Area).

ICT INDUSTRY IN THE GAMBIA: AN OVERVIEW

ICT INFRASTRUCTURE

In 2012, the Government of the Gambia established the Gambia Submarine Cable Company (GSC) as the national landing party for the Africa Coast to Europe (ACE) submarine cable in partnership with the West African Regional Communications Infrastructure Project (WARCIP).[95] The objective is to increase capacity of broadband networks through the global network of broadband fibre optics infrastructure at more than 100 GB, improve internet connectivity and reduce costs of communications services in the Gambia. To further complement the work of the GSC, and to ensure a reliable internet penetration throughout the country, the government embarked on implementation of the ECOWAN Project. This is a national fibre optic backbone of approximately 947 km that lays on both sides of the Gambia River. The Gambia Telecommunications Services Company (Gamtel), a national telecommunications company, and the GSC are both major stakeholders in the national cyber security efforts.

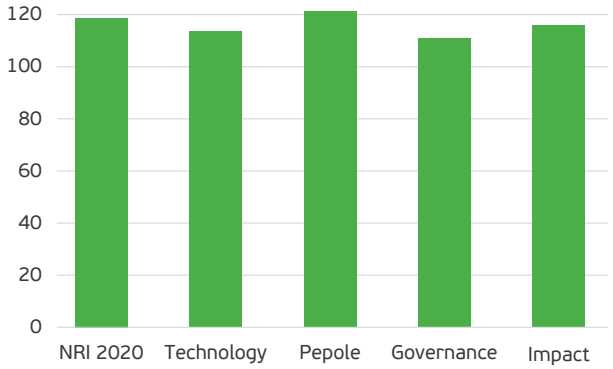
The internet penetration rate in the Gambia is 70% and the mobile penetration rate is 147%. This is made possible by important ICT infrastructure such as the ACE submarine cable with more than 100 GB capacity and a 1,300 km fibre optic national backbone network. The government is looking into getting a second submarine cable into the Gambia to add both bandwidth and reliability. With this added capacity, investment would be required in terrestrial networks and lowering subscription fees in order to reach users.

95 Source: http://gsc.gm/.

ICT READINESS AND GROWTH

The Gambia ranked 119 out of 134 economies in the 2020 Network Readiness Index (NRI) report, and in terms of technology it ranked 114.[96] Aside from governance, the technology sector was the next highest.

Figure 23: The Gambia's Network Readiness Index score (2020)



Source: Network Readiness Index.

ICT DEVELOPMENT AGENDA

The Gambia ICT for Development Policy (ICT4D) 2018–2028 focuses on eight priority areas: capacity building, private sector development, gender equality and youth empowerment, agricultural development and climate change, broadband and cyber security. The overarching ICT4D policy objective is to develop an economy based on the development and deployment of advanced and reliable national information and communications infrastructure and services.

National Broadband Network project

The Government of the Gambia, through its National Broadband Network (NBN), has brought broadband access through the Gambia Telecommunications Company Limited (Gamtel) and Huawei project. The project was launched in 2020 with a new national broadband policy for the Gambia to have alternative back-up to the ACE cable by the end of 2021, with at least 75% of homes to have affordable access to high-speed internet connectivity by 2022.

National Cybersecurity Strategy 2020–2024

Its overall mission is to determine, identify, analyse and address the immediate cyber security threats against people, entities and critical national infrastructure of the Gambia. This will be achieved through adequate provision of protection for the country's critical national infrastructure and, in time, it can become a self-sufficient country attending to its cyber security needs.

National Development Plan

The overall National Development Plan (2018–2021) has also made ICT one of the critical enablers to ensure that its strategic priority areas are achieved.

DIGITAL GOVERNANCE

Digital governance has been embedded in various aspects of doing business in the Gambia. This includes taxation carried out by the Gambia Revenue Authority.[97] Another effective digital governance process is the business registration processes that operates a one-stop shop policy for registering businesses, known as the Single Window Registry, based on an Act in 2013, and the electronic registration system is effective.[98]

The Gambian Government has The Gambia Integrated Financial Management Information System Project (IFMIS), whose objective is to increase the government's capacity in public resource management. It is funded by the World Bank and was started in 2012.[99]

96 Source: https://networkreadinessindex.org/countries/gambia/.

97 http://www.gra.gm/.

98 https://mofea.gm/company-law.

99 https://projects.worldbank.org/en/projects-operations/project-detail/P117275.

GOVERNMENT SUPPORT FOR THE ICT SECTOR

The Gambia ICT for Development (ICT4D) Policy Statement 2018–2028 fully takes into account the aspirations and provisions of key socioeconomic development framework, policies and plans, since independence represents the vision for the Gambia's development in the information age.

ICT services are one of the priority sectors for investment and a host of incentives are available to investors in the sector. These incentives include:

- **Tax holiday:** Tax breaks on corporate and turnover tax; withholding tax on dividends for 5–8 years, depending on the project's location.
- **Import tax incentives:** Exemption from payment of import tax on direct inputs for the project (e.g. IT hardware).
- **Export incentives:** Exemptions/reductions on corporate and turnover tax; exemption from excise duty and sales tax on goods produced or imported within the export processing zone (EPZ) for processing and export – depending on the proportion of goods exported.

KEY ICT INVESTMENT SECTORS AND ACTORS

With much room for growth in the Gambia's ICT sector, opportunities remain for investment in a growing market, particularly given the levels of government support offered to the sector. Some key areas for potential investment include the following.

TELECOMMUNICATION INFRASTRUCTURE

The biggest investment opportunity in the Gambia is submarine cables[100] (the country only has one submarine cable, the Africa Coast to Europe submarine cable owned by a consortium of telecom operators). A new cable can also explore markets in Guinea Bissau and southern Senegal, and link Mali and Conakry in Guinea.

The Ministry of Information and Communication Infrastructure (MOICI) are at the forefront of giving the Gambia an enabling environment to be able to guide people and organizations who want to invest in ICT in the country. MOICI, through its efforts, has created several policy documents that are at the forefront of making the Gambia realize its ambition of having a digitized economy.

BUSINESS PROCESS OUTSOURCING (BPO)

Call centre opportunities abound in the Gambia with a very youthful emerging educated class where numerous are bilingual in English and either French or Arabic. Due to the Gambia's vibrant tourism industry, other languages that call centre opportunities abound include Swedish, Spanish and German. With the cost of labour relatively very competitive compared to other parts of Africa, the opportunities to explore call centres exist, especially as the Gambia is also in the time zone GMT +0. Successful examples of companies that have ventured into the BPO industry include PointClick Technologies[101] and KMF Technologies,[102] which provide tailor-made IT services to clients.

FINANCIAL SERVICES

Banking services and a forex bureau are thriving in the Gambia. Mobile money is currently operated by two major mobile companies, QMoney[103] by QCell and Afrimoney[104] by Africell. Kuringo[105] is another example of fintech start up that is established in the country. That said, the Central Bank of the Gambia has yet to establish regulation on fintech.

E-AGRICULTURE

While e-agriculture has yet to fully take off, the Gambia Horticultural Enterprise (GHE)[106] and Farm Fresh,[107] for example, have been innovators in this aspect. The EU-funded Youth Empowerment Project (YEP) has also introduced various training programmes to get agribusiness start-ups to encompass aspects of e-agriculture in their product deliverables.

100 http://gsc.gm/.

101 More information at https://www.pointclick.net/about-us/.

102 Further Information on https://www.kmf.gm/.

103 https://qmoney.gm/.

104 https://www.africell.gm/.

105 www.kuringo.com.

106 More information at https://gamhort.com/.

107 More information at https://www.farmfresh.gm/.

E-EDUCATION

E-education has a lot of emerging start-ups offering one form of service to mainly private schools. Led by the Ministry of Basic and Secondary Education, the country has developed a robust education management information system (EMIS) that collects education data that is then uploaded to its web portal.[108]

E-HEALTH

The National Health Policy 2012–2020 introduced the use of health management information systems in collecting and analysing data during the COVID-19 pandemic by the Ministry of Health. The Planning and Information Directorate has also implemented various e-health components and there is a digitalization process for birth registration in an advance stage in the Gambia, supported by the United Nations Children's Fund (UNICEF).

A COMPETITIVE AND CONDUCIVE BUSINESS ENVIRONMENT

The labour cost in the Gambia, including the contribution to social security, is relatively more competitive compared to many neighbouring countries. Table 29 gives a comparative breakdown of labour cost compared to other countries in Africa.

In terms of utility cost, covering electricity, telecommunications, water and industrial gas, the Gambia has a better comparative cost advantage to other economies in Africa. Table 30 shows the Gambia's competitive advantage compared with these countries in terms of utility cost.

MAJOR ICT ACTORS

A total of seven companies operate in the internet service provider (ISP) space in the Gambia. The leaders are the Gambia Telecommunications Company Limited (Gamtel), QCell and Africell. Gamtel, however, is the only ISP that offers complete coverage countrywide through its broadband services. Other important actors include Netpage, one of the leading ISPs in the Gambia. Apart from the mobile/cellular companies, Netpage was the first ISP to provide 4G WiMAX-based wireless broadband service in the Gambia. Netpage as an ISP has set the standard for other ISPs in the country.[109]

Additionally, in terms of providing ICT solutions, InSIST Global[110] is the Gambia's leading software company with a Pan African outlook for the last decade. The company has customized tablets for students to use with its educational management platform, it has provided needed innovation in software development in education, and its current flagship software tool, Afrijula,[111] has really supported small businesses in the Gambia.

THE ICT SECTOR'S MAJOR REGULATORY BODIES

The current specific laws for the ICT sector are based on the IC Act 2009 plus the Gambia ICT Agency Act 2019. The complete IC Act 2009 and ICT Agency Act 2019 can be downloaded from https://moici.gov.gm.

