



NATIONAL COMMUNICATIONS AUTHORITY  
FEDERAL REPUBLIC OF SOMALIA

**2020 - 2021**

ANNUAL REPORT

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# List of Acronyms and Abbreviations

<b>Abbreviation</b>	<b>Meaning</b>
<b>NCA</b>	National Communications Authority
<b>ITU</b>	International Telecommunication Union
<b>CIP</b>	Communications Infrastructure Provider
<b>ASP</b>	Application and Services Provider
<b>CISP</b>	Communications Infrastructure and Services Provider
<b>MVNO</b>	Mobile Virtual Network Operator
<b>NFAT</b>	National Frequency Allocation Table
<b>4G</b>	Fourth Generation of Broadband Cellular Network Technology
<b>LTE</b>	Long-Term Evolution
<b>ITU-R</b>	ITU Radio-Communication Sector
<b>FES</b>	Fixed Earth Stations
<b>TES</b>	Transportable Earth Stations
<b>SOLAS</b>	Ship Radio Station License
<b>E.164</b>	International Telephone Numbering Plan
<b>MoCT</b>	Ministry of Communications and Technology
<b>GCSCC</b>	Global Cyber Security Capacity Centre
<b>CMM</b>	Capacity Maturity Model
<b>GCI</b>	Global Cybersecurity Index
<b>SOMCERT</b>	Somali Computer Emergency Response Team
<b>ISP</b>	Internet Services Provider
<b>PAP</b>	ITU and Somalia Joint Program Action Plan
<b>FCA</b>	Framework of the Cooperation Agreement
<b>UNDAF</b>	United Nations Development Assistance Framework
<b>EMFs</b>	Electromagnetic Fields
<b>IFC</b>	International Finance Corporation

# GENERAL MANAGER'S FOREWORD



## Abdullahi Abdiaziz Mohamed

General Manager, National Communications Authority



**NCA would not achieve those achievements presented in this report without the support and commitment of Somalia's leadership and the continued dialogue with all stakeholders.**



I am glad to present the Annual Report for the year 2020/2021, on behalf of the Board of Directors, Management and Staff of the National Communications Authority, Federal Republic of Somalia. The information and communication technologies (ICTs) sector, especially mobile communications, is one of the brightest success stories in the Somalia's economy. Private operators have emerged to meet demand for communications and have made remarkable gains without policy and regulatory guidance from government and with very limited access to outside investments. Operators in the sector succeeded in setting up a vibrant industry operating under difficult conditions and achieving relatively good performance indicators relative to the region.

However, the industry, which developed unregulated, faced a number of challenges, including market fragmentation in some segments and consolidations in others, inefficient use of spectrum, interference, unhealthy competition, etc. In recognition of these challenges, the Federal Republic of Somalia passed a National Communications Law in 2017. Subsequently the National Communications Authority (NCA) was established under the Communications Law in 2018 to regulate the previously unregulated communications sector, including broadcast while pursuing progressive, light-touch regulatory approaches.

The National Communications Authority has developed an enabling environment for the ICT sector to promote investment and competition. For the Past year, NCA has developed Several Regulations, such as the Unified Licensing Framework, the Numbering Regulations, Spectrum Plan and Spectrum Regulations. Also, Interconnection Regulation, Interconnection Guidelines, and Cyber Security Frameworks have been developed. Those regulations will enable the Telecom Market to be more competitive and promote more investment into the sector.

# INTRODUCTION

The National Communications Authority (NCA) continues its commitment to support the communications and Technology sector and provide a regulatory environment that fosters competition and investment. NCA is using a range of regulatory and enforcement powers to encourage competition in the communications sector and ensure consumer rights are protected.

NCA employs a transparent approach to regulation which is guided by values of promoting consistency, certainty, and flexibility across the regulatory framework development. In accordance with the National Communications Law of 2017, NCA has established regulatory frameworks to organize and regulate the market. The work started by legitimizing the operations of the existing operators. NCA has developed a unified Licensing framework which facilitates the licensing procedures and promotes the convergence of the Telecom services. NCA has developed a Numbering Plan and a Numbering Regulation based on the principle of facilitation of competition in services provision and bringing benefits to the users by increasing quality standards in services provided and equal treatment of all operators and service providers regarding the access to number resources.

In addition, spectrum plan and Regulations has been developed to manage the spectrum efficiently. Considering the urgent need to regulate the use of radio spectrum in Somalia, the Authority prepared radio spectrum assignment plan for Mobile / Fixed communication networks. The radio spectrum assignment plan provides information on frequency band plans for the frequency bands 450 MHz, 700 MHz, 800 MHz, 900 MHz, 1800 MHz, 2100 MHz, 2300 MHz, 2600 MHz, and 3500 MHz which are allocated to Mobile/Fixed

communications services by the International Telecommunication Union (ITU). The National Communications Authority have worked on enhancing the competition in the market by developing necessary regulations and guidelines on the Interconnection between Operators. The National Communications Law stresses the importance of Interconnection as a public interest and it's a necessity that all licensed telecommunications operators in Somalia interconnect. Interconnection is one of the main pillars for establishing a healthy and competitive market.

Furthermore, The Authority has undertaken a number of activities that enabled improvement of Somalia's ranking in Global Cybersecurity Index. NCA has worked on putting in place legal and regulatory framework in Cyber security which caused rise in Somalia's rank in the Global cyber security Index to 137<sup>th</sup> position in 2020 from 156<sup>th</sup> in 2018. Somalia is also ranked 28<sup>th</sup> in the Africa Region and 19<sup>th</sup> in the Arab states' region.

All these achievements were possible with extensive consultation with the stakeholders and the support of the International Partners such International Telecommunication Union and World Bank.

