



ANNUAL REPORT

2023



ABOUT COVER PHOTO

The cover image reflects the facilitation of accessible and widespread connectivity through various means. It showcases the use of a Global Maritime Distress and Safety System (GMDSS) Handheld Radio. This device makes communication while at sea possible and allows for ship to shore and ship to ship communication using terrestrial radio systems and digital selective calling technology. Additionally, with the push of a button, distress calls can be made to coastguard and other vessels with pertinent location and identification.

The image also showcases a smartphone, used to communicate, and access information in various ways. It is the most widely used communication device in the 21st century. Using this device, communication occurs using public mobile telecommunications networks regulated by the Commission. This device is also used to access various high speed Wi-Fi spots across SVG that are open to the public and made available through the Commission. Additionally, the satellite phone seen in this image can be used in remote areas where terrestrial networks are not available or in extreme circumstances where a disaster has damaged terrestrial networks.

As the name suggests, the phones connect to satellites in space and serve as a backup communication device for many.

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1. MISSION STATEMENT

To facilitate quality, relevant, and affordable Telecommunications Services throughout St. Vincent and the Grenadines.



2. VISION STATEMENT

To ensure that the demand for existing and future Telecommunications Services is met, to support economic growth and diversification, by providing a suitable environment for the tourism, information and financial sectors through a liberalized and competitive Telecommunications environment.



3. FUNCTIONS

The National Telecommunications Regulatory Commission (NTRC) in collaboration with the Eastern Caribbean Telecommunications Authority (ECTEL) is responsible for carrying out a variety of functions that are associated with regulating the Telecommunications Sector in St. Vincent and the Grenadines. These functions are outlined in detail in the Telecommunications Act (CAP 418) of the Revised Laws of St. Vincent and the Grenadines 2009.

4. THE COMMISSIONERS



Mrs. Roxann Williams
Chairperson



Mr. Petrus Gumbs
Commissioner



Mr. Sehon Marshall
Commissioner



Mr. Avalon Morris
Commissioner



Mr. Ivo Carr
Commissioner

5. STAFF MEMBERS





Apollo Knights
Director



Nadine Hull
Spectrum
Manager



Mishka L. Quashie
Accountant



**Marcellus
Constance Jr.**
Technical
Operations
Manager



Shonden Baptiste
Administrative
Officer



Andra Keizer
Executive Assistant



Descilla Samuel
USF Administrator



Rhea Lewis
Consumer & Public
Relations Manager



Cyron Cyrus
Software Developer



Eustasha Walter
Public Relations
Officer



Shadeja Gordon
USF Assistant



Ronicia Douglas
Customer
Experience Officer



Christal Matthias
Administrative
Support Officer



Jamila Spence
Intern



Alan Gooding
Intern

6. SWOT ANALYSIS

Strengths

- Availability of sufficient ICT infrastructure and software to efficiently carry out the NTRC's regulatory functions.
- Diversity of relevant skills and experience among current staff.
- A balanced combination of experienced staff alongside young, innovative, and qualified interns.
- Full complement of Commissioners with a wide cross section of skills and experience

Weaknesses

- Inadequate price control mechanisms for dominant suppliers of services specifically in areas of mobile, voice, data, Fixed Broadband and Cable TV retail rates.
- Lack of regulatory oversight on promotional activities of mobile network operators.

Opportunities

- Ability to develop projects under the Universal Service Fund capable of reducing the digital divide that exists within our communities relating to data communication, knowledge sharing and access to local and regional content.
- Ability to address some of the current regulatory legislative deficiencies with a new electronic communications act.
- Collaborate with central Government on the rollout out of the Digital Transformation project that will be utilizing the current and future broadband networks of our country.
- Collaborate with the Ministry of Finance, Economic planning and Information Technology on seeking approval from the Cabinet on a new Broadband plan for St. Vincent and the Grenadines that can facilitate appropriate connectivity and other opportunities for all income groups.
- Collaborate with CARDTP and the OECS Commission on developing a new cybersecurity policy for our country.

- Collaborate with central Government on the development of a virtual base national addressing system.

Threats

- The current duopoly market for most of our telecommunication services is not functioning in the best interests of consumers and our country.
- The recent deployment of low earth orbiting (LEO) satellite constellations that have the ability to compete with terrestrial service providers in delivering Broadband access directly to homes. Such services, if not properly

licensed and regulated, could negatively affect the financial status of both the existing licensed service providers and our regulatory institutions across our sub region.

7. CRITICAL ISSUES

Currently, there are five critical areas that need to be addressed in the sector:

Cyber Security

The NTRC recognizes that there is a need for increased capacity building and formal structures established where cyber security is concerned as we continue to increase our broadband penetration levels and speeds nationwide and across our CARICOM region.

The NTRC is pleased to see this issue finally being addressed in a structured way under the CARDTP but also believes it has to have a multistakeholder approach that covers critical areas such as Education, Health and critical infrastructure etc. A clear national cybersecurity policy and strategy is key to success in this area which will also cover areas of data protection and privacy, etc. It is imperative that this process under the CARDTP will include the creation of a national level CSIRT if we are to

seriously address the current and future Cyber security threats on our citizens, organizations, businesses and the Government.