108 More information at www.edugambia.gm.

109 Further Information at https://www.netpage.info/index.php.

110 Further Information at http://insistglobal.com/.

111 Further information at https://afrijula.gm/landing.

SWOT ANALYSIS OF THE GAMBIA'S ICT SECTOR

Strengths	Weaknesses
▪ High mobile phone penetration rate. ▪ High population density with high urbanization rate (top 10 most urbanized Sub-Saharan African countries). ▪ Conducive to achieving universal coverage and ensuring cost-effective provision of services to customers as detailed by the Public Utilities Regulatory Authority (PURA). ▪ Competitive telecom market with four mobile operators and seven internet service providers. ▪ Improving e-government portal and strategy also exists.	▪ Relatively high cost of electricity power. ▪ Fragmented ICT agencies. ▪ Lack of connection to national broadband nationwide; low adoption and affordability of mobile broadband (particularly 4G in rural areas). ▪ Limited awareness of data centres in country or usage of internet exchange point.
Opportunities	**Threats**
▪ Mobile money transactions are growing at a good rate ▪ Strong policies for enabling ICT investment: National Development Plan (2018–2021); ICT4D Policy Statement (2018–2028). ▪ Digitized identification is available for both nationals and foreigners (e.g. driving licences and barcoded registration for cars based on number plates). ▪ Single business registration available via one-stop shop (e.g. all registrations by lawyers are done in one single entry). ▪ E-commerce: The ecommerce sector is still in its infancy; more can be done through regulation by the Central Bank of the Gambia, as the country is still a cash-based economy.	▪ Limited access to and poor maintenance of the wholesale national fibre optic backbone infrastructure (ECOWAN), resulting in its underuse (a mere 5% of the population is connected to the backbone, as per PURA ▪ Dependence on one submarine cable (that on average experiences 6–7 disruptions a year) and overly expensive alternative terrestrial route to Senegal, requiring cost-effective solutions for international redundancy.

USEFUL CONTACTS

Investment in the ICT sector with various incentives like other investment sectors goes through the **Gambia Investment and Export Promotion Agency (GIEPA)**.

Regulatory body	Contact
Mr. Ousainou Senghore Chief Executive Officer	E-mail: osenghore@giepa.gm
Mr. Modou Lamin Sowe Director Investment Promotion and Facilitation	E-mail: mlsowe@giepa.gm
Mr. Hamey B. Jawara Senior Manager Investment Promotion and Facilitation	E-mail: hbjawara@giepa.gm
Overall ICT governmental policies are from the **Ministry of Information & Communication Infrastructure:** https://moici.gov.gm/.	
Mrs. Amie B. Njie Permanent secretary	GRTS Building, MDI Road Kanifing, KMC, the Gambia Tel.: (220) 4373398 Fax: (220) 4378029 E-mail: abnjie@moici.gov.gm
Amadou Nyang Director of ICT	GRTS Building, MDI Road Kanifing, KMC, the Gambia Tel.: (220) 4373398 Fax: (220) 4378029 E-mail: ANyang@moici.gov.gm

3.6. MALI

COUNTRY OVERVIEW

Mali is a large territory located in the heart of West Africa, sharing 7,243 km of land boundaries with seven countries. Approximately 65% of Mali's land area is desert or semi-desert, corresponding with a hot and dry climate, negligible rainfall in most of the country and frequent droughts. The Niger River, with 1,693 km in Mali, provides a large and fertile inland delta, and is rightly considered as the country's lifeblood for being a valuable source of drinking water, irrigation, as well as transportation and food.

Mali had an influential role in shaping the subregional history and culture. Starting with a small Malinke kingdom around the upper areas of the Niger River, it developed into a rich and prosperous Malian empire between 1240 and 1645, which controlled the trans-Saharan trade in gold, salt, slaves and other commodities. It spread its language, laws, faith and customs to almost the whole subregion. This provides a background for a rich, diverse and open culture, with various renowned historical sites considered as part of world heritage (such as Timbuktu and Gao). The richness of the multicultural setting also shows in the many local languages spoken in the country, such as Manding, Soninke, Bomu, Bozo, Dogon, Fula and Senufu, all of which consist of more than 60 dialects; French remains the official language.

Approximately 44% of the 20.7 million Malians live in urban areas, mostly in the capital cities of the eight regions and the capital district of Bamako. Other major cities include Segou, Sikasso, Kayes, Kidal and Mopti, mostly located in the south-west.

Since the early 1990s, Mali has embraced a democratic presidential political system. A national conference in 1991 gave the country a constitution, a charter for political parties that can be formed freely, and an electoral code, all of which form the guiding principles of the political and governance framework of a semi-presidential representative democratic republic.

Mali – key facts	
Capital city	Bamako
Area	1,2 million km^2
Population, total	19.7 million
0–14 years	*47.3%*
15–65 years	*50.2%*
Youth literacy (15–24 years)	50.1%
Male (%)	*57.8%*
Female (%)	*43.4%*
GDP, nominal	$17.5 billion
GDP growth, real (2014–19)	5.2%
FDI, inflows	$494 million
Gross domestic private investment	$3.9 billion
Employment to population ratio (+15years)	65.7%
Employment to population ratio (15–24 years)	51.2%
Exports of G&S, 2014–19 (billion USD, 2019)	23% of GDP (4.03)
Main exported products	*Pearls, precious stones and metals; cotton; live animals and animal products*
Imports of G&S, 2014–19 (billion USD, 2019)	34.2% of GDP (5.98)
Main imported products	*Mineral fuels and oils; vehicles; electrical machinery and equipment*
Inflation	-1.7%
Bank credit to private sector	24.2% of GDP
Government expenditure	$4 billion
Government revenue	$3.4 billion
Total public debt	$7.1 billion
Currency	CFA franc (XOF)
Languages	French (official), Manding, Soninke, Bomu, Bozo, Dogon, Fula and Senufu, etc.

Note: Data from the most recent years is shown.

Sources: World Bank, IMF, UNCTAD and Comtrade.

BROAD ECONOMIC OVERVIEW

A FAIRLY COMPETITIVE AND INNOVATIVE ECONOMY

The Global Competitiveness Index ranked the overall competitiveness of Mali's economy 129th globally, 25th in Africa and 9th in West Africa, with a score of 45.6/100.[112] The contributing factors to this overall performance are macroeconomic stability (4th in West Africa), the large market size (5th), high-quality infrastructure and stable financial system (6th), and business dynamism and innovation capability (7th).

The Global Innovation Index ranks Mali as the 123rd most innovative country in the world, 24th in Africa and 7th in the subregion, with a score of 19.2/100. This ranking is due to the extent and quality of knowledge and technology outputs (2nd in the subregion), and the level of business and market sophistication (6th).

GOOD REGULATORY ENVIRONMENT

The World Bank's Worldwide Governance Indicators rank Mali's political institutions 153rd in the world, 24th in Africa and 10th in West Africa. The regulatory quality is the dimension in which the country fares relatively well in the subregional context, with 7th rank.

GOOD LOGISTICS SYSTEM AND INFRASTRUCTURE

When it comes to the quality of logistics, the World Bank's Logistics Performance Index ranks the country 96th in the world, 12th in Africa and 4th in the subregion, with an overall score of 2.59 out of 5.[113] The performance mostly owes to the ability to track and trace consignments, which is the 2nd strongest in the subregion. Additionally, the African Infrastructure Development Index ranks Mali's overall infrastructure quality 9th in West Africa and 35th on the continent, with a score of 16.7/100. The subcomponents of water supply and sanitation infrastructure are 5th in the subregion, while electricity and ICT infrastructure come 6th.

BEST ENVIRONMENT FOR CROSS-BORDER TRADING IN THE SUBREGION

The conduciveness of the business environment is ranked 148th globally, 27th in sub-Saharan Africa and 8th in West Africa, according to the World Bank's Ease of Doing Business, with an overall score of 52.9/100. The country fares better than its subregional counterparts do in the dimension of trading across borders, for example, with the lowest monetary cost of documentary compliance. Furthermore, the country is ranked the 132nd Best Country for Business by *Forbes Magazine*, 25th in Africa and 10th in the West African subregion, thanks to its economic growth, GDP per capita, trade performance and population size.

INVESTING AND DOING BUSINESS IN MALI

FAST-GROWING ECONOMY

Mali's economy has been on a sustained growth trajectory, with rates averaging more than 5% in 2016–20. This is largely thanks to a robust agricultural sector (2nd largest cotton production in Africa, estimated at 500,000 tons/year, and 1st largest livestock – mostly sheep and goat – in the subregion), and a thriving mining sector (the country is the 3rd largest gold producer in Africa, with 50 tons annually, and has large reserves of iron, bauxite and uranium). As a result of the COVID-19 pandemic, growth contracted by 1.65% in 2020, through a sharp decline in travel, trade, FDI and remittances. However, the economy is expected to bounce back in 2021 with a projected 4% growth rate, thanks to containment measures and a package of economic and social support responses, combined with improved security in the north that are expected to expand the country's productive base and help attracts more investment.

112 Most recent available years are considered for each ranking.

113 'Subregion' is used to denote West Africa (ECOWAS), while 'region' refers to the African continent.

RELATIVELY LOW COST OF DOING BUSINESS

FDI has been flowing into the country at an average annual rate of 2.2% in the last decade, reaching $493.8 million in 2019.

Foreign investors considering investing in Mali would go through the relatively easy administrative processes of **starting a business**, consisting of five procedures:

(1) Deposit the initial capital with a bank or a notary, and then obtain the certification;

(2) by-laws, sign an affidavit to certify the absence of criminal records and pay the registration fee at the notary; a public notary is required by law;

(3) Purchase legal stamps at the one-stop shop (*Agence de Promotion de l'Investissement*, located throughout the country, mostly in Bamako, Mopti, Sikasso, Kayes and Segou) needed for obtaining the authorization to operate, and the applications for the *impots* (taxes), the Tribunal de Commerce and the statistical office;

(4) Deposit all registration documents and forms at the front desk of the one-stop shop in order to register with all the services represented;

(5) Publication of the notice of incorporation in a press journal.

All of these procedures take an average of 11 days to complete, and the total fees amount to XOF 265,750 ($483.2).