# Status of Regulations Summary

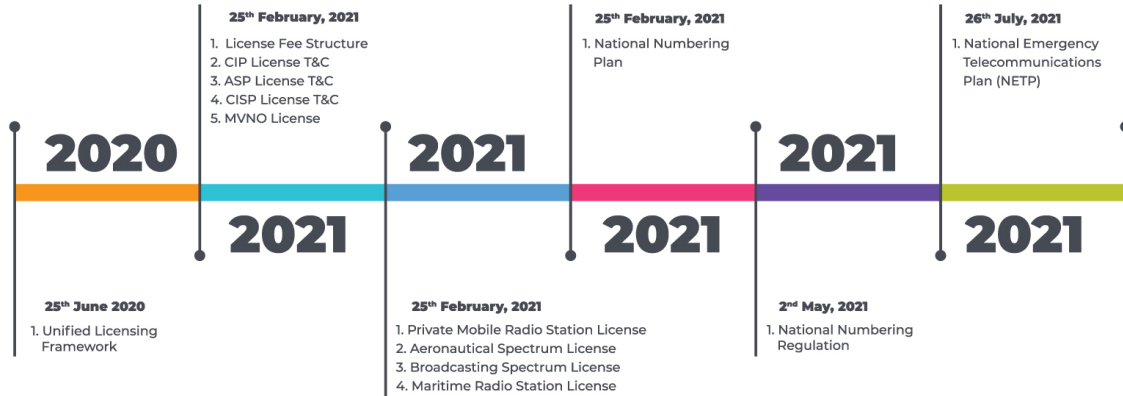


Figure 1: Overview of Regulations Passed

REGULATIONS	PUBLISHED DATE	STATUS
Radio Spectrum Regulations	23rd June, 2021	Expected to be approved this Year
National Radio Spectrum Assignment	23rd June, 2021	Expected to be approved this Year
IMT Spectrum License	23rd June, 2021	Expected to be approved this Year
Interconnection Regulation	23rd June, 2021	Expected to be approved this Year
Interconnection Procedure	23rd June, 2021	Expected to be approved this Year
Reference Interconnection Offer	23rd June, 2021	Expected to be approved this Year
SOMCERT Guidelines	23rd June, 2021	Expected to be approved this Year
SOMCERT procedures	23rd June, 2021	Expected to be approved this Year

Figure 2: Number of Draft Regulations in the Pipeline

# LICENSING AND MARKET DEVELOPMENT

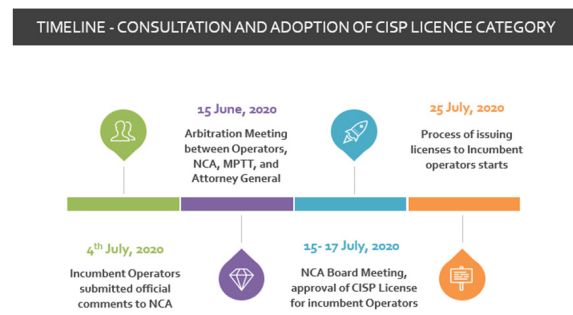
The National Communications Authority's mandate as the supervisor and regulator of the communications services in the federal republic of Somalia, which is guided by the National Communications Law of 2017. The Authority worked on promoting a fair and competitive market environment for the benefit of consumers and developed regulations that enables sustainable competition and increased investment in the sector. NCA's implementation of the Communications Law is based on the principle of free and fair competition to encourage increased access to services, lower prices, improved efficiency, better quality, and greater consumer choice of services.

For the past year, NCA has developed important regulations to achieve a better market development and enhanced the competition between the different service providers in Somalia. The following projects and initiatives were accomplished in this year to create an enabling environment for market development and competition:

## 2.1. UNIFIED LICENSING FRAMEWORK

The National Communications Authority (NCA) implemented a new ICT licensing framework as guided by the National Communications Law of 2017. The purpose of the framework is to simplify the licensing process and provide a more conducive environment for market growth and improvement of the socio-economic welfare of the society while considering the convergence of technologies. The new Licensing framework promotes the convergence of networks, services, and technologies, by adopting a Unified Licensing Approach which embraces the principle of technology and service Neutrality. It allows operators and service providers to use the most cost-effective technologies for their

service offerings without exceeding the scope of their licenses. Simplification and streamlining of the licensing process reduce administrative costs for the NCA while lowering or containing levies on operators for licenses and other fees.



**Figure 3: Unified Licensing Framework Timeline**

### 2.1.1. COMMUNICATIONS INFRASTRUCTURE PROVIDER (CIP) LICENSE

This type of license allows operators to own, operate or provide any form of physical infrastructure used principally for carrying services, applications, and content. The infrastructure may include fixed links, radio communication transmitters, satellites and satellites station, submarine cable, fiber/copper cable, towers, switches, and base stations. Those facilities are designed for own use or for availing to other licensed operators on commercial basis.

### 2.1.2. APPLICATIONS AND SERVICES PROVIDER (ASP) LICENSE

This type of License allows service provider to provide all forms of services and applications to end users using infrastructure of Communication Infrastructure Providers. The services and applications may be based on speech, sound, data, text, and images and deliver functions

to the end users. The services may include among others voice services, Internet Access, data services, mobile money services, MVNO services, IPTV and Value- Added Services. These service application providers typically use leased facilities from Communications Infrastructure Providers to offer services.

**2.1.3. COMMUNICATIONS INFRASTRUCTURE AND SERVICES PROVIDER (CISP) LICENSE**

This license category allows operators to obtain combined license for communications infrastructure, services, and applications in one license. It is essentially a license that give a licensee combined CIP and ASP license. This type of license eliminates the need for operators to go through multiple licensing procedures if they desire to provide multiple communications infrastructure and applications and services.

The following table describes the types of Licenses adopted by NCA under the Unified Licensing Framework:

**Table 1: Summary of Licenses**

Licenses Category	License Type	Services
<b>Individual License</b>		
Communications Infrastructure Provider (CIP)	International Communications Infrastructure	<ul style="list-style-type: none"> <li>- International gateway (Satellite/Terrestrial)</li> <li>- Cable transit</li> <li>- Satellite Hub System</li> <li>- Uplink Satellite Broadcasting Stations</li> </ul>
	National Communications Infrastructure	<ul style="list-style-type: none"> <li>- Public Fixed Systems</li> <li>- Public Land and Mobile Cellular Systems</li> </ul>
	Regional Communications Infrastructure	<ul style="list-style-type: none"> <li>- Broadcasting Signal Distributor</li> <li>- Public Internet Networks</li> <li>- Public Radio Trunking Systems</li> <li>- Local Loop Networks (Fixed and wireless access systems)</li> <li>- Private Networks</li> </ul>
Applications and Services Provider (ASP)	Applications and Services	<ul style="list-style-type: none"> <li>- All services and applications carried over networks</li> <li>- Internet Service Provider (ISP)</li> <li>- International Services (voice/data/text)</li> <li>- VOIP services</li> <li>- GMPACS services</li> <li>- Satellite services</li> <li>- Resale: Mobile, leased circuit</li> <li>- Other value-added services</li> </ul>
	Mobile Virtual Network Operator (MVNO)	<ul style="list-style-type: none"> <li>- Mobile services</li> </ul>

Communications Infrastructure and Services Provider (CISP)	Combined CIP and ASP Infrastructure, Applications, and Services	- All of the Above
<b>Class License</b>		
Terminal Equipment Providers License	Installation, Maintenance, and distribution license	Installation, Maintenance and Distribution of Telecommunications Equipment
VSAT Services Providers License	VSAT Services License	VSAT Networks to provide Communications Services
One Time Authorization	DotSo Domain Registrar License	DotSo Registrar Services

In addition to Class Licenses, those categories describe the market structure of the Communications Technology Market and facilitates the market entry of new players, while enhancing the competition of the existing players. It also allows small and major operators to compete in their respective markets, with national and regional scopes; therefore, conserving the competitiveness of the market.