The role of cyber security is critical in building trust and confidence in a digital economy.

Broadcast standards

The absence of broadcast standards/legislation in our country as well as a regulatory agency for such a sector (NTRC does not have a legal mandate for content or programming matters) is providing a catalyst for social and moral decay in our society.

Data from our 2021 national ICT survey shows that 90% of Vincentians still listen to local radio as such this area can be targeted with a new regulatory framework. We have to seize

the opportunity with the upcoming review of the regulatory framework under CarDTP to have ECTEL and the NTRCs cover other components of the sector, especially that of content and programming. We are not in a situation where we have another entity regulating content and want to merge with both institutions, but we have no one regulating content or programming.

Broadband Penetration/Digital divide

If the country is expected to compete on the global market, irrespective of the sectors targeted, it is critical that as a country, we focus on increasing the penetration levels of broadband access to consumers. Broadband is seen as an essential service globally which is comparable to that of electricity, telephone, and water. In relation to water and electricity St. Vincent and the Grenadines has a household penetration exceeding 90%. In comparison, for fixed broadband, at the household level we are at about 62% penetration. Such a penetration rate of (62%) in electricity and water today is unimaginable, as such our broadband penetration levels must be increased such that it is comparable

to that of our electricity and water penetration. We saw in 2020 the impact of such a low penetration rate on the ability of some of our students to actively participate in online classes while face to face classes were suspended due to the Covid-19 pandemic.

It is imperative that the Government formalize a National Broadband Policy via a national broadband plan that can be used to decrease the digital divide that exists among our households.

Consistent Connectivity

While St. Vincent and the Grenadines (SVG) like the rest of the ECTEL states has achieved a high penetration rate of mobile phones with SVG having a penetration rate of 94% of which 82 % are smartphones we have a serious issue with consistent connectivity. While the developed countries are mainly postpaid, which in itself results in those customers being connected automatically with daily data access, this is not the case in our region. In SVG 90% of our mobile customers are prepaid. The issue that we have found from our data collection

is that only 66% of these prepaid customers (who make up the majority of our population) maintain a regular data plan. In short, we can easily say that 1/3 of our population on any given day do not have data access on their phones. When we consider this statistic with the fact that fixed residential broadband penetration is at 70% it can easily be deduced that a large portion of our population does not have internet access on a regular basis at home or on the go. Without consistent internet access to the internet feeds our digital divide and reduces the ability of our citizens to properly partake in our growing Digital economy.

The main contributor to the above is the service providers policy of selling data packages in day formats (1 day, 3-day, 7 day and 30-day packages) only as compared to selling data in amounts (1 GB, 5 GB etc.) that will expire say a minimum of 30 days after purchase. If data is sold in amounts as is done in several African countries (large prepaid markets as well) this will allow persons to utilize the data as they can afford and allow for consistent connectivity. In the current status quo it would be difficult for a user to use all the data assigned in a 1 day or 3-day plan within the time allocated. This situation can be easily fixed in the ECTEL member states with regulations

that will require data packages to have a minimum expiry date of 30 days.

Digital Transformation

Several countries within the OECS including St. Vincent and the Grenadines have embarked on several initiatives geared towards the transformation of their societies via digital technologies. Of specific relevance is the new Caribbean Digital Transformation Project funded by the World Bank which commenced in 2020 and will close in June 2026. This project will touch on many aspects of the pillars of our economy including innovation, investment, digital financial services, e-commerce etc. While the project touches on many important areas both nationally and regionally, it is missing a very critical component which if left unaddressed would hamper the success of this project and others to come. This is the lack of a national addressing system in St. Vincent and the Grenadines and other states of the OECS. It is the main reason why there is very little domestic ecommerce in our islands. It is also the reason why there are delays in delivery of goods and services at the domestic level which affects productivity and can have life threatening implications where the police, fire and health officials can be delayed in responding to

emergencies. A 911 system cannot properly function without a national addressing system.

The Government should seek to address this issue preferably on the regional level via a virtual base national addressing system.

The NTRC has developed a prototype of such a system in 2023 which we would like to see rolled out at the national and OECS level.

8. SECTOR REVIEW



2023 Financial Data Review

Total Telecom Revenue 2023

Revenue of the NTRC and ECTEL for the period 2002 to 2023

Frequency fees are shared between the NTRC and ECTEL. In 2023, frequency fees collected increased by 28% compared to 2022. In 2022, the NTRC collected \$2,911,638.53 while in 2023, \$3,721,857.06 were received as receivables of \$520,486.41 from 2022 were settled during the year.