A **construction permit** can be acquired in 124 days, and it requires 12 procedures and costs an average of 9.3% of the warehouse value. **Registering property** (land, commercial or residential) requires five procedures and takes up to 29 days, at a cost averaging 11.1% of the property value. National laws guarantee **equal treatment** between nationals and foreigners, whether investors or workers.

For **visa rules**, expatriates from ECOWAS or elsewhere are entitled to a period of stay that matches their employment or business duration, with no extra limitations.

The **labour force** comprises 7.3 million individuals, of which two-thirds are employed – more than the continental average of 60.2%. On the World Bank's Human Capital Index, Mali scores 0.32. The country's guaranteed minimum wage (SMIG) has been at XOF 40,000 ($73) since 2016 and the salary distribution typically goes from XOF 83,500 ($151.8) (lowest average) to XOF 1,470,000 ($2,672.7) (highest average), with actual maximum salary being higher, depending on the industries and workers' skills and education.

Energy is relatively cheap in Mali. Electricity is charged at a rate of XOF 78.1 ($0.14) per kWh, the 3rd lowest in the subregion. Obtaining a connection to the national grid takes approximately 120 days, and the process involves only four procedures (2nd fewest in Africa). Overall, 50.9% of the population has access to electricity.

Water is readily available, despite the country's arid conditions. The share of the total population using at least basic drinking water services is 78.3% nationwide, and 92.2% in urban areas. Water charges are XOF 110 ($0.2) to XOF 583 ($1.06) per cubic metre, depending on the interval blocks and on the type of use (commercial/industrial or residential).

Mali's **infrastructure** network comprises 15,100 km of roads (of which 1,827 km are paved), 729 km of meter-gauge railway that links Bamako to Senegal's railway through Kayes, 1,815 km of waterways that are navigable (mostly on the River Niger), one major port located in Koulikoro in western Mali on the River Niger, and Modibo Keita International Airport in Bamako-Senou (in addition to medium airports in Gao, Kayes, Mopti and Timbuktu).

When it comes to the **tax system**, businesses are expected to make up to 35 payments annually, which could take 276 hours. The tax structure comprises standard corporate tax (35%, tax on dividends at 10%), value-added tax (18%), payroll tax on the gross salary of each employee (3.6%), a 35% contribution to the social security funds paid by the employer on the employee's gross salary, and real property tax at an annual rate of 3% of the value of the real estate, whether developed or not. Furthermore, companies are allowed to carry forward tax losses for up to three years, but carry back of losses is not allowed, and holding companies are not subject to any corporate taxation in Mali. In addition, personal income tax is approximately 7%.

Customs duties are based on the ECOWAS CET, which is made up of five tariff bands. They range from 0% (essential social goods) to a maximum of 35% (specific goods for economic development). Additional measures destined to protect vulnerable industries while guaranteeing fair competition throughout the liberalized subregional markets include safeguard measures, anti-dumping measures, anti-subsidy and countervailing measures, and supplementary protection measures.

The **banking and financial system** is part of the West African Economic and Monetary Union's integration scheme which provides it with stability. The average bank lending rate was 7.7% in 2019, and total credit to the private sector represents nearly one-quarter of GDP, the 5th largest in the subregion. The extended reach of the 14 national, regional and international banks operating in Mali guarantees the availability of foreign currencies at a relatively predictable rate (partly thanks to the **fixed exchange rate** of the common XOF currency against the euro), free international money transfers (e.g. remittances), and the possibility for individuals and businesses to maintain **foreign currency accounts**.

As part of the financial integration in the WAEMU, FDI companies can access and raise capital in the subregional **stock exchange market** (*Bourse Régionale des Valeurs Mobilières*), which has 65 listed companies (as of June 2021).

When it comes to **incentives for foreign investment**, the *Agence pour la Promotion des Investissements* (API) has been set up to promote domestic and foreign investment. It provides up-to-date information, mostly on its website, including investment opportunities in sectors with high levels of profitability, such as agriculture, livestock farming, energy and infrastructure. Additionally, there are fiscal incentives that include:

- Tax exemption on dividends paid by subsidiaries to their parent of up to 95% of the amount paid, and on capital gains (realized during exploitation) after commitment to reinvesting them in a WAEMU member State within three years from their realization;
- Tax exemption from industrial and commercial profit taxes on half or two-thirds of capital gains realized at the end of operation; and an exemption from the minimum flat-rate tax for any fiscal year in deficit during at least the first five years, among many others.

Moreover, when fully operational, the cross-border SEZ, located in Sikasso (Mali), Korhogo (Côte d'Ivoire) and Bobo-Dioulasso (Burkina Faso) will provide further incentives for both local and foreign investors. The project, whose legal framework is yet to be developed, is part of the ECOWAS Cross-border Initiatives Programme launched in 2005 with the aim to increase cooperation frameworks along intra-community borders.

Overall, the readily available skilled labour force and energy at a competitive cost, the economy's dynamism, strong government incentives, its pivotal cross-border trade position in the subregion and sound and open banking and financial system represent key elements Mali's attractiveness for foreign capital seeking favourable business destinations in West Africa.

ICT INDUSTRY IN MALI: AN OVERVIEW

Mali places a strong emphasis on ICT as part of its strategy for economic growth and poverty reduction. ICT's estimated contribution to the national economy increased from 3.2% in 2013 to approximately 5% of GDP in 2020.[114] The workforce of the three global telecommunication operators was 1,216 workers at the end of 2020, and the number of direct employees is estimated at 1,500 across the entire ICT telecommunication sector[115] (internet service providers (ISPs) installers; start-ups).

On the financial side, Mali's telecommunications sector experienced strong development in the past 15 years. With an average annual growth of 8.5% since 2012, the sector generated a total turnover of approximately XOF 500 billion in 2017 (approximately $800 million) according to the Malian Telecommunications/TIC Post Regulatory Authority (AMRTP). However, annual revenue growth was only 0.6% in 2016–17.

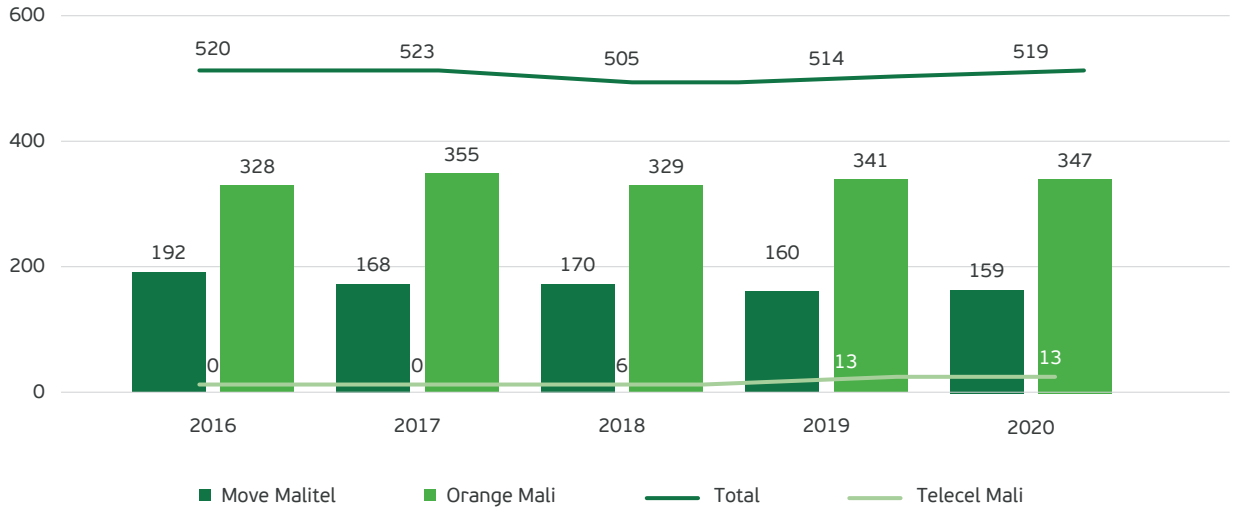
In terms of tax revenues, the sector contributes $233 million to $240 million each year for the State, representing nearly 15% of the tax revenues of the Directorate General of Taxes in 2019.[116]

114 Malian Regulatory Authority for Telecommunications' (AMRTP's) contribution note to the World Summit on the Information Society (WSIS) 2019.

115 Orange Mali SA says that it has contributed to the creation of 37,000 indirect jobs (refill sellers, managers and employees of Orange Money outlets; specialized agents for construction of sites. Source: Orange Mali Corporate Social Responsibility report 2018 (Responsabilité Sociale d'Entreprise – Orange Mali).

116 Source: Taxation to broaden the tax base, Malian Telecommunications/TIC Post Regulatory Authority (AMRTP) Note 2020.

Figure 24: Mali telecommunications sector total turnover (XOF billion)[117] (2016–20)[118]



Source: Malian Telecommunications/TIC Post Regulatory Authority (AMRTP).

ICT INFRASTRUCTURE

The Mali telecommunications/ICT sector made progress in 2020. The sector currently registers three operators (Maroc Telecom, the Orange group and Planor Afrique), holders of global licences, which allows them to operate voice and data on the network. There are also 10 ISPs and value-added service providers. Significant progress has been made in recent years. Mobile accounts reported by suppliers (Orange Money and Moov Money) amounted to 8,771,221 customers at the end of 2020, compared to 7,026,447 customers in 2019.[119] Subscriptions recorded a growth rate of 24.83%. The average growth rate is estimated at 13.76% per year in the last six years. The penetration rate is 43%.

The total telephone stock reached 25 million subscribers in 2020 (fixed and mobile),[120] an increase of 10% during the period thanks to mobile, with a penetration rate of 126%. The internet has become the engine of the telecommunications sector, with 49% growth, mainly due to the internet via mobile phone, with a net growth of 2,478,649 users. We are also witnessing the development of fibre to the home, Box 3G/4G and ADSL connection modes, with a growth rate that varies from 24% to more than 200% in the period. The growth rate of mobile money in terms of accounts reached 25%, with a penetration rate of 43%.[121]

117 $1 for XOF 579.