The following shows the Licensing Regulations that has been completed and approved by the NCA's board:

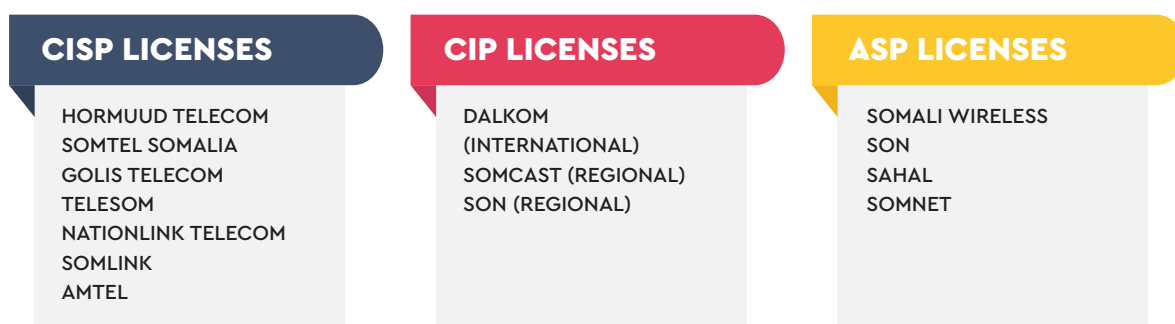
**Table 2: Licensing Documents and Regulations Completed in 2020/201**

No.	Regulation Document	Date Published for Consultation	Date Approved
1	Unified Licensing Framework	10 March, 2020	25 June, 2020
2	Licensing Fee Structure	10th December, 2020	25th February 2021
3	Communications Infrastructure and Services Provider (CISP) License – Terms and Conditions	10 March, 2020	25 June, 2020
4	Communications Infrastructure Provider (CIP) License – Terms and Conditions (International/National/Regional Categories)	10th December, 2020	25th February 2021
5	Application and Services Provider (ASP) License – Terms and Conditions	10th December, 2020	25th February 2021
6	Application and Services Provider (ASP-MVNO) License – Terms and Conditions	10th December, 2020	25th February 2021

7	Guideline of Agreement between MNO and MVNO	10th December, 2020	25th February 2021
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### 2.1.4. Licenses Issued & Market Structure Status



The National Communications Authority (NCA) has issued the Telecommunication Licenses for the first time in 30 years. All major Telecommunications Operators have been licensed under the new framework. The process of the licensing is still underway, and it is expected to be completed by September 2021. The following figure shows mapping of Licenses to existing operators:







**Figure 4: Mapping of Licenses to existing operators**

So far, the following operational Licenses has been issued:

**Table 3: Licenses issued 2020/2021**

Operator	License	Date
 <b>HORMUUD TELECOM</b>	Communications Infrastructure and Services Provider (CISP)	30/07/2020
 <b>SOMTEL Somalia</b>	Communications Infrastructure and Services Provider (CISP)	08/03/2021
 <b>GOLIS TELECOM</b>	Communications Infrastructure and Services Provider (CISP)	30/07/2020

 <b>TELESOM</b>	Communications Infrastructure and Services Provider (CISP)	30/08/2020
 <b>NATIONLINK TELECOM</b>	Communications Infrastructure and Services Provider (CISP)	30/08/2020
 <b>SOMLINK</b>	Communications Infrastructure and Services Provider (CISP)	3/07/2021
 <b>AMTEL LTD</b>	Communications Infrastructure and Services Provider (CISP)	01/10/2021

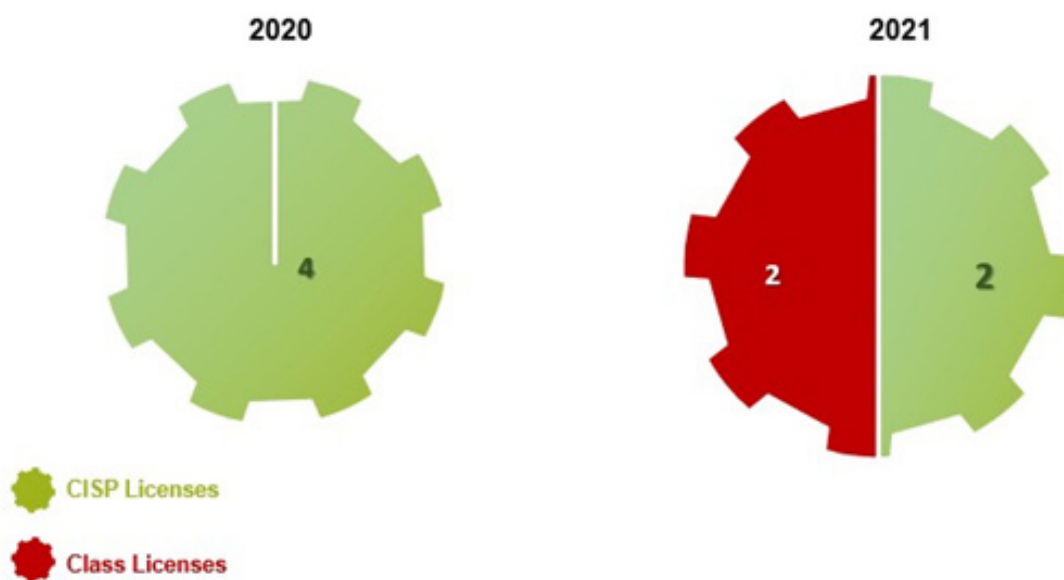


Figure 5: Types of Licenses issued in 2020/2021

# SPECTRUM MANAGEMENT

Scarce resources such as spectrum and numbering have not seen a proper management and utilization prior formation of the National Communications Authority. The spectrum has been used randomly by the existing operators and survey conducted by NCA shows inefficient usage of the spectrum and constant interference problems reported by the operators which affected the quality of the communications services. For the past year, the Authority developed regulations and guidelines regarding the spectrum usage in Somalia.