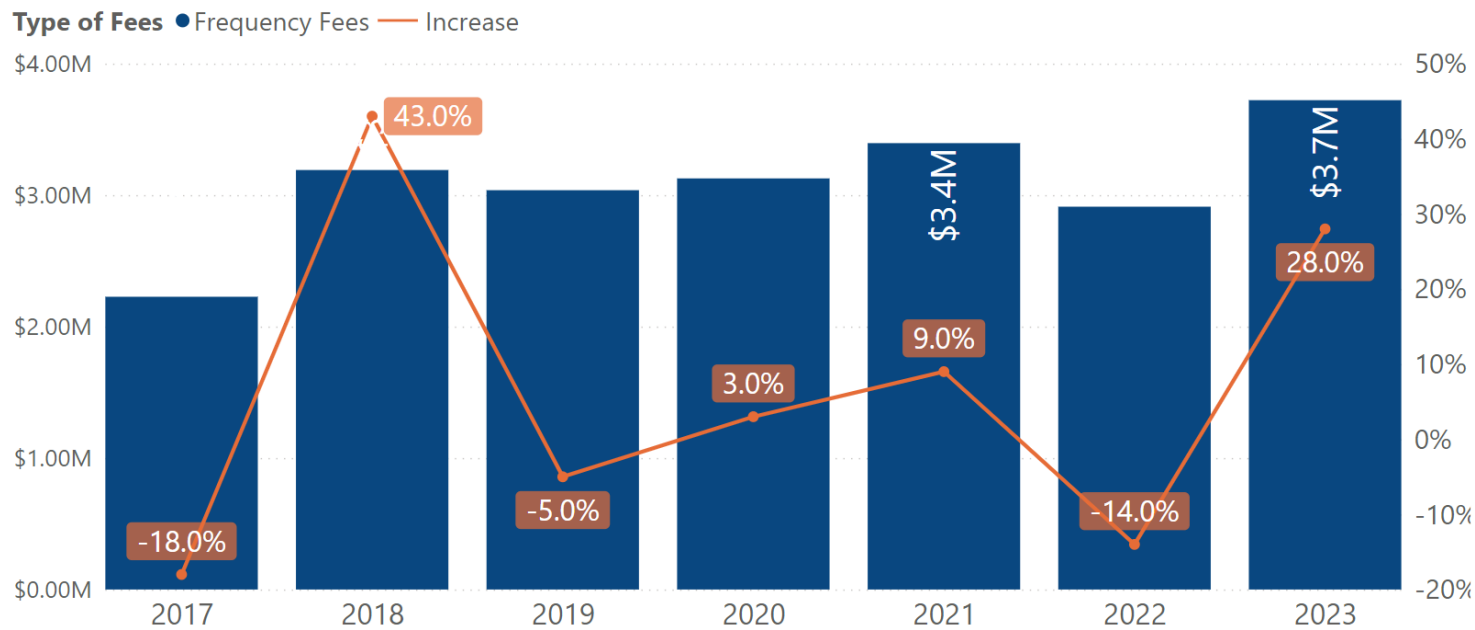


Figure 1 Frequency Fees 2017 - 2023

For application fees, in 2023, there was a 38% reduction compared to 2022. The NTRC collected \$43,093.21 in 2022 and \$26,587.95 in 2023. In 2022, a higher revenue was received as the application fees for the licensing of 81 new VHF radios for fishermen were covered by the Food and Agriculture Organization Sub-Regional Office for the Caribbean.