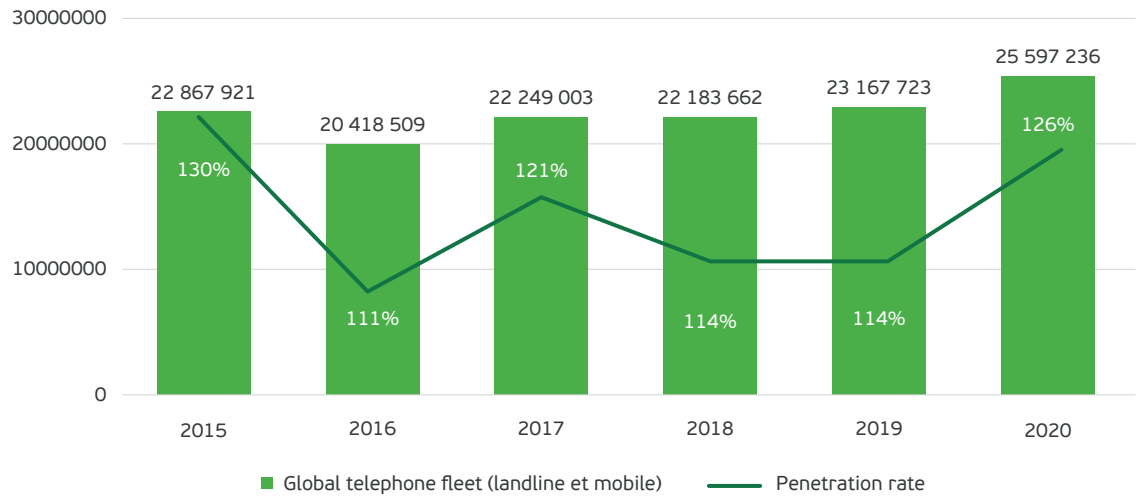
118 Source: Malian Telecommunications/TIC Post Regulatory Authority (AMRTP) Department of Economics and Competition.

119 Source: AMRTP annual report 2020.

120 Source: AMRTP annual report 2020.

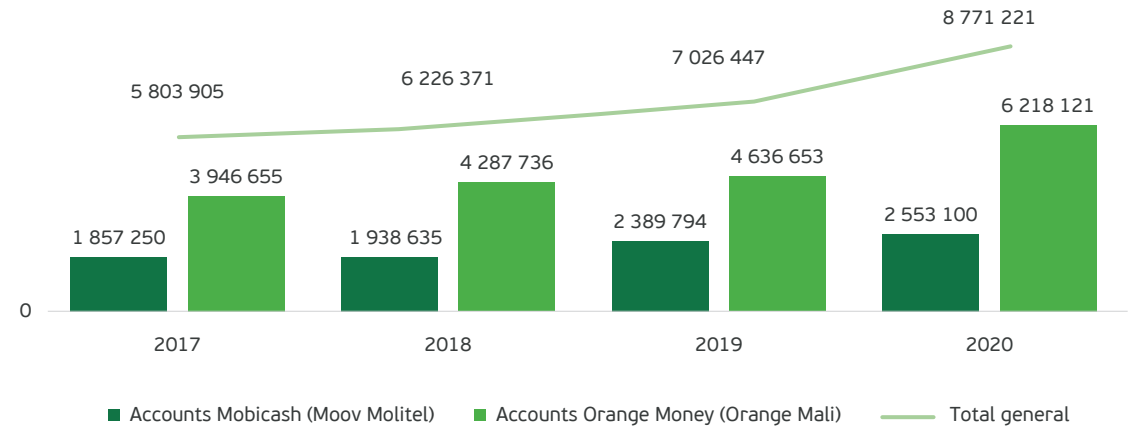
121 Malian Telecommunications/TIC Post Regulatory Authority (AMRTP) annual report 2020.

Figure 25: Mali telephone subscribers fixed and mobile and penetration rate[122]



Source: Malian Telecommunications/TIC Post Regulatory Authority (AMRTP).

Figure 26: Number of mobile accounts and repartition by operator in Mali (2017–20)[123]



Source: Malian Telecommunications/TIC Post Regulatory Authority (AMRTP).

Internet exchange point (IXP)

Mali has an internet exchange point (IXP),[124] allowing internet service providers (ISPs) to exchange internet traffic between their autonomous system networks through mutual peering agreements. This physical infrastructure located within the Mali telecommunication/ICT regulator premises allows for exchanging local internet traffic. Users of an IXP can improve the quality of their internet speed and avoid the significant additional costs associated with data transport. Mali's Internet Exchange Point (MLIX) has been operational since 22 February 2018. It interconnects five ISPs in Mali: Moov Africa Malitel SA, Orange Mali SA, Afribone SA, ATEL SA and Comsates.

122 Source: Malian Telecommunications/TIC Post Regulatory Authority (AMRTP), Economics and Competition Department 2020.

123 Source: AMRTP, Department of Economy and Competition 2020.

124 The website www.mlix.ml.

National data centres

As data centres, are infrastructures composed of a network of computers and storage spaces, businesses can use these infrastructures to organize, process and store large amounts of data. In Mali, local data centres allow the administration and the private sector (e.g. banks) to store their data within the country, therefore reducing the costs and security risks of having them being managed abroad. Data centres are key to the success of the Malian administration, which is engaged in the digitization of documents. There are currently five operational data centres in Mali:

- Two data centres are property of the Malian Broadcasting and Transmission Corporation (SMTD), a public body aiming at developing public telecommunication/TIC infrastructures and internet solutions;
- One data centre is located at the Information and Communication Technologies Agency (AGETIC) for the needs of public administration;
- One data centre belonging to Afribone SA, an ISP;
- One data centre belonging to Orange Mali SA, a global telecom operator (this data centre is used solely for its internal needs).

National fibre backbone system

The Mali national optical fibre backbone has a total length of 11,570 km, of which approximately 3,000 km belong to the state laid by the state company (SMTD). This provides access to submarine cables across Cote d'Ivoire, Senegal and Mauritania. Total international bandwidth capacity is 66.2 Gb/S.[125] Of this telecommunications infrastructure, 8,000 km was mainly built on investments made by two global operators, Orange Mali SA, and the Société des Telecommunications du Mali (Sotelma), an operator that was privatized in 2009, becoming Sotelma Malitel, a subsidiary of Maroc Telecom. In 2021, it changed its name to become Moov Malitel.

Significant progress has been made in recent years to connect Mali to its neighbours and increase international bandwidth. In particular, the government launched the Modernisation Project of the Optical and Information Network of Mali, with a first phase of construction of optical fibre networks in Bamako, and the deployment made, by the Chinese company Huawei, of national backbones on the Bamako–Sikasso–Ségou and Sikasso–Zégoua (915 km) routes. As part of the Mali Numérique 2020 government programme, the construction of an inter-urban fibre optic backbone (with a total length of 817 km^3) is also underway, combined with the installation of a gigabit passive optical network (GPON) and approximately 50 GPON terminals allowing interconnection for different administrations.

Despite these progresses, the existing backbone remains insufficient to bridge the digital divide. In particular, most municipalities in the countryside are still not connected (573 out of 703).

Furthermore, a radio access network for the provision of intranet services to the public administration has been set up by a public company, the Agency for the Management of Telecommunications /ICT (AGETIC).

TELECOMMUNICATION SERVICES AND LICENCES

In Mali, telecommunications services can be provided through the use numbers (short codes) or Unstructured Supplementary Services Data (USSD) codes granted to companies or content providers by the telecommunication/ICT regulator (AMRTP) so that they can offer value-added services to their customers. Both short numbers and USSD codes are assigned by a formal decision (authorization) of the regulator after an administrative process.[126] The company or economic operator must also be granted an authorization to operate as a value-added service provider.

With the USSD code granted to non-telecommunication companies from 2018 by the telecom regulator, economic operators can have their own USSD code in Mali.[127] Customers can access value-added telecommunications services from their mobile phone (smartphones and basic phones) and consult data on the platform of a bank, a community or a health centre through the code, without additional charge and even in the absence of internet. USSD codes are critical to the development of financial inclusion, especially when it comes to the development of mobile banking in rural areas with the absence of or low internet connectivity.

125 Source: Malian Telecommunications/TIC Post Regulatory Authority (AMRTP) 2020.

126 Source: https://amrtp.ml/attribution-de-numerotation/.

127 Source: https://amrtp.ml/download/decision-n18-0045-amrtp-p-du-05-juillet-2018/.

Value-added services (VAS) numbers are also granted by the telecommunication regulator, AMRTP. In Mali, VAS numbers are mainly business numbers contracted by companies or administrations to provide access to a service related to their activity. VAS on the Mali market offers electronic data exchange services, electronic mail service and telephone audio messaging services. With the development of the internet and web applications, many of those services tend to disappear, as the customer does have direct access to information via companies' business platforms/sites.

ICT READINESS AND CONSTRAINTS

There is a digital divide at the national level, in particular the disparity between urban and rural areas and between men and women, and young and older people. Broadband internet access is mainly in urban areas, with 80% of the population in urban areas reporting having access to mobile telephony, compared to 66% in rural areas, a difference of 14%. Of men, 78% say they have a mobile phone service, compared to only 61% of women, a gender parity index of 0.78 (Gallup Surveys, 2018).

Fixed broadband penetration is low, with less than 90,000 lines, or a household penetration rate of 3%, which is lower than the African average (8%).[128] With this low fixed internet rate, Mali faces significant challenges in the development of fixed broadband. Moreover, among mobile users, on average, the average consumption of a data mobile subscriber is only 1.5 GB per month, which is insufficient for an effective consumption of services.

The quality of telecommunications infrastructure is inadequate and considered poor by consumer associations. In particular, the poor quality of network deployment and operation, frequent interruptions and slow connections are at fault.