The primary role of the National Communications Authority (NCA) is to manage the use of radio spectrum in the country in order to ensure that all telecommunications operators deploy their communication networks in interference-free environment. To achieve this, the NCA developed the National Frequency Allocation Table (NFAT) which sets frequency allocations to various wireless communication services. The Continuous evolution of sophisticated wireless technologies and the rapid growth in the demand for the Spectrum from different users and services has made spectrum management a critical task for NCA. As the country's Communications regulator, its major responsibility is to balance the needs of existing Spectrum users while facilitating Spectrum access for new technologies. The following projects and initiatives were accomplished this year in managing these scarce resources.

## 3.1. SPECTRUM

### 3.1.1. NATIONAL RADIO SPECTRUM ASSIGNMENT PLAN

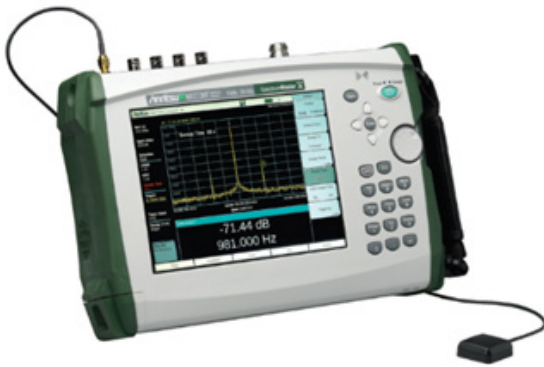
Considering the urgent need to regulate the use of radio spectrum in Somalia, the Authority prepared radio spectrum assignment plan for

Mobile/Fixed communication networks. The radio spectrum assignment plan provides information on frequency band plans for the frequency bands 450 MHz, 700 MHz, 800 MHz, 900 MHz, 1800 MHz, 2100 MHz, 2300 MHz, 2600 MHz, and 3500 MHz which are allocated to Mobile/Fixed communications services by the International Telecommunication Union (ITU). These frequency bands are further subdivided into frequency channel assignments, based on the type(s) of technologies which can be employed. The frequency assignment plan developed aims to maximize the efficient use of the allocated radio spectrum.

The Assignment plan for the mobile/fixed communication networks were based on the following principles:

- I. **The adopted frequency assignment plan for a specified frequency band shall follow ITU recommendation for region 1.**
- II. **The frequency assignment plan shall allow the assignment of sufficient spectrum for at least six mobile/fixed communication service providers**
- III. **All frequency assignment plans shall have a reference channel bandwidth which serves as the minimum block size that could be assigned to spectrum user. Frequency channels that required larger bandwidth can be achieved by concatenating multiple contiguous spectrum blocks of the reference channel bandwidth.**
- IV. **The spectrum blocks in a frequency assignment plan includes any necessary guard bands. Any necessary guard bands for entities authorized to use adjacent frequency blocks will be determined at such time when the licensees and the respective technologies to be deployed have been determined.**

- V. A licensee shall use the assigned spectrum in a way that does not cause harmful interference to any other licensee who has an adjacent frequency assignment. The licensee shall utilize in-band guard bands to reduce harmful interference from adjacent frequency channel licensees.



**Figure 6: Spectrum Monitoring Equipment**



For the 4G/LTE services, NCA has conducted investigations to identify suitable frequency bands for licensing of 4G/LTE services in Somalia and provided recommendations which allows operators a sufficient bandwidth to provide high-capacity networks to their subscribers,

while conserving the compatibility with ITU and ETSI-defined bands for LTE services. The Plan also allows accommodation of bands for six operators for nationwide use, with a requirement to share radio frequencies where they are not used in a given geographical area.

### 3.1.2. DEPLOYMENT OF SPECTRUM MONITORING SYSTEM



To fulfill the NCA's mandate of managing the use of Radio Spectrum in the country, NCA has acquired and deployed spectrum monitoring equipment. The system will facilitate the identification and removal of illegal or unlicensed interference signals in real time. The Telecom operators have long complained about interference between them which affected the quality of the services rendered to the users. NCA has taken necessary actions this year to remedy the problems of the Frequency Interference; Spectrum licensing procedures have been proposed and expected to be agreed upon in the coming months. The spectrum monitoring system will be used to safeguard the licensed spectrum used by the operators and detect illegal usages.

Spectrum Monitoring protects the benefits of Network operators because of:

- I. Cellular network operators have invested millions of dollars purchasing rights to use frequency spectrum
- II. Carriers and other spectrum users need to protect their investments and quality of service
- III. Interference mitigation is a top priority for optimizing network performance and maximizing revenue
- IV. Exploring demand for more bandwidth is driving the need to identify and repurpose under-utilized spectrum

### 3.1.3. Satellite Spectrum License

The Authority Developed guidelines regarding the application for the Satellite Radio Spectrum Licenses. Due to its global nature, most of the spectrum management is done internationally through ITU-R. Satellite operators intending to deploy their space station in space are required to launch coordination request to ITU-R via national administrations. Similarly, coordination may also be required before deployment of large earth stations. However, for operation of Earth Stations Licenses, NCA has provided technical considerations for each of the following Licenses:

- I. Fixed Earth Stations (FES)
- II. Satellite Earth Station Network Link
- III. Transportable Earth Stations (TES)

### 3.1.4. Private Mobile Radio Station License

These guidelines outline the authorization and operational requirements for Private Mobile Radio (PMR) systems in Somalia in the frequency band. They further define the minimum technical parameters, and regulatory considerations that shall govern the operation of PMR in the

allocated frequency bands in accordance with the Somali National Frequency Allocation Table (NFAT).

### 3.1.5. Aeronautical Spectrum License

The Authority developed guidelines on Aeronautical Spectrum Licenses in accordance with the National Communications Law. The following categories and sub-categories of Aeronautical licenses are being prepared:

- I. Aircraft Radio Station License
- II. Aircraft Mobile Radio Station License
- III. Aircraft Transportable Radio Station License
- IV. Ground Based Aeronautical Station License
- V. Aeronautical Ground Station (AGS) License
- VI. Aeronautical Navigational Aids License
- VII. Aeronautical Ground Based Radar License

### 3.1.6. Broadcasting Spectrum License

Media broadcasting in Somalia has been evolving and boasts a National Radio and Television, private Radio and Television services, cable, and satellite distribution services. Given these developments, there was a need to develop Somalia's own media and give Somali people a voice in order to support national development. The number of applications to set up new local FM services has also increased in recent years. NCA has developed guidelines for Broadcasting Media licenses. The Guidelines made the process simpler, clearer, and more transparent.