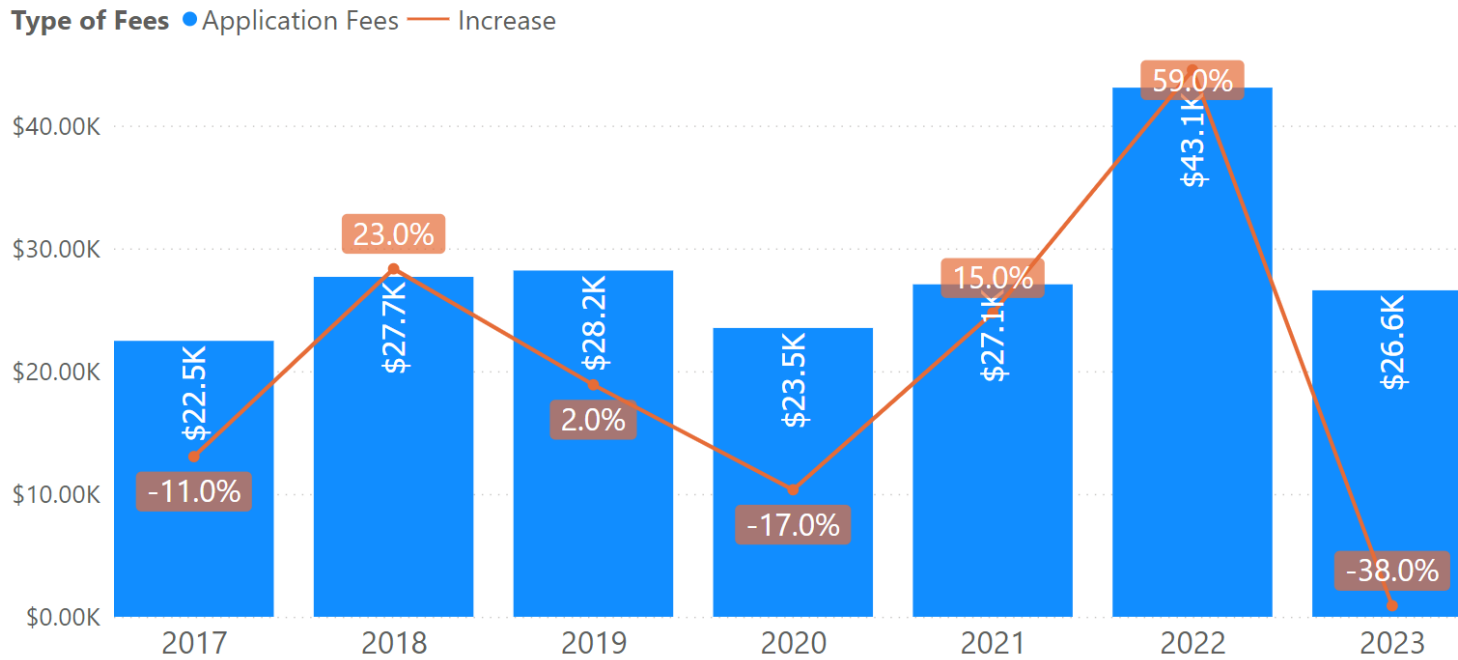


Figure 2 Application Fees 2017 - 2023

Licence fees received by the Government for the period 2002 to 2023.

There was a 2% increase in revenue for licence fees collected by the NTRC on behalf of the Government in 2023 compared to 2022. In 2022, \$3,927,195.01 was collected while in 2023, the NTRC received \$4,020,592.68. While the annual licence fees for two Telecommunications providers were not paid by year end, outstanding fees for 2022 amounting to \$142,733, were received in 2023. Additionally, higher licence fees in total were received from Telecommunications providers in 2023 due to a higher revenue reported compared to 2022.

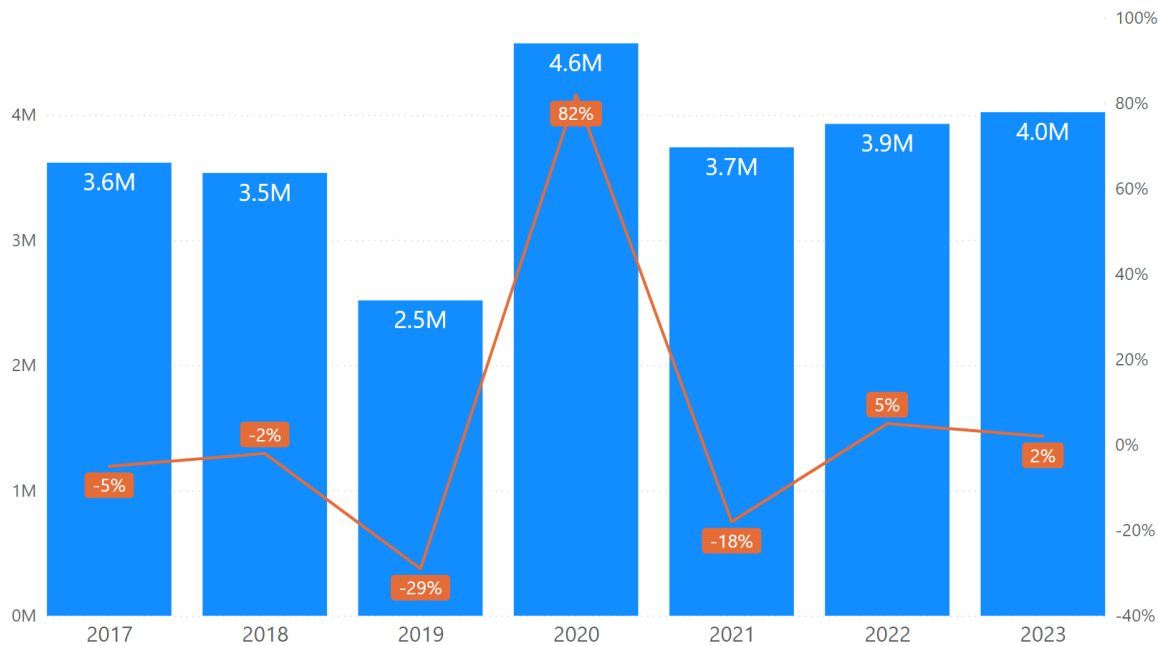


Figure 3 License Fees collected by Government. (2017 – 2023)

Financial Performance of the NTRC

A. Revenue

The NTRC's projected revenue for the year ending December 31, 2023 was \$1,741,889.22 while \$1,760,426.58 was collected. In addition to this, receivables from 2022, amounting to \$51,643.39 was also received.