Remote and rural areas are poorly served due to low profitability for operators. Mali is a large country of 1.2 million km^2 with a population density of less than 100 inhabitants per km^2 and a gross national income (GNI) per capita of less than $1,000. The cost of deploying a telecommunications network is high and the potential for consumption remains low for rural households.

According to consumer associations,[129] the service quality of telecommunications operators could be improved. There still are frequent interruptions, slow connections, unpredictable cuts to the internet for security reasons, and unplanned power cuts.

Operators face significant security problems when they want to deploy their infrastructure, especially in the northern and eastern part of the country. Since 2017, this has stopped: i) The development of infrastructure to increase the coverage of these areas as planned in the licence specifications of the operators holding the global licence; and ii) The extension of the national network.

The availability of electricity is also an obstacle for the deployment of infrastructure. Only 25.6% of the country is connected. In rural areas, this percentage falls to only 11.9%, while just more than half of the population (50.4%) is connected in urban areas (Lighting Africa, 2021) and periods of the year from April to June experience significant offloading. The lack of a reliable electricity grid in rural areas increases deployment costs. Operators have to provide their own energy solution with an oil-fired generator and this has high financial and human costs in some parts of the country.

As a result, Mali remains poorly ranked on the ICT Development Index of the International Telecommunication Union (ITU), 155 out of 176 countries in 2017. Mali is among the last 20 countries with a score of 33.9 against an average score for the Sub-Saharan Africa region of 38 on the Mobile Connectivity Index published by GSMA in 2019. The country's performance for the four connectivity enablers (infrastructure, financial accessibility, consumer readiness, and content and services) is below the regional average. With the succession of political and security crises since 2020, the situation has not improved and internet penetration remains low. While the rate of mobile penetration among the population (97.1%) is higher than the African average, it is not the same for mobile broadband (3G/4G). The rate of mobile internet penetration in Mali was only 35% in 2019, compared to 54.25% in Senegal and 66.19% in Côte d'Ivoire (ITU, 2020). Two-thirds of the population does not have access to broadband.

128 Source: World Bank 2019 Sectoral Policy Note on ICTs in Mali.

129 'Mali Rapid Assessment of Readiness to electronic commerce'. UNCTAD 2020 ref: https://unctad.org/webflyer/mali-evaluation-rapide-de-letat-de-preparation-du-mali-au-commerce-electronique.

GOVERNMENT SUPPORT FOR THE ICT SECTOR

The linkage of ICT to other sectors of the economy is deemed to be a major catalyst of overall development. This is seen in the vigorous efforts to integrate ICT into governance, delivery of healthcare, administration of justice, delivery of various public services, financial services, security and education. Key initiatives and interventions in this regard include national identification of citizens and residents, and a national digital property addressing system (project supported by the World Bank and the African Development Bank) These are the e-governance system, e-education, e-health, mobile money interoperability system and related QR code to facilitate payment of services online.

Concerning the local digital industry, the Malian Government's objective is to develop the digital sector by supporting the creation and emergence of new players. In concrete terms, this includes creating 21,500 additional jobs, increasing the share of the digital sector in GDP to 12%, building the Bamako digital complex, creating a technology reception centre in each regional capital and creating 60 start-ups. For training in the trades and the use of digital, the objective is to develop human capital in line with the needs of the digital sector by gradually training 1,200 ICT profiles and 40,000 state agents in the use of digital.

DIGITAL MALI 2020

Mali has developed Digital Mali 2020, a national digital economy development policy document[130] in which, in terms of support and vision for the ICT sector, the government defines its national policy for the development of the digital economy. E-government must make it possible to improve efficiency and reduce the costs of information processing by the administration, as well as strengthen administrative procedures in a transparent manner.

This policy also aims to improve the productivity of the private sector through access to information, as well as the effectiveness and efficiency of public administration, while reducing costs.

UNIVERSAL ACCESS FUND MANAGEMENT AGENCY (AGEFAU)

The Universal Access Fund (UAF) housed at the Universal Access Fund Management Agency (AGEFAU) aims to finance the extension of the coverage of services in rural areas. Signs of progress were witnessed in 2018 and 2019, in which the AGEFAU built universal ICT access centres in 67 areas that are underserved in terms of connectivity, and has also connected to the internet 31 sites in Bamako and in other parts of the country, although some of these infrastructures are not yet operational.

ICT SUPPORTING PROJECTS AND DIGITAL GOVERNANCE

The aim of the government policy is to make access to digital networks and services more widespread, and to make digital exchanges more fluid. This can be done by connecting 1 in 10 families to fixed internet and 50% of the Malian population to mobile internet, 60% of secondary schools and 100% of higher education institutions, the creation of 200 community access centres, where 40% of students have access terminal equipment, as well as a 20% increase in the banking rate among the population. With regard to the production and supply of digital content, the objective is to set up a national content incentive for Malians to access digital networks by digitizing at least 20% of the national heritage, the creation of eight national portals and the registration of 2,000 dot.ml domain names.

130 Mali Numérique 2020, https://communication.gouv.ml/mali-numerique-2020/.

Integrated Management System of Foreign Trade Operations (SYGOCE)[131]

The Integrated Management System for Foreign Trade Operations (SYGOCE), initiated by the National Directorate for Commerce and Competition (DNCC), provides a counterweight to the use of false documents in the foreign trade channel and helps to secure State and Import Verification Program (PVI) revenues. The new system has contributed to the modernization of operations within the DNCC through greater use of information and communication technologies, and has enabled the interconnection of the national trade and competition directorate with the customs services IT services.

Trade information portal[132]

As part of trade facilitation, the Ministry of Trade and Industry, with the support of the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) and UNCTAD, has also set up an information portal (Trade Portal), allowing operators to learn about import and export procedures, customs clearance, logistics and transport. Mali has also created a technical expertise centre, allowing on-the-spot documentary screening (instead of pre-board screening) and scanning of goods for foreign trade operations. The establishment of a single window for external trade is in progress and will contribute to facilitating trade.

Online corporate tax reporting and payment system[133]

As examples of ICT supporting projects and programmes, the online corporate tax reporting and payment should enable Mali to achieve productivity gains through simplified data collection and automated information processing. It will also allow entrepreneurs to save considerable time by having access to useful information and appropriate assistance during the online reporting process. The online tax payment system was officially launched on 6 December 2021. Currently, this concerns large companies, but should soon be extended to MSEs.[134]

Digitization of land registration system[135]

A key element for land reform is investment. Various digitization programmes are underway and implemented by the Permanent Secretariat to the land reform (SPRDF Ministry of Domains), will assist with the digitization of procedures and scanning of documents. This will lead to securing land titles, facilitating the acquisition of land by investors and improving the business climate.

Digital governance

The objective set for the development of digital uses and services is the creation of an electronic administration and governance, the modernization of the economic fabric and the use of new digital uses in all sectors of activity. The main ambition is to raise the United Nations e-Government Development Index for Mali to 0.30, to put online approximately 50 administrative procedures and to develop online approximately 15 government applications.

131 Source: https://tradeportal.ml/.

132 Source: https://tradeportal.ml/Contacts/8?l=fr.

133 Source: https://www.dgi.gouv.ml (National Tax Directorate website). 'Since January 2019, the tax administration has deployed the remote reporting and teleconsultation features of the Teleservices module of its information system.... It was introduced in the tax system, the mandatory use of teleservices by Large Companies taxpayers from June 2021' (Article 28 (new) of the Tax Procedures Book).

134 Source: https://www.dgi.gouv.ml/lancement-des-telepaiements-des-impots-droits-et-taxes-au-mali/. Launch of telepayments of taxes, duties and taxes in Mali, Monday, 6 December 2021, at the Directorate General of Taxes. It was during a ceremony under the Presidency of the Minister of Economy and Finance. From December 2021, tax payments for taxpayers under the Large Enterprises Directorate will be made electronically. In December 2021, business carried out in November 2021 will be paid online. The objective of this innovation is to increase the capacity of the Taxation Branch to raise domestic revenues and provide the best services to taxpayers.

135 Source: https://www.sprdf.ml/reforme-domaniale-et-fonciere/. Permanent Secretariat for Land Reform website. With the support of the African Development Bank and International Finance Corporation (IFC Mali Investment Climate 4 (IC4).

KEY ICT INVESTMENT SECTORS AND ACTORS

INVESTMENT OPPORTUNITIES IN THE ICT SECTOR

There are several business activities in Mali ICT's value chain. As non-bank institutions can offer a range of financial products and customers have a mobile phone more often than a bank account, fintech companies use digital technologies as a means to ensure access to financial products for holders of bank accounts and non-holders of bank accounts.

The rationale for investing in digital finance in Mali is the increasing percentage of the population holding an electronic money account,[136] totalling nearly 8.7 million according to Mali Telecommunication ICT Post Regulator (AMRTP), for a population of nearly 20 million. Nearly one out of two Malians (47%) are holders of an electronic bank account, compared with 23.3% of the population holding a bank account.[137] As operators are lowering their money withdrawal rates and local banks are associating with mobile money newcomers such as Wave,[138] an independent mobile money operator, and also with telecommunication operators such as Orange Mali or Moov Malitel with the local bank, Mali Development Bank (BDM),[139] digital finance will succeed in reaching new market segments in Mali, particularly in rural areas or populations defined as being prime beneficiaries of telecommunication/ICT universal access.

As Mali is still a near virgin market, there is a potential to explore with regard to electronic commerce and e-shopping platforms. Law 2016-012 of 6 May 2016, 'On electronic trade and services transactions', governs the activity and provides investors and customers with a legal framework to operate. The law provides customers with assurances that they are protected while buying goods or services via internet.

Of Mali's GDP, 40% derives from agriculture. Many start-ups develop their activities in that field, proposing digital solutions to farm operation. Those start-ups are the most sought after by the state and donors and there is potential for monitoring and surveillance, e-solutions, cereal production and cattle raising.

There is only one data centre owned and managed by a private company, Afribone SA (an ISP), in Mali. There is room for more, as Mali's private sector follows the trend and engages in digitalization.