### 3.1.7. Maritime Radio Station License

NCA has developed necessary guidelines, licensing requirements and technical parameters related to maritime equipment. It

is used to support the safe navigation of vessels and to make distress calls from coastal stations/ vessels in emergency situations. It also enables communication between vessels and coast stations, port / harbor authorities and with other vessels as well. Available Maritime Radio stations licenses are:

#### I. Ship Radio Station Licenses

- i) Ship Radio Station License (SOLAS)
- ii) Ship Radio Stations License (Non-SOLAS)
- iii) Ship Radio Station License (Portable)

#### II. Maritime Navigational Aids and Radar Radio Station License




#### III. Coastal Radio station Licenses

- i) International coastal station License
- ii) Somali-only coastal station License
- iii) Coastal Station Radio (Training School) License

#### 3.1.8. Spectrum Licenses Issued

In order to manage the spectrum used by Operators in Somalia, National Communications Authority has successfully issued the following Spectrum licenses:

**Table 4: Spectrum Licenses Issued**

Spectrum License Type	Company	Date
Digital Terrestrial TV Multiplexer Network license	 Astaan TV	14/07/2021
	 Mogadishu Cable TV	23/08/2021
	 Rajo Cable TV	23/08/2021
	Go Cable	10/02/2021
Commercial Fm Broadcasting Station License	Radio Hillaac	17/01/2021
	Radio Wanaag	17/01/2021
	Radio Mustaqbal	12/08/2021

Aeronautical Spectrum License	SITA B.V.	15/11/2020
	FREEDOM AIRLINE EXPRESS LTD	30/01/2021
	HALA AIRLINE LIMITED	02/04/2021
Maritime Spectrum License	F/V SAHARLA	



**Spectrum License Award**

Mogadishu Cable TV



**Spectrum License Award**

Freedom Airlines



**Spectrum License Award**

Astaan TV



**Spectrum License Award**

Rajo Cable

**Figure 7: Spectrum Licenses Award**

The following table shows the Regulation documents completed and Approved by the NCA's board:

**Table 5: Spectrum Regulation Documents**

No.	Regulatory Document Name	Date Published for Consultation	Date Approved
1	Radio Spectrum Regulations	23 <sup>rd</sup> June, 2021	Expected to be approved this year
2	National Radio Spectrum Assignment Plan	23 <sup>rd</sup> June, 2021	Expected to be approved this year
3	Terms and Conditions – Spectrum License for IMT Services	23 <sup>rd</sup> June, 2021	Expected to be approved this year
4	Terms and Conditions – Private Mobile Radio Station License	10 <sup>th</sup> December, 2020	25 <sup>th</sup> February 2021
5	Terms and Conditions – Satellite Spectrum License	10 <sup>th</sup> December, 2020	25 <sup>th</sup> February 2021
6	Terms and Conditions – Aeronautical Spectrum License	10 <sup>th</sup> December, 2020	25 <sup>th</sup> February 2021
7	Terms and Conditions – Broadcasting Spectrum License	10 <sup>th</sup> December, 2020	25 <sup>th</sup> February 2021
8	Terms and Conditions – Maritime Radio Station License	10 <sup>th</sup> December, 2020	25 <sup>th</sup> February 2021

# NUMBERING

Numbering and Electronic addressing are crucial for the proper operation of networks, the provision of a network-based services, and the development of an online economy and society. The efficiency and simplicity of numbering and electronic addressing arrangements, and the timely availability of numbering and electronic addressing resources, can either facilitate or hinder the socio-economic development of the country's communication network and the convergence between information processing, broadcasting, and communications.

NCA has developed a Numbering plan and a Numbering Regulation based on the principle of facilitation of competition in services provision while consumers benefit from increasingly quality service standards provided. The regulation also ensures equal treatment of all operators and services providers regarding the access to number resources.

### 3.2.1. National Numbering Plan

NCA has adopted a numbering plan that is based on the International Telecommunication Union's ITU-T E.164 recommendation. The plan describes the national Numbering Plan for the network and application services. This Plan sets out, amongst other things, the categories, structures and use of Numbers and Electronic

Addresses for the reference of the relevant industry players who require Numbers and Electronic Addresses for their activities.

The Plan describes the minimum and maximum numbers length, the country codes, national codes format and geographical fixed telephony as well as non-geographical mobile telephony services.

### 3.2.2. Numbering Regulation

To implement the National Communications Law of 2017, National Communications Authority is mandated with control, planning, administration, management, and assignment of the numbering and electronic addressing of network and application services. In accordance with Article 54 of the Law, the authority is responsible for development of numbering regulations to manage the resources and ensure a fair usage by all the service providers. The Regulation provides scope of usage of the numbering resources, the responsibilities and duties of the Licensee, the procedure of applying numbering resources, withdrawal, and suspension of its licenses.

The following table shows the Regulation documents completed and approved in 2020/2021 by the NCA's board:

**Table 6: Numbering Regulation Documents**

No.	Regulation Document	Date Published for Consultation	Date Approved
1	National Numbering Plan	10 <sup>th</sup> December, 2020	25 <sup>th</sup> February, 2021
2	National Numbering Regulation	10 <sup>th</sup> December, 2020	2 <sup>nd</sup> May, 2021

# INTERCONNECTION

The National Communications Authority has worked on enhancing the competition in the market by developing necessary regulations and guidelines on the Interconnection between Operators. The National Communications Law stresses the importance of Interconnection as a public interest necessitating that all licensed telecommunications operators in Somalia interconnect. Interconnection is one of the main pillars for establishing a healthy and competitive market. Authority is tasked with establishing an Interconnection framework that is in line with the National Communications Law and takes into account the Somali telecommunication sector current challenges.

## 4.1. Interconnection Regulation

The Authority developed an Interconnection Regulation to facilitate interconnection issues between the operators. The regulation discusses issues on billing, fraud, Interconnection termination rates, interconnection dispute procedure and Interconnection disconnection and suspension. Based on the consultations with the stakeholders, the previous Interconnection regulation was reviewed to resolve the problems submitted by the operators. The final Interconnection Regulation document is expected to be approved by the NCA's board. The aim of the Interconnection regulation is to serve as a legal basis for the Interconnection between the licensed operators in Somalia, the interconnection regulation also outlines the process of dispute resolution between operators who cannot reach a commercial agreement regarding Interconnection.

## 4.2. Interconnection Technical Guidelines

The Authority has also developed technical guidelines in the form of a reference

Interconnection offer to be utilized by the Licensed operators as the best practices to be followed when drafting commercial Interconnection agreements. The Interconnection Technical Guidelines will also be utilized by the Authority while reviewing and registering commercial Interconnection Agreements between Licensed Telecommunications Operators to make sure that the articles specified in the submitted commercial Interconnection Agreements are in line with National Communications Law, Interconnection regulation and authority's guidelines.