B. Expenditure

i. Recurrent

For the year ending December 31, 2023, the NTRC had projected to spend \$1,650,864.15 on recurrent expenditure; however, \$1,651,140.92 was spent. At the end of December 2023, the NTRC had accrued expenses amounting to \$35,561.76.

ii. Capital

The amount of \$171,085.00 was budgeted for capital expenditure for the financial year 2023, while \$170,544.47 was spent.

C. Conclusion

The NTRC's financial performance over the 2023 financial year was satisfactory.

D. Special Projects

A total of \$800,000.00 has been paid on the cost of the Layne's property in 2023. This was covered by the \$300,000.00 received from the Government as well as \$500,000.00 from the Bank loan. As it relates to renovations, the NTRC has spent a total of \$415,479.90 in 2023. Due to delays, renovations are expected to be completed within the first quarter of 2024.

The Government provided funding of \$500,000.00 for the expansion of the USF internet network coverage. To date, \$430,293.06 was spent and a balance of \$69,706.94 remains to cover the installations to be completed within the first quarter of 2024.

Projected Spectrum Revenue for 2024

For the fiscal year 2024, the NTRC expects that the projected spectrum revenue will marginally reduce by \$8,785.00 (0.27%) from \$3,276,645.00 projected in 2023 to \$3,267,860.00 projected for 2024.

9. Human Resource Development for 2023

The NTRC continues to expose its staff and Commissioners to relevant courses and seminars that would benefit the organization both in the short and long-term considering the limited resources available.

The areas covered during 2023 were as follows:

- BSc. Management Studies (Human Resource Management). This program is being done online via UWI Open Campus St. Vincent and the Grenadines.
- BSc. Management Studies (Marketing). This program is being done online via UWI Open Campus St. Vincent and the Grenadines.
- RF and Microwave Interference Analysis Certification Training Course. This training was conducted in Miami.
- Policy Making with Big Data Analytics. This training was done online with Carnegie Mellon University (USA).
- MSc. Information Security and Digital Forensics. This program is being done online via the University of East London.
- 8th ECTEL/NTRC ADMINISTRATIVE WORKSHOP. This workshop was held in St. Lucia.
- Certificate in FinTech for Finance and Business Leaders (CertFinTech). This training was conducted online with ACCA in partnership with Accounting CPD.

- Organizational Analysis. This training was done online via Coursera.
- IBM Data Analytics with Excel and R. This training was done online via Coursera.
- Graphic Design Elements for Non-Designers Specialization. This training was done online via Coursera.
- Excel Skills for Business Specilization. This training was done online via Coursera.
- Google IT Automation with Python Professional Certificate. This training was done online via Coursera.
- Machine Learning Specialization. This training was done online via Coursera.
- Web applications for everybody specialization. This training was done online via Coursera.
- Meta React Native Specialization. This training was done online via Coursera.

10. Legislation

EASTERN CARIBBEAN TELECOMMUNICATIONS AUTHORITY
 BILL 2023 - The Eastern Caribbean Telecommunications Authority Bill No. 21 of 2023 was passed on October 3, 2023.

11. Staff

In 2023, the NTRC hired a new Universal Service Fund Administrator, Ms. Descilla Samuel. Also in 2023, the following persons were recognized for their years of service to the organization:

- Ms. Nadine Hull, Spectrum Manager for twenty (20) years of service.
- Ms. Shonden Baptiste, Administrative officer for ten (10) years of service.
- Mr. Marcellus Constance, Technical Operations Manager for ten (10) years of service.

12. Spectrum Management

The NTRC continued to conduct its weekly spectrum monitoring activities in the year 2023. This was done via the use of a mobile spectrum monitoring equipment at various locations around St. Vincent & the Grenadines. Additionally, the NTRC continues to utilize the remote spectrum monitoring probes located at Union Island and Bequia to remotely monitor the spectrum in the Grenadines. Also, during the year, the NTRC started accepting type approval applications on the ECTEL / NTRC / Spectrum Center applications portal. Work continues on the development of the platform for the automation of the licence and frequency authorization application process. In September 2023, two representatives of the NTRC participated in a 3-day certification course in Miami on Radio Frequency (RF) and Microwave Interference Analysis. The course delved into the fundamentals of spectrum analysis, with a sharp focus on the art of radio frequency interference hunting and finding. Participants of the course, which also included technical representatives from NTRCs and ECTEL learned how to make critical RF measurements and use them to identify and pinpoint interfering signals. The information gathered in the training will better equip the skillset to handle cases of harmful interference.

13. Cellular Sites

Figure 4 shows the number of LTE cellular sites in St. Vincent and the Grenadines. A total of 7 new cellular sites were approved for Public Mobile Operators in 2023. Cable and Wireless was granted approval for 1 new mobile site at Massy Stores Arnos Vale while Digicel was granted approval of 6 additional sites (Ashton, Enhams, Georgetown, Green Hill, Buccament and Vermont). The addition of these sites brings a total of 44 sites for Cable and Wireless and 56 for Digicel. While the mobile operators were granted new sites in 2023, there is still a need for additional sites to provide coverage in areas along the main roads of the Windward and Leeward Highways that have little to no coverage.