In the telecommunication/ICT market, low-investment traditional activities are centred on hardware and include computer sales, IT network equipment, storage devices, consumer electronics and sale of smartphones. There are numerous IT outsourcing services and IT consulting services, but few e-commerce services, information security services, and education and training services.

FINANCIAL SERVICES

According to the World Bank,[140] 24% of the adult population (i.e. at least 15 years old) had a mobile electronic money account in 2017 compared to 12% in 2014. This strong increase places Mali above the SSA average (21%). Transfers of money between individuals are beginning to develop in Mali, and electronic transactions is still low – only 5% of the adult population makes purchases or bill payments online.

More than 8 million mobile money accounts are active, a growth rate of approximately 25% at the end of 2020.[141] The use of mobile money accounts offers real opportunities for access and use of digital financial services. They are at the heart of the WAEMU regional financial inclusion strategy.

136 'Significant progress has been made in recent years. Mobile accounts reported by suppliers (Orange Money and Mobicash Moov Malitel) amounted to 8,771,221 customers at the end of 2020, compared to 7,026,447 customers the previous year. Subscriptions recorded a growth rate of 24.83%. The average growth rate is estimated at 13.76% per year over the last six years. The penetration rate is 43%. Mobile money SIMs represent about 35% of the 25 million SIM Prepaid'. Malian Telecommunications/TIC Post Regulatory Authority (AMRTP) annual report 2020.

137 Source: Central Bank of the West African States annual report, 'Financial inclusion situation 2018'.

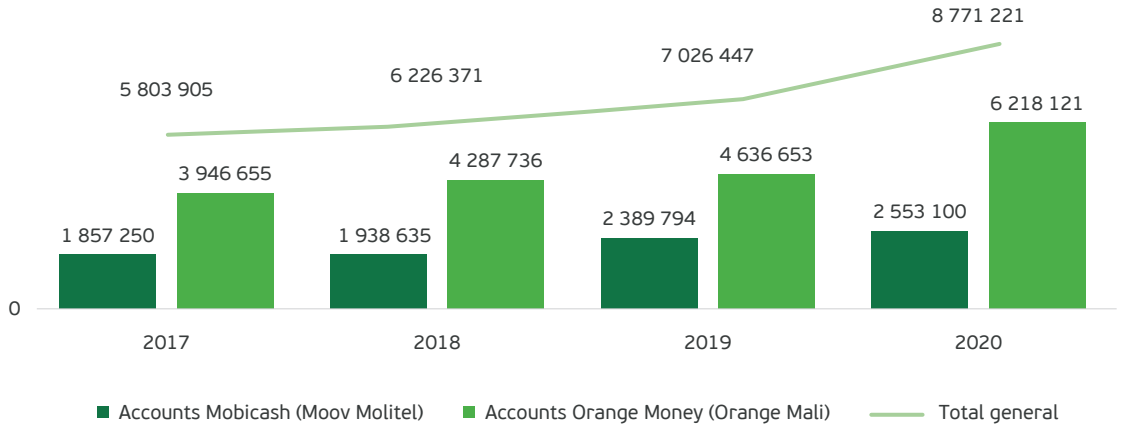
138 Source: https://www.wave.com/en/terms_uba_ml. Wave applies a fixed transaction fee of 1% between individuals and saves its users additional costs on bill payments by deferring them to businesses – unlike its competitor, which charges its customers this charge. Jeune Afrique Economie, 10 June 2021.

139 Source: https://www.bceao.int/fr/content/etablissements-de-monnaie-electronique.

140 World Bank (2018). 'The Little Data Book on Financial Inclusion' (P168413).

141 Source: AMRTP annual report 2020.

Figure 27: Number of mobile accounts and repartition by operators in Mali (2017–20)[142]



Source: Malian Telecommunications/TIC Post Regulatory Authority (AMRTP).

SIM cards registered on mobile money represent approximately 35% of the 25 million prepaid SIMs. The values of transactions via the mobile accounts taken into account relate to transactions involving cash withdrawals, person-to-person transfers and electronic payments. The total value of transactions as of 31 December 2020 was 74.868 billion. The value of this market is 11 times higher than the fixed voice market and twice as high as the value of the internet market.

Also, money transfer is high-potential value with the Malian diaspora, accounting for approximately 4 million, including 3.5 million in Africa as a whole.[143] For several years, Mali's economy has been the beneficiary of high-level remittances totalling 1.5 billion in 2019, according to the regional central bank (formal and informal transfers). Of these transfers, 90% go to rural areas. With the telecom regulator opening access to USSD[144] codes to non-telecom operators in 2018, activities linked to financial inclusion should prosper in rural areas.

The fintech market in Mali currently includes several players: mobile phone operators Orange Mali with Orange Money Mali, Moov Money Malitel, banks, decentralized financial services, and money transfer companies (Western Union, MoneyGram, RIA money transfer, SAMA and Wave money transfer[145]). These companies provide banking services that build on technological innovations and challenge traditional banking and insurance players, demonstrating that digital finance is an opportunity for investors.

There was an increase in electronic payment transactions in the period, with a growth rate of 63%. Payments are becoming more and more common among consumers and represent 28% of the total value of transactions, compared to 12% in the previous year.

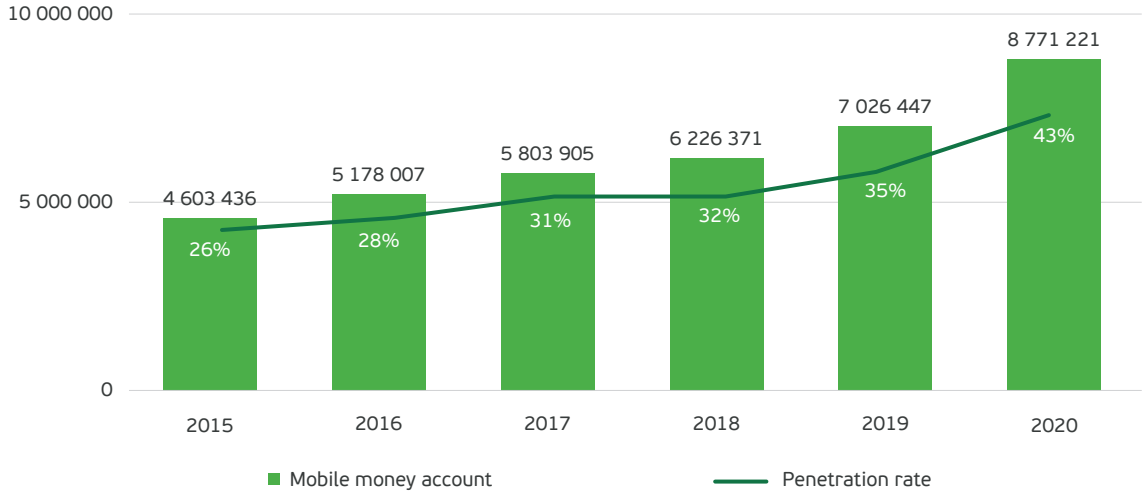
142 Source: AMRTP 2020.

143 Mali's National Migration Policy document adopted by the government, 3 September 2014.

144 Unstructured supplementary service data.

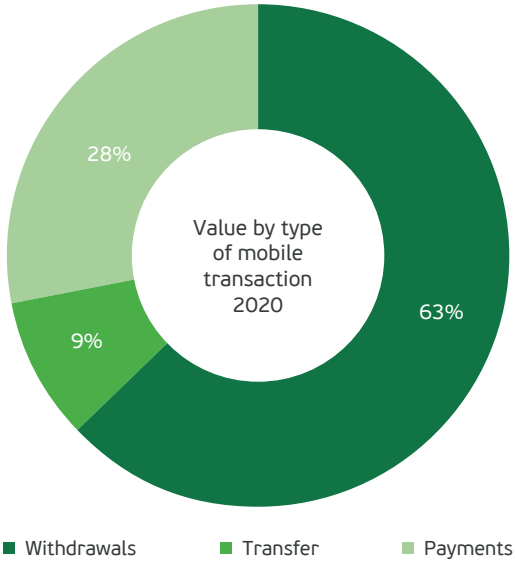
145 Both in partnership with the United Bank for Africa (UBA), https://www.bceao.int/fr/content/etablissements-de-monnaie-electronique.

Figure 28: Mobile money account number and penetration rate in Mali (2015–20)[146]



Source: Malian Telecommunications/TIC Post Regulatory Authority (AMRTP).

Figure 29: Types of mobile transactions in Mali (2020)[147]



Source: Malian Telecommunications/TIC Post Regulatory Authority (AMRTP).

146 Source: AMRTP Economy and Competition Department.

147 Source: AMRTP Economy and Competition Department.

NON-TERRESTRIAL NETWORKS/ INFRASTRUCTURES

Mali is 1.2 million km^2, two-thirds of which (northern and eastern part) is experiencing insecurity due to terrorist attacks. Telecom operators face increasing difficulties and risks when it comes to deploying or ensuring maintenance of their equipment (fixed physical infrastructure such as optical fibres and base transceiver stations) in this part of the country. As a consequence, service quality is deteriorating for the population in these areas. For the foreseeable future, the security situation is not going to improve, so fixed equipment will be difficult to maintain and repair. Investors could explore businesses relating to telecommunication equipment out of reach of saboteurs. This could include: (i) deployment/partnership with companies launching low-altitude satellites or stratospheric balloons; (ii) new technologies maximizing spectrum usage, in particular for broadband internet purposes. Investments in these two areas could be done with the support of a universal access fund.