## 4.3. Interconnection agreement registration procedure

To facilitate and simplify negotiations between operators, NCA has developed Interconnection Agreement procedure, which is in line with the National Communications Law. NCA is responsible for making sure that contents of any Interconnection agreement to be based on the Law, the Regulation, and the Authority's guidelines.

As per the National Communications Law all licensed telecommunication operators must submit their commercial Interconnection Agreements to the Authority to review and register these commercial agreements to make sure that articles specified in the commercial agreement are in line with the Law and Regulation.

The following table summarizes the Interconnection Regulation documents completed and approved by NCA's board:

**Table 7: Interconnection Regulation Documents**

No.	Regulation Document	Date Published for Consultation	Date Approved
1	Interconnection Regulation	23 <sup>rd</sup> June, 2021	Expected to be approved this year
2	Interconnection Procedure	23 <sup>rd</sup> June, 2021	Expected to be approved this year
3	Interconnection Agreement Procedure	23 <sup>rd</sup> June, 2021	Expected to be approved this year
4	Reference Interconnection Offer	23 <sup>rd</sup> June, 2021	Expected to be approved this year

# CYBER SECURITY

The Authority has undertaken a number of activities that enabled improvement of Somalia's ranking in Global Cybersecurity Index. NCA has worked on putting in place legal and regulatory framework in Cyber security which caused rise in Somalia's rank in the Global cyber security Index to 137<sup>th</sup> position in 2020 from 156<sup>th</sup> in 2018. Somalia is also ranked 28<sup>th</sup> in the Africa Region and 19<sup>th</sup> in the Arab states' region. The following cyber security projects and initiatives were accomplished in this year:

## 5.1. National Cyber Security Assessment

National Communications Authority of Somalia is responsible for conducting the national cyber security assessment in collaboration with Ministry of Communications and Technology (MoCT). Hence, the authority identified its constituents and engaged all the public and private sector stakeholders to participate in the national cyber security assessment. As a result, NCA conducted the first national cyber security assessment in Somalia, collaborating with the Global Cyber Security Capacity Centre (GCSCC), the University of Oxford and the Cybersecurity Capacity Centre for Southern Africa (C3SA), University of Cape Town. The National Cyber Security Assessment was based on the Cybersecurity Capacity Maturity Model (CMM) for Nations developed by GCSCC. The CMM model defines five dimensions of cybersecurity capacity:

**Figure 8: Cybersecurity Capacity Maturity Model**

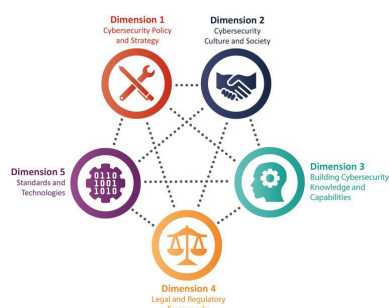
- Cybersecurity Policy and Strategy
- Cyber Culture and Society
- Cybersecurity Education, Training and Skills
- Legal and Regulatory Frameworks
- Standards, Organizations, and Technologies

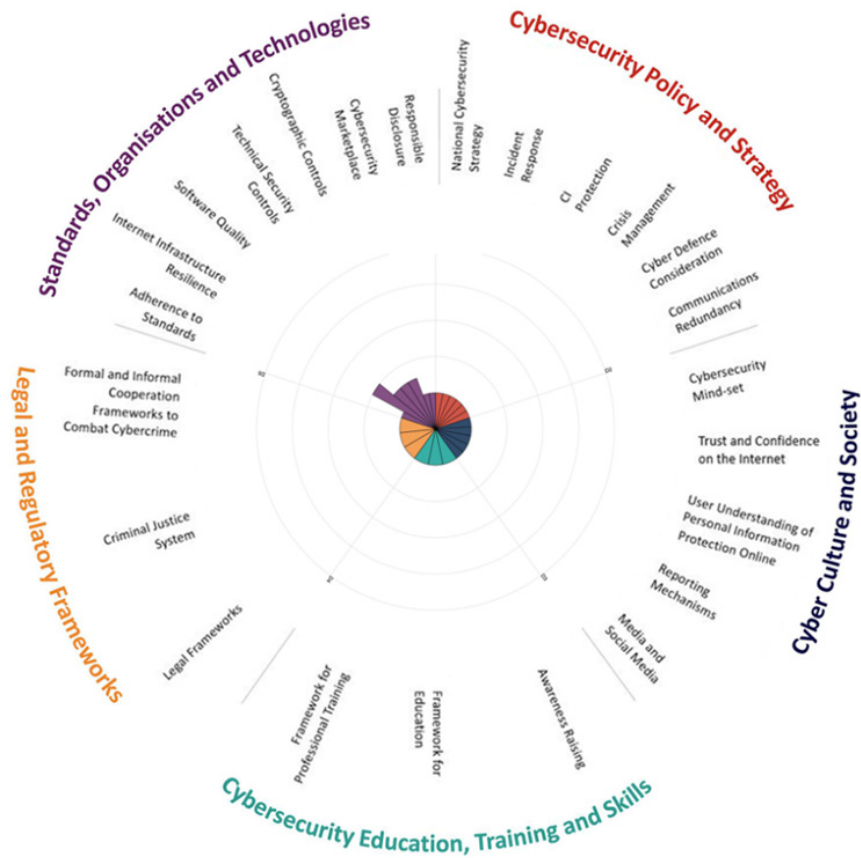
The National Cyber security assessment took place from the 10<sup>th</sup> December 2020 to 11<sup>th</sup> February 2021. The following stakeholders from the public and private sectors had participated in the national cyber security assessment process:

- I. Government institutions, ministries, and agencies
- II. Security agencies.
- III. Finance Sector.
- IV. Education Sector and Academics
- V. Private Sector

Figure 9 and Table 8 provide an overall representation of the cybersecurity capacity in Somalia and illustrate the maturity estimation in each dimension. Each dimension represents one-fifth of the graph, with the five stages of maturity for each factor extending outwards from the center of the graph; 'start-up' is closest to the center of the graph and 'dynamic' is placed at the perimeter.