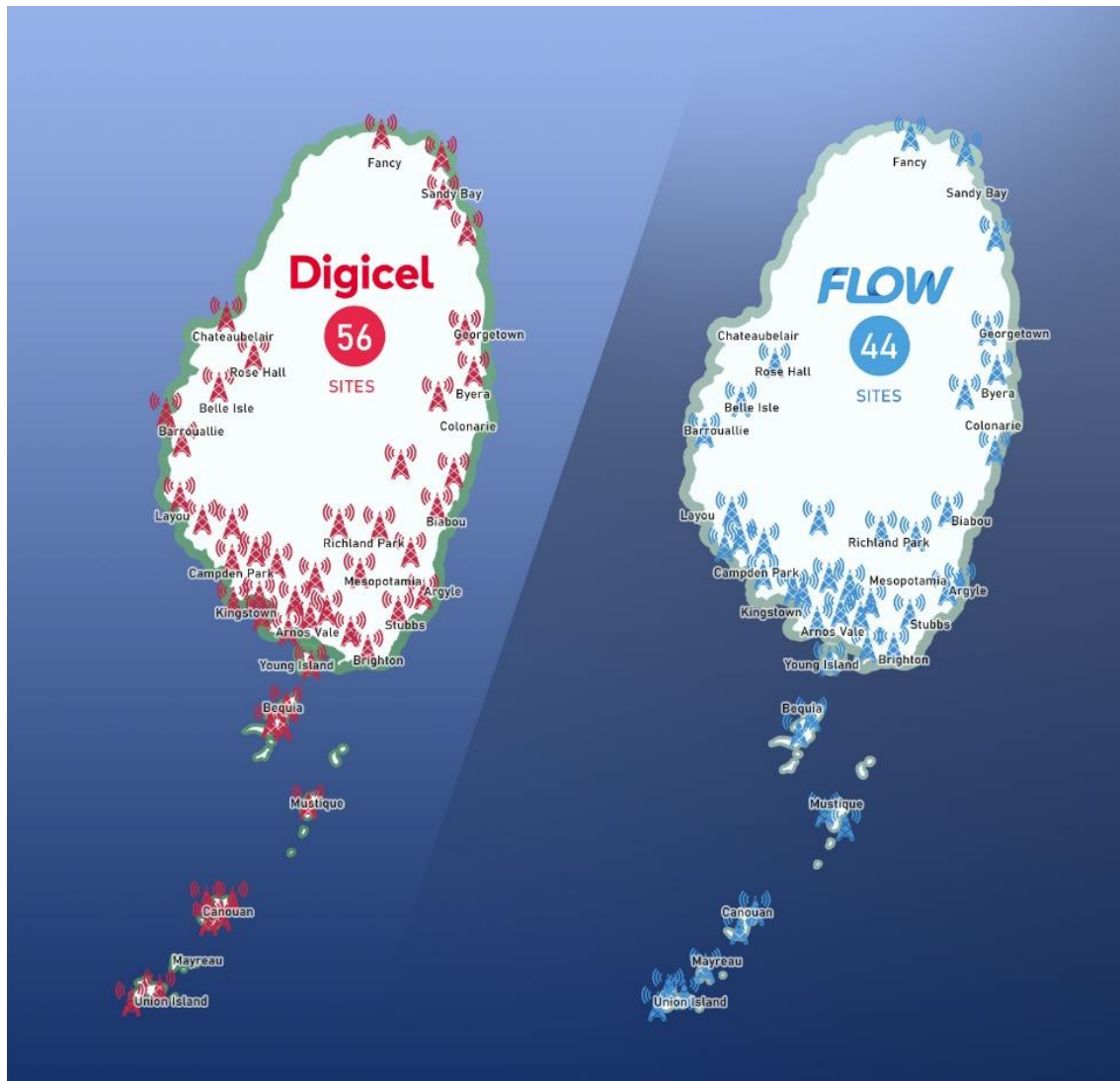


Figure 4 Cell Sites in St. Vincent and the Grenadines

14. Internet Access

As of December 2023, the total number of Fixed internet subscribers in St. Vincent and the Grenadines was Thirty Thousand Eight Hundred and Ninety-Seven (30,897). This figure shows a 4.42% increase over the number of subscribers in 2022. In addition, the NTRC commissioned the Online 24/7 Project in October 2023. This project is providing internet access to locations such as community centers, playing fields, non-governmental organizations, and tourism sites which will improve telecommunication across St. Vincent and the Grenadines. More information on the projects can be found in the USF 2023 Annual Report.

15. Public Consultations

The NTRC conducted public consultations in 2023 based on a recommendation from the Eastern Caribbean Telecommunications

Authority (ECTEL) to consult on the following regulatory instruments in the ECTEL Member States:

1. Revised and Updated Electronic Communications (Quality of Service) Regulations of the ECTEL Member States – The objective of the consultation was to gather the views of stakeholders as it relates to:
 - The revised and updated Electronic Communications (Quality of Service) Regulations which was created to address the myriad of complaints from retail consumers and to strengthen the monitoring and enforcement functions of the National Telecommunications Regulatory Commission ('Commission') in all the ECTEL member states.