E-COMMERCE

According to UNCTAD's assessment note, 'the Malian e-commerce sector remains in its infancy despite efforts by public and private sectors to boost it'. Indeed, Mali was ranked 131 out of 151 countries in the UNCTAD E-commerce Index[148] and 142 out of 152 in the 2020 UNCTAD B2C E-commerce Index. However, there are more and more e-commerce companies based in Mali or trading on the Malian e-commerce market. Among them are the Afrimarket, Mali Shop, Binatone Mali, Jumia Mali,[149] SodiShop Mali, and Mali-achats. E-commerce in Mali is developing more on a business-to-business basis, as sellers and buyers use social media platforms.[150]

E-commerce potential growth and opportunities are, above all, to be analysed through the growth of electronic payments mentioned above, in the structure of Mali mobile transactions, which indicates that customers who are holders of mobile money accounts are becoming more confident in the use of electronic money services and, therefore, might soon be ready to buy on e-commerce platforms. As e-commerce is now regulated by law,[151] buyers will feel protected when they go online to buy goods or services, even more so because telecommunication operators such as Orange Mali now offer web payment services through their customers' electronic wallet/account, in associating with merchants subscribing to orange money services.[152]

START-UP DIGITAL SOLUTIONS AND SOFTWARE PRODUCTION

In 2019, the Council of Ministers passed a bill on start-ups. In Mali, a start-up is defined as any company whose expertise focuses mainly on the creation of digital solutions or innovative processes. Although the law has not yet been passed by parliament, we have since witnessed the development of many start-ups offering digital solutions in all sectors of activity key to the Malian economy, including agriculture, administration law, robotics,[153] health management (health centre localization; COVID-19 response), violence against women, e-commerce women entrepreneurships and local social network content in African languages.[154;155]

148 UNCTAD's Rapid eTrade Readiness Assessment Mali, https://unctad.org/fr/node/2397.

149 Source: https://ml.jumia.com/.

150 E.g. Mali-Shop https://www.facebook.com/Dopapou/

151 Loi 2016-012 of 6 May 2016 on electronic trade and services transactions.

152 Source: https://developer.orange.com/apis/om-webpay.

153 Source: https://diakiterobotics.ml/.

154 Source: http://www.lenali.ml/.

155 Source: Mali Start-up Association, https://www.associationmalistartup.com/, Mr. Gouro Sidibé, Chairman, Tel.: (223) 76 71 81 71

ICT-RELATED SERVICES AND BUSINESS PROCESS OUTSOURCING (BPO)

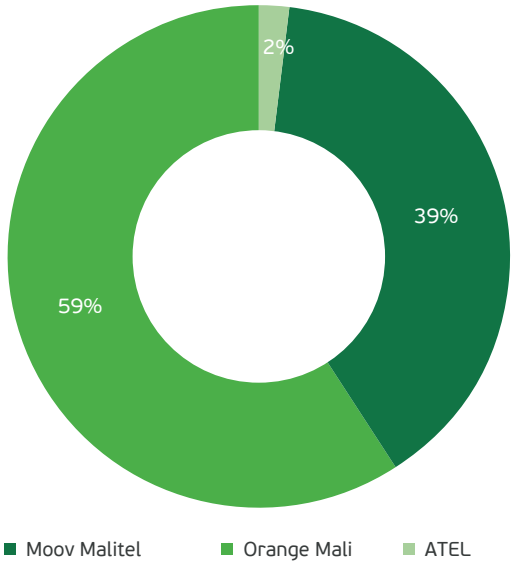
Mali's services sector is recently starting to benefit from the use of digital technology. In areas such as transportation, retail trade, courier and logistics, technology has been applied to facilitate service delivery, and has enhanced convenience for many passengers and created employment and income-earning opportunities for many motorbike transportation companies (e.g. Teliman, a moto taxi company),[156] as well as in the field of catering (e.g. Fikaso, a meal delivery company). More recently, retail outlets and courier services are beginning to integrate technology[157] in their businesses in ways that enhance stock maintenance, processing of customer orders and virtual shopping.

MAJOR ICT ACTORS

The key ICT companies operating in the sector can be classified as follows.

Global telecom operators providing internet: There are two major players in the ICT sector providing internet access: Moov Malitel, and Orange Mali. In 2020, the two operators shared 98% of the telecommunication market in Mali. Moov Malitel, formerly known as Sotelma Malitel, is the incumbent operator. In 2009, the state-controlled Sotelma was privatized, becoming a subsidiary of Maroc Telecommunication. Sotelma Malitel changed its commercial name in 2021 to become Moov Africa Malitel. The company has 457 employees. Orange Mali entered the Mali telecommunication market in 2003 as a subsidiary of the National Telecommunications Company of Senegal (Sonatel), belonging to the France Telecom group. The company's initial name was Ikatel, and it changed its commercial name to Orange Mali in 2006. In 2021, Orange Mali SA has 698 employees.[158]

Figure 30: Market share, internet in Mali (2020)[159]



Source: Malian Telecommunications/TIC Post Regulatory Authority (AMRTP).

Internet service providers: The sector has lost many players since the advent of operators with global licences. There are now only three ISPs (Afribone SA, Kiwi Telecommunications Limited, and Comsates) in the internet supply market, all of whom focus on niche markets. Afribone SA is a key player, created in 1999, which succeeds in resisting the monopoly of global operators in the internet segment when it comes to specific niches such as professional customers, banks, embassies and international organizations. Afribone is also an actor in audiovisual production and is the only ISP that has a data centre.

IT support providers: These companies offer support services to the ICT industry. Equipment installers and repairers come under this category and offer maintenance checks and repairs. In Mali, individuals and smaller companies direct all ICT-related issues to these IT support companies, whereas larger companies have some form of in-house IT department that handles any issues that might arise on a daily basis. SoPresCom[160] is an example of a successful company that provides IT equipment, installation and maintenance.

156 Source: https://www.agenceecofin.com/entreprendre/1607-78629-au-mali-une-ligne-de-taxis-motos-a-la-demande-pour-faciliter-les-deplacements-urbains. (In Mali, a line of motorcycles taxis has the demand to facilitate urban movements; https://play.google.com/store/apps/details?id=com.teliman.rider&hl=en_NZ.)

157 Source: https://youngleader.mondoblog.org/fikaso-lapplication-foodie-qui-entend-revolutionner-le-quotidien-des-maliens/ (foodie-who-intends-revolutionize-the-daily-of-Malians/). Created in early 2019, the Fikaso mobile app was fully operational in October 2019: https://play.google.com/store/apps/details?id=com.fikasomobile.app&hl=fr&gl=US.

158 Source: AMRTP annual report 2020.

159 Source: AMRTP.

160 Source: https://www.soprescom.net/bureautiques.html.

Vendors: These companies include retailers and wholesalers of ICT-related goods. There are a large number of vendors who deal exclusively in one particular ICT-related product, a range of ICT-related goods and a combination of non-ICT-related goods such as consumables with ICT-related goods. Examples include Burotic Services, SoPresCom, and Duniya Electronics.[161]

Table 21: Major ICT actors in Mali

Stakeholders	Examples
Public bodies	Universal Access Fund Management Agency (AGEFAU) Information and Communication Technologies Agency (AGETIC) Malian Telecommunications/TIC Post Regulatory Authority (AMRTP) Data Protection Authority (APDP) National Directorate for Digital Economy (DNEN) Malian Broadcasting and Transmission Company (SMTD)
Private trade associations	Chambre de Commerce et d'Industrie du Mali (CCIM) National Employers' Council of Mali (CNPM) Industrial Employers Organization (OPI)
Professional training bodies and providers	Information and Communication Technologies Agency (AGETIC)

Table 22: Major firms in Mali's ICT value chain

Category	Examples
ICT hardware: ICT hardware in Mali is sold by professional companies working in the formal sector, and staffed with IT technicians and engineers. However, it is also possible to buy IT equipment sold by traders with no knowledge of IT. Products are cheaper, with no guarantee and no maintenance.	Traditionally, the most successful category in the ICT value chain. Equipment hardware is all imported. Burotic Services BamaSoft SoPresCom
Software: Software is imported and companies selling it do the installation and maintenance.	Sitan Informatique Linasoft Infosys Mali MCorp-Mali Africa Soft
IT services: These services are provided by almost all ICT hardware sellers, but also by ISPs that also acts as installers of equipment and provide maintenance.	Afribone Mali AIDEV Mali Bureautic Services SoPresCom CEFIB Global Technologies Compagnie Française Afrique Occidentale (CFAO) Technologie
Telecommunications: Global operators are holders of a 'global licence' allowing them to operate voice and data (internet). Orange Mali's total customer base is 14,930,32, while Moov Africa Malitel's is 9,863,298. Included in both bases are the numerous double SIM cards holders. While Orange Mali is first on the mobile internet segment, Moov Malitel dominates the market in terms of fixed internet (fibre to the home).[162]	**Telecom (voice and data) global operators** Moov Africa Malitel Orange Mali Telecel **ISPs** Afribone Mali Kiwi Mali Comsates

161 Source: https://duniya-electronics.business.site/.

162 Source: AMRTP annual report 2020.

LEGAL AND POLICY FRAMEWORK FOR ICT SECTOR AND KEY AUTHORITIES AND AGENCIES

As telecommunication is expressly excluded from the 2012 Investment Code, investors in the telecommunication/ICT sector cannot benefit from tax exemptions and benefits listed in the code. Therefore, companies enter the frame of the common law regime of taxation, with the exception for them to contact the Ministry for Finance in view of signing an establishment convention with the government, which agrees or grants negotiated exemptions at its discretion.

With regard to information technologies equipment, to reduce the digital divide, computer equipment is taxed at a reduced VAT rate of 5% instead of 18% for most products.

MALIAN REGULATION AUTHORITY FOR TELECOMMUNICATIONS TICS AND POST (AMRTP)[163]

This independent body is in charge of the telecommunication/ICT and posts regulation. The authority ensures compliance with and enforcement of laws governing the sector and, with the exception of global licences, grants authorizations for the telecommunications and ICT sector. The authority also acts as counsel to the minister on telecommunication policy issues, and is the key structure to obtain technical and economic information on the telecommunication/ICT/post sector in Mali.

NATIONAL DIRECTORATE OF DIGITAL ECONOMY (DNEN)[164]

This new administration's mission is the implementation of the national policy of digital economy, and the elaboration and implementation of related policies in order to guarantee its success. It accelerates the introduction of information and communication technology teaching in schools to improve digital literacy for young people, creates ICT training channels to equip the new generation of Mali with the requirements of the digital world, encourages the establishment of investment funds to support start-ups and ICT-oriented projects, and promotes the development of incubators to support tech entrepreneurs.