*Figure on next pg*





**Figure 9: Overall representation of the cybersecurity capacity in Somalia**

**Table 8 : Capacity development stage of Somalia in 2021**

	Maturity Stage‡
<b>Factors based on Assessment report 2016</b>	<b>2021</b>
<b>D1 Cybersecurity Policy and Strategy</b>	
D1.1 National Cybersecurity Strategy	Start-up
D1.2 Incident Response	Start-up
D1.3 Critical Infrastructure (CI) Protection	Start-up
D1.4 Crisis Management	Start-up
D1.5 Cyber Defence	Start-up
D1.6 Communications Redundancy	Start-up
<b>D2 Cyber Culture and Society</b>	

D2.1 Cybersecurity Mind-set	Start-up
D2.2 Trust and Confidence on the Internet	Start-up
D2.3 User Understanding of Personal Information Protection Online	Start-up
D2.4 Reporting Mechanisms	Start-up
D2.5 Media and social media	Start-up
<b>D3 Cybersecurity Education, Training and Skills</b>	
D3.1 Awareness Raising	Start-up
D3.2 Framework for Education	Start-up
D3.3 Framework for Professional Training	Start-up
<b>D4 Legal and Regulatory Frameworks</b>	
D4.1 Legal Frameworks	Start-up
D4.2 Criminal Justice System	Start-up
D4.3 Formal and Informal Cooperation Frameworks to Combat Cybercrime	Start-up
<b>D5 Standards, Organizations and Technologies</b>	
D5.1 Adherence to Standards	Start-up
D5.2 National Infrastructure Resilience	Formative
D5.3 Software Quality	Start-up to Formative
D5.4 Technical Security Controls	Start-up to Formative
D5.5 Cryptographic Controls	Start-up to Formative
D5.6 Cybersecurity Marketplace	Start-up
D5.7 Responsible Disclosure	Start-up

## 5.2. ITU Global Cybersecurity Index (GCI)

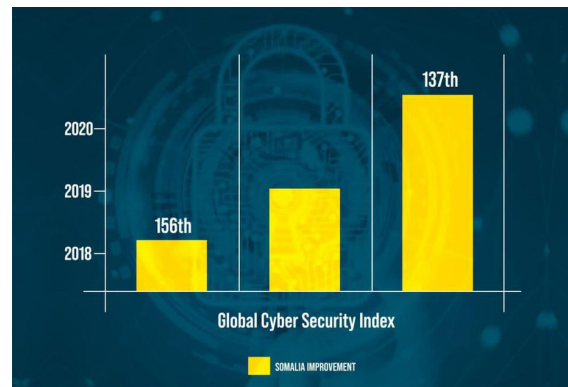
The Global Cybersecurity Index (GCI) is the International Telecommunication Union (ITU) initiative, the UN specialized agency for ICTs, shaped and improved by a diverse range of experts and contributors within countries and other international organizations. It is based on five Pillars as show in figure 10.



**Figure 10: Pillars of GCI**

NCA has actively participated in the 3rd GCI and 4th GCI and submitted all the required information and responses with validation as per the GCI Guideline for member states. the GCIv4 2020 was stated that Somalia had improved in the technical part but still falls behind in the Legal, Organizational, Capacity Development and Cooperation parts. Likewise, Somalia had improved in the fourth iteration of GCIv4 compared to the third GCIv3 and the second GCIv2 versions. The Authority has undertaken several activities that enabled the

improvement of Somalia's ranking in the Global Cybersecurity Index. NCA has put in place a legal and regulatory framework in Cyber security, which caused the rise in Somalia's rank in the Global cyber security Index to 137<sup>th</sup> position in 2020 from 156<sup>th</sup> in 2018. Somalia is also ranked 28<sup>th</sup> in the Africa Region and 19<sup>th</sup> in the Arab states' region. The following figure shows how Somalia improved its ranking in the global GCI index.



**Figure 11: Global Cyber Security Index**

## 5.3. National Emergency Response Team (CERT)



National Communications Authority of Somalia has taken significant steps to establish the first Somalia National Computer Emergency Response Team / Coordination Center (SOMCERT/CC) with clear vision, mission, and objectives. SOMCERT is the first national/governmental CERT in Somalia. In May 2019, SOMCERT/CC was formed as a section under the Cyber Security Department by the National Communications Authority (NCA) to secure

Somalia's cyberspace and provide an official point of contact to handle cybersecurity incidents in the Somali Internet community. Moreover, SOMCERT provides cybersecurity incident handling, promoting cybersecurity awareness, as well as coordinating cybersecurity issues.

SOMCERT collaborates with government agencies, organizations, academia, Internet Service Providers (ISPs), and other relevant entities to handle cybersecurity incidents in Somalia and various cybersecurity initiatives worldwide, and it will provide timely warning, support, and advisories to all constituents from public and private sectors in preventing and handling cybersecurity incidents. SOMCERT is the essential operating National CERT and aims to provide cybersecurity protection to federal, civilian, and executive branch agencies through intrusion detection and prevention capabilities. It also conducts public awareness-raising activities through social media. SOMCERT has also prepared necessary policy, guidelines, and procedures to implement the National Computer Emergency Response Team (CERT) in consultation with the stakeholders. The guidelines define the CERT services provided

to its constituents and how the incidents will be handled.

#### 5.4. Cyber Security Awareness

SOMCERT Conducted public awareness campaigns targeting all the key stakeholders, such as SMEs, private sector companies, government agencies, elderly people with special needs and children during COVID-19 Pandemic. The aim was to raise cyber security awareness, reduce risks and damages from cyber-attacks including Ransomware and phishing as well as sharing tips to Stay Safe Online while working from home.

Furthermore, SOMCERT staff participated in "Building an effective cybersecurity team" and "Incident Response Practice, Hands-on scenario-based training" offered by ITU Academy. In addition, SOMCERT provides regular cyber security awareness programs using posters and videos based on the current cyber security threats and attacks worldwide and published through the SOMCERT website and social media platforms.

The following table shows the cyber security regulation documents completed in the year 2020/2021:

**Table 9 : Interconnection Regulation Documents**

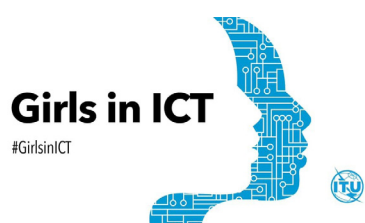
No.	Regulation Document	Date Published for Consultation	Date Approved
1	SOMCERT Policy	23 <sup>rd</sup> June, 2021	Expected to be approved this year
2	SOMCERT Guidelines	23 <sup>rd</sup> June, 2021	Expected to be approved this year
3	SOMCERT Procedures	23 <sup>rd</sup> June, 2021	Expected to be approved this year

# PUBLIC RELATION AND STAKEHOLDERS' ENGAGEMENT INITIATIVES

May 2020 – May 2021

The National Communications Authority (NCA) conducted stakeholder engagements initiatives and public consultations in accordance with the National Communications Law.