16. Public Awareness

In 2023, the NTRC executed several public awareness initiatives.

1. iCode784 competition

On Wednesday, September 13, 2023, the NTRC initiated its 11th iCode784 competition. The launch began with the conclusion of a video contest, where participant Mr. Bradley Alexander secured a brand-new HP Laptop from NTRC as the winner, earning the most likes on his video submission promoting the iCode784 competition. The iCode784 competition event served as a platform challenging students to conceive and present projects in the form of ideas and/or mobile applications, targeting both the public and private sectors of St. Vincent and the Grenadines. The overarching goal was to contribute to our country's progress in achieving the targets outlined in the UN Sustainable Development Goals (SDGs). After the competition launch, a total of Fifty-Two (52) entries were submitted in 2023, in contrast to Fifty-Seven (57) entries in the 2022 competition. The Secondary Idea Category garnered participation from Twenty-Two (22) groups, while the Secondary Mobile Application Category had Twenty (20) groups, and the Open Category, catering to individuals under the age of thirty-five (35) years, received Ten (10) entries.

The Preliminary Judging round took place on October 24-25, 2023, during which the groups presented their projects via

video submissions to a panel of judges. The Grand Finale, marking the conclusion of the competition, occurred on November 15, 2023. In the Open category, Team E-tech members Ansonique Cuffy and Nicholai Williams emerged as winners, earning a trip to attend the 4yfn (Four Years From Now) forum for tech startups scheduled to be held in Barcelona, Spain, in March 2024.

The primary objective of the iCode784 competition is to motivate young individuals to actively participate in the software industry, an area where our Caribbean civilization is currently falling behind. Notably, the current global software and services industry boasts a market size of US\$474 billion and is projected to witness an 11% annual growth until 2030.

2. Financial Assistance Program

In 2017, the NTRC established an annual program offering financial support to a single Primary school student and one Secondary school student. This initiative persisted for its seventh consecutive year, and in a notable development in 2023, three primary school students received \$1000 each, while three secondary school students received \$1500 each for their educational expenses during the 2023/2024 academic year.

The program is inclusive, targeting students across all schools in St. Vincent and the Grenadines.

To identify eligible recipients, letters were dispatched to all Primary and Secondary schools, prompting principals to submit names of qualifying students along with reasons justifying their consideration for assistance. Consequently, the NTRC selected students deemed to be in the greatest need, aligning with the program's objectives. The financial assistance initiative is slated to continue into the foreseeable future, with plans underway to expand the number of recipients.

3. The NTRC's MyApp Summer Program

In 2023, the Commission organized the MyApp summer program at two distinct locations: the Bequia Anglican School from July 17 to August 4, 2023, and the St. Vincent Grammar School from July 31 to August 18, 2023. The program engaged twenty-eight (28) students at the St. Vincent Grammar School and sixteen (16) students in Bequia. Aimed at students aged 13-18, these yearly summer programs provide participants with opportunities to explore and develop skills in coding (software) and robotics.

4. Radio and Interview Sessions

Interviews for both radio and television were held at the Agency for Public Information (API), Xtreme FM, WE FM, and Boom FM. These interviews served as a promotional strategy to disseminate information to the public about the ongoing initiatives by the NTRC, including the 2023 iCode784 competition and the MyApp Summer Program.

5. Social media Campaign

In order to broaden our outreach, the NTRC interacted with the public through Facebook, YouTube, and Instagram, offering information about our organization. This approach has not only fostered public engagement but has also led to an increased presence and interaction on these social media platforms.

6. Global Maritime Distress and Safety System (GMDSS) Training Sessions

The commission collaborated with the St. Vincent and the Grenadines Coast Guard Services to maintain the organization of GMDSS Radio Training Sessions for fishermen and individuals engaged in maritime activities throughout St. Vincent & the

Grenadines. These training sessions aimed to educate participants about the GMDSS system, implemented by the NTRC to facilitate both emergency and non-emergency communications at sea. Practical demonstrations were conducted to guide individuals on the utilization of handheld GMDSS radios, equipped with essential features for communication with the GMDSS system and ships.

The community training session took place at the Barrouallie Government School, where, following the session, a complimentary GMDSS radio was raffled among the attendees. In addition to these community sessions, the Commission also conducts training at various Police Stations across the island.

7. School Visits

In order to boost the number of entries for the eleventh annual iCode784 competition, the Public Awareness Committee visited several secondary schools that had not participated in the competition since its inception, as well as schools that had not been involved for numerous years. The presentations during these school events focused on the NTRC's iCode784 competition throughout the years, highlighting the various phases of the competition, providing guidance on how to register, and emphasizing

the rewards associated with participating in the competition.