THE INFORMATION AND COMMUNICATION TECHNOLOGIES AGENCY (AGETIC)[165]

This agency's mission is to design, develop and maintain the ICT infrastructure of public and broader public sector services for the State and local authorities, undertake any research and development activity in the field of ICT and ensure the implementation of the national strategy in the field of ICT. The AGETIC draws up the national plan for training and capacity building within the public and broader public sector services of the State and territorial authorities. It manages the domain name ml, participates in the implementation of universal access, supports all initiatives aimed at the appropriation of ICT by the broadest layers, and develops regional cooperation in Africa and international ICT.

The 261 public structures are interconnected (the financial and material directorates of the State in Bamako and the regional directorates of budget, treasury and financial control): 101 public institutions, 73 health structures, and 87 schools and municipalities in Bamako and the region. The agency manages approximately 10,000 professional e-mail accounts and 3,000 domain names are registered on the ml point.

DATA PROTECTION AUTHORITY (APDP)[166]

The APDP's mission is to ensure the protection of personal data and to participate in the regulation of the sector. The authority is responsible for setting the standards and purposes for the collection, processing or retention of personal data, giving prior authorization in the form of authorization to any data interconnection and authorizing the transfer of personal data abroad.

163 Source: https://amrtp.ml/.

164 Source: https://communication.gouv.ml/contacts/.

165 Source: https://www.agetic.gouv.ml.

166 Source: https://apdp.ml/.

Cyber security

Cyber security issues are mainly handled by the Telecommunications/ICT Regulator AMRTP[167] and the AGETIC. There is yet to be a dedicated national cyber security agency combating cybercrime in Mali. In partnership with the ITU and all actors in the ICT sector, on the prevention of cyber threats, there are plans to set up a computer incident response centre (CIRT).[168] So far, cybercrime is treated in a transversal way, as security services have their own specialized departments.

MALIAN BROADCASTING AND TRANSMISSION COMPANY[169] (SMTD)/DIGITAL TERRESTRIAL TELEVISION/GOVERNMENT OPTICAL FIBRE

The Malian Television Broadcasting Society (SMTD-SA)[170] is a public limited company responsible for the dissemination, management and development of telecommunications infrastructures. It makes available to the public several services related to ICT, such as a data centre for hosting solutions, optical fibre for rental of transmission capacity and internet, video surveillance for security, rental of high points and physical space on sites, call centre services, and broadcasting of TV and radio channel publishers. The digital terrestrial television (DTT) project in Mali has been entrusted to SMTD-SA for implementation. The project relies on the digitization of the existing terrestrial network on the one hand, and the opportunity offered by KU-band satellite coverage on the other. It covers 51 sites, including three in Bamako, 10 in regional capitals and 38 in other localities. The SMTD-SA is active in fibre optics and is present in regional capitals. It interconnects more than 70% of public administration through fibre optics. The SMTD has international fibre optics from the Guinean and Ivorian borders.

MAIN LAWS AND TEXTS GOVERNING THE TELECOMMUNICATION SECTOR[171]

(1) Order No. 2011-023/p-rm of 28 September 2011 relating to telecommunications and information and communication technologies sets out the conditions and operating regimes for authorizations. Three regimes exist to enter the telecommunication/TIC market and the provision of telecommunications services: i) The global licence, necessary for telephony (including via the internet), granted after tender; ii) The general authorization granted by the regulator for the establishment or operation of independent networks and the use of scarce resources such as frequencies or numbering; and iii) The declaration granted by the regulator, mandatory for the provision of value-added services, the provision of internet access service (excluding voice traffic) and the resale of telecommunications services (excluding voice services).

(2) 2.Loi 2016-012 of 6 May 2016 (electronic trade and services transactions).

(3) Law 2013-015 of 21 May 2013 on the protection of personal data.

(4) Decree 2016-058/PRM of 12 August 2016 laying down procedures for the approval of telecommunications and information and communication technologies equipment sets out procedures for the approval of telecommunications equipment and communication technologies). All telecommunications equipment (models and series) entering Mali must be approved after technical analysis by the regulator.

POLICY DOCUMENT

In 2016, the Government of Mali developed the **National Policy for the Development of the Digital Economy, called the Digital Mali 2020 plan**.[172] The plan proposed an ambitious vision for the development of ICT, which will become 'a vector for sustainable human development; a source of productivity and added value for other economic sectors and for public administration; an important lever of the national economy; and a true industry in Mali by 2020'. The main priority areas were: (i) Expanding access to digital networks and services; (ii) Developing digital production and content; (iii) Diversifying digital uses and services; (iv) Strengthening the existing legislative framework; (v) Developing human capital; and (vi) Developing the local digital industry.

167 Source: https://amrtp.ml/download/loi-n2019-056-du-05-decembre-2019-portant-repression-de-la-cybercriminalite/ (cybercrime law).

168 Source: https://www.itu.int/fr/ITU-D/Cybersecurity/Pages/CIRT-Services-Workshop_Guinea-2016.aspx.

169 Malian Broadcasting and Transmission Company – Société Malienne de Transmission et de Diffusion (SMTD).

170 Source: https://www.smtd.ml.

171 Source: https://sgg-mali.ml/fr/recherche.html (site to search for laws and decrees)

172 Source: https://communication.gouv.ml/mali-numerique-2020/.

Main laws governing the telecommunications/ICT sector and policy documents

Legal texts	Implementation structure
Order No. 2011-023/p-rm of 28 September 2011 sets out the conditions and operating regimes for telecom/ICT authorizations	Telecommunication ICT/regulator, AMRTP
Law 2016-012 of 6 May on electronic trade and services transactions	Courts/telecom ICT regulator (AMRTP)/National Competition Directorate (DNCC), Data Protection Authority (APDP)
Law 2013-015 of 21 May 2013: Personal Data Protection	Personal Data Protection Authority (APDP)
Decree 2016-058/PRM of 12 August 2016 sets out procedures for the approval of telecommunications equipment and communication technologies	Telecommunication/ICT regulator
Policy documents	**Implementation structures**
National Digital Economy Development Policy law 2016-0066/prm of 15 February 2016	National Directorate for Digital Economy

SWOT ANALYSIS OF MALI'S ICT SECTOR

Strengths	Weaknesses
▪ The national fibre optic backbone provides access to submarine cables across Cote d'Ivoire, Senegal and Mauritania ▪ A well-developed digital development policy and strategy ▪ Telecom/ICT texts in line with those of ECOWAS after transposition of ECOWAS supplementary acts into the Malian legal system: supplementary acts on electronic transactions; cybercrime and cyber security; and data protection and privacy ▪ Public telecom/ICT structures in place ▪ Rapid development of local start-ups	▪ Low network coverage significantly limits access to broadband services in the country, especially in rural areas ▪ Cost of the internet is still relatively high ▪ Insufficient regulation on ICT wholesale operators. Wholesale operators are also retailers, which distorts competition and puts ISPs and any new entrant without optical fibre infrastructure at a disadvantage, as they do not have sufficient backups to purchase international bandwidth at a fair price ▪ Universal Access Fund not performing as it could ▪ The high cost of energy ▪ The lack of resources of public structures in charge of developing digital strategies ▪ Reduced number of certified professionals domestically and digital training centres of excellence in the country
Opportunities	**Threats**
▪ A vibrant telecom market in the most populated part of the country with only three global telecom operators ▪ Rapid development of mobile money in Mali with 24% of Mali above the African average ▪ A big potential for electronic transactions and electronic commerce – only 5% of the adult population make online purchases or bill payments. ▪ A limited number of ISPs (three) on the market and several niche markets to develop ▪ Interest and willingness of main actors to build an ICT cluster ▪ Enhanced access to new markets through digital delivery and electronic platforms ▪ Online education and training opportunities	▪ Geopolitical instability in the northern part of the country ▪ Two-thirds of the country in insecurity and telecom infrastructure destroyed on a regular basis in the northern part of the country ▪ Major telecom infrastructure development plans halted in two-thirds of the country (optical fibre) (northern part of the country) ▪ Telecom staff at risk in two-thirds of the country (northern part of the country)

USEFUL CONTACTS

Below are the key contacts in Mali for the ICT sector and investment facilitation.

Regulatory body	Contact
Investment Promotion Agency of Mali (single window)	API-Guichet Unique Bamako, Boulevard Abdelaziz Bouteflika, Quartier du Fleuve, BP: 1980 Tel.: +223 20 22 95 25/26 E-mail: info@apimali.gov.ml
National Institute of Social Insurance (Institut National de Prévoyance Social – INPS)	Tel.: +223 20 21 25 54 E-mail: info@inps.ml
Professional Association of Banks and Financial Institutions (APBEF)	Tel.: +223 20 29 22 14 Website: www.apbefmali.org
Data Protection Authority (APDP)	Tel.: +223 20 23 86 15 E-mail: contact@apdp.ml
Ministry of Digital Economy (MEN)	Tel.: +223 20 21 90 04 Website: https://communication.gouv.m
Malian Telecommunications and Post Regulatory Authority (AMRTP)	Tel: + 223 20 70 57 00 E-mail: amrtp@amrtp.ml
Agency for the Planning of Industrial Areas (AZI)	Tel.: +223 20 23 72 93 E-mail: azi@azi-sa.com
National Directorate of Digital Economy	Hamdalaye ACI 2000, Rue 378, Porte 744 Tel.: 70 49 75 69
High Authority of Communication (HAC) (broadcast regulator: TV; radios)	Tel.: +223 20 23 00 60 E-mail: contact@hac.ml
Mali Start-up Association	Tel.: +223 76718171 E-mail : mgsidibe@gmail.com
Directorate General for Trade and Competition (DGCC)	Tel.: + 223 20 21 23 14 E-mail: www.dnccc.miic.gouv.ml

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