## 6.1. Girls in ICT Day 2020/2021



The National Communications Authority (NCA) in collaboration with Ministry of Communications and Technology (MoCT) organized a virtual event to celebrate the Girls in ICT Day. Girls In ICT Day is an ITU initiative that celebrates girls in ICT around the world. There were around 60 participants from Academics, Schools, innovation hubs and civil society. Many topics relating to Girls in ICT were discussed during the live webinar, including the challenges and opportunities for women in studying and working in the ICT sector in Somalia.

The participants welcomed the initiative which will be a yearly event. The objective is to inspire girls and young women to consider studies and careers in the ICT field, to join tech industry and to achieve gender equality and bridge the gender digital divide in line with 2030 agenda for sustainable development goals.

## 6.2. Consultation on the Regulations

### 6.2.1 Licensing Framework

The Unified Licensing framework went through extensive public consultations as well as one-on-one consultation meeting with operators. The operators provided their concerns and input to draft documents presented. The

operators submitted their comments regarding many issues such as the spectrum management, numbering, and license fee structure, as well as some specific concerns regarding the license terms and conditions. NCA reviewed and gave consideration to the comments from the operators.

The National Communications Authority has conducted consultations regarding the new numbering plan and the numbering regulations.

### 6.2.2 Spectrum and Interconnection Regulations and Guidelines Public Consultation



**Figure 13: Public Consultations on Spectrum and Interconnection Regulations**

In collaboration with the IFC, the National Communications Authority has organized a 6-day public consultation of Spectrum regulation, Interconnection regulation and technical guidelines.

The following table summarizes the consultation conducted with the operators:

**Table 10 : Public Consultation with Operators**

Date	Operators
Monday, 16 <sup>th</sup> August, 2021	Hormuud Telecom
Monday, 16 <sup>th</sup> August, 2021	Golis Telecom
Tuesday, 17 <sup>th</sup> August, 2021	AMTEL
Tuesday, 17 <sup>th</sup> August, 2021	SOMTEL
Wednesday, 18 <sup>th</sup> August, 2021	SOMLINK
Wednesday, 18 <sup>th</sup> August, 2021	NATIONLINK
Thursday, 19 <sup>th</sup> August, 2021	Open Session

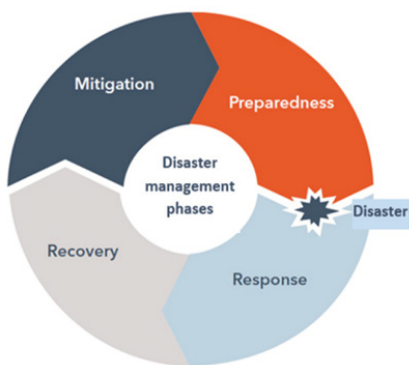
# INTERNATIONAL PARTNERSHIPS

The National Communications Authority works with International Partners to develop the capacity of the authority to regulate the sector. Below are some of the projects and initiatives conducted in collaboration with other Partners.

## 7.1. National Emergency Telecom Plan

The National Communications Authority, in collaboration with ITU and Ministry of Communications and Technology, prepared the National Emergency Telecommunications Plan (NETP). It sets out the strategy to enable and ensure communications availability during the mitigation, preparedness, response, and recovery phases of disaster risk management (DRM). This is achieved by promoting coordination across all levels of government, between public and private organizations, and within communities at risk.

This NETP includes the definition of policies, the organizational structure, and the methods of coordination between the different actors during all four phases of DRM in Somalia. It also establishes the principles that guide the allocation of resources and responsibilities for the achievement of the proposed objectives, including the expected telecommunication and information and communication technology (telecom/ICT) response times, tasks, and processes.



**Figure 10: Disaster Management Phases**

## 7.2. Market Assessment of ICT sector

The National Communications Authority (NCA) in collaboration with International Finance Corporation (IFC) carried out a project to establish progressive and transparent processes that promote fair and sustainable market competition and project investor and consumer interests. The objectives of the project are to:

- I. **Identify relevant markets, detail the current market structure, including identifying significant market power (SMP) within the ICT sector and to provide an in-depth analysis of market data**
- II. **Document levels of competition within the selected relevant markets and provide recommendations on policies that could foster dynamic and healthy competitive practices as well as incentives for firms to increase their investment**
- III. **Build the capacity of NCA in conducting similar assessments and identifying SMP in the future.**

The assessment is the first of its kind and it is expected to be completed this year.

## 7.3. ITU and Somalia Joint Programme Action Plan (PAP)

The National Communications Authority (NCA) and ITU signed a Framework of the Cooperation Agreement (FCA) to achieve strategic goals of ensuring the nation and its citizens are positioned to leverage the advantages of digital technologies. The overall objective of the Programme action plan are as follows:

- The purpose of this Programme action plan is to implement the FCA signed with Somalia with aims to develop the ICT policies and infrastructure, enhance capacity building and;
- Strong alignment with national development priorities and country priority areas;
- Building on experience of previous programs of ITU and its partners;
- Greater coherence and coordination between the UN system agencies United Nations Development Assistance Guidance (UNDAF);
- The aid environment and use any prevailing frameworks for enhancing aid effectiveness (e.g., joint assistance strategies with partners and stakeholders);

Some of the ITU and NCA joint projects are:

- I. Human Capacity and Skills Development in the area of ICT policy and regulation
- II. National Cyber security Policy and Strategy
- III. Development of Policy for human exposure to electromagnetic fields (EMFs), Equipment, and e-waste management
- IV. Deployment of Multi-hazard Early Warning Systems
- V. Innovation and Entrepreneurship

#### 7.4 In Collaboration with Financial Corporation (IFC)

The National Communications Authority has partnered with International Finance Corporation (IFC) in many areas regarding the establishment of progressive and transparent processes to promote fair and sustainable market development and enhancing the market competition. The IFC has provided technical assistance in the areas of interconnection, market assessment, competition and spectrum management. NCA in collaboration with IFC has also conducted the first ever study to be performed on the Telecommunications market. The study also provides in dept analysis of the market, competition levels, and provide recommendations on policies that could foster dynamic and healthy competitive practices, as well as incentives for firms to increase their investment.

#### 7.5 Collaboration with the World Bank

The World Bank has supported the passage of the Communications Act of 2017, and The establishment of the National Communications Authority (NCA). Through the SCALED UP project, the world bank has supported the NCA in getting the necessary experts to implement the Communications Act and the development of the basic regulations for the Telecommunications market. The World Bank has supported the capacity building of the NCA staff including on job training, regulatory workshops, and regional workshops. The World Bank assisted NCA in participating major International events notably ITU Global Symposium for regulators in Geneva, July 2018, and ITU World Radio communication Conference, in Sharm el Sheikh, 2019.



**NATIONAL COMMUNICATIONS AUTHORITY**  
**FEDERAL REPUBLIC OF SOMALIA**