17. Universal Service Fund

The Universal Service Fund (USF) was established under Section 42 of Telecommunications Act (Cap 418) of the Revised Laws of St. Vincent and the Grenadines 2009. The Fund is managed by the NTRC which collects, disburses, and makes relevant decisions with regards to the proper and effective management of the Fund. The fund is used by the NTRC to compensate any telecommunications provider that is required to provide or promote Universal Service.

For the year ended December 31, 2023, the Universal Service Fund projected to receive a total of Two Million Five Hundred and Fifty-Three Thousand, Two Hundred and Forty-Three Dollars and Seventy Cents (\$2,553,243.70) from Telecommunications Service Providers. A total of Two Million Four Hundred and Ninety-Seven Thousand, Five Hundred and Forty-Two Dollars and Fifty-One Cents (\$2,497,542.51) was collected. A further One Hundred and Nineteen Thousand Three Hundred and Eight Dollars and Forty-One Cents (\$119,308.41) was due to be collected from two

Telecommunications Providers for 2023 which is expected to be collected within the first quarter of 2024.

USF monitoring was conducted at the various sites across St. Vincent and the Grenadines under the five USF projects to ensure that the equipment and services were in place and operational at the various facilities.

The following gives an update of the projects currently being implemented under the USF:

Payphone Project

This project was signed with Cable and Wireless in 2011, at a cost of One Million, Four Hundred Thousand, Five Hundred and Seventy-Five Dollars (EC\$1,400,575). As part of this endeavor, twenty-five (25) payphones were strategically deployed at diverse locations throughout SVG, encompassing tourism sites, beaches, and key points along the main roads for public accessibility. Upon the completion of the payphone project in December 2021, the internet service, originally incorporated within the payphone framework, was transitioned to the Online 24/7 project. The surveillance cameras installed as part of the payphone initiative were retained. Facing persistent maintenance challenges, the NTRC

has decided to discontinue the upkeep of payphones, leading to the removal of all payphones by December 2023.

Schools' Project

The schools' project was first signed on June 7th, 2011, which saw all 107 schools throughout St. Vincent and the Grenadines given wireless internal and external internet access points with minimum speeds of 8Mbps download and 2Mbps upload. This original contract came to an end and a new contract for this project was signed on October 23rd, 2019, for a total of Two Million Five Hundred and Fifty-One Thousand and Fifty-Four Dollars and Eighty-Seven Cents (EC\$2,551,054.87). Under the current project, speeds of 100 Mbps download and 15 Mbps upload are provided. The project will run for five years and would come to an end on October 22nd, 2024. In 2022, the NTRC identified that most of the schools experienced internet connectivity issues due to older model access points that were installed from the first project, no longer functioning optimally due to firmware updates. As such the NTRC procured 200 new access points in 2022 to alleviate this issue. All access points have since been installed. Commissioning of this component is expected to take place by the end of the first quarter of 2024.

Maritime Project

This project was implemented to provide access to both emergency and non-emergency communications in the Exclusive Economic Zone (EEZ) of St Vincent and the Grenadines and saw the implementation of a Global Maritime Distress and Safety System (GMDSS) in St. Vincent and the Grenadines at a total cost of One Million, One Hundred and Twenty-Five Thousand, Seven Hundred and Eighty Dollars (EC\$1,125,780) and was maintained for a period of five years. This project was retendered in 2017 and a new contract was signed on March 8th, 2019, for a period of five years for a total cost of Five Hundred and Ninety-One Thousand, Eight Hundred and Forty Dollars and Sixty-Five Cents (\$591,840.65).

GMDSS Expansion Project in Jerome Union Island

The objective of the project is to expand the coverage of the GMDSS. The GMDSS coverage was previously limited to the Mainland and the Northern Grenadines as there is only one transmission site located at Mount St. Andrew. The contract for the project was signed on May 17, 2022, between Cable & Wireless and the NTRC at a cost of Four Hundred and Forty-Eight Thousand, and Seventy-One Dollars and Eighty-One Cents (\$448,071.81) for

the capital items for the project, while the cost of the maintenance of the project amounted to One Hundred and Sixty-Six Thousand, Four Hundred and Nineteen Dollars and Ninety-Two Cents (\$166,419.92). Installation work for the GMDSS expansion project was completed in November 2023. Commissioning of this project is expected to take place after the training is completed.

Police and Health Center Project

This project was initially signed on November 1, 2012, and it provided wireless internet access at all twenty-nine (29) Police Stations and forty-two (42) Health Centers throughout St. Vincent and the Grenadines at a minimum speed of 8 Mbps. The cost of this project was Seven Hundred and Eleven Thousand, and Fifteen Dollars (EC\$711,015). This project came to an end in June 2017 and a new contract was signed on May 14, 2019. The contract for the second project was Five Hundred and Forty-One Thousand, Three Hundred and Forty Dollars (\$541,340.00) and ended in October 2021. Under this project, thirty (30) police stations and forty-four (44) health centres are provided with internet at speeds of 100Mbps download and 5Mbps upload. The project was retendered in July 2022 and will cater for improved coverage and faster speeds. During the year 2023, the scope of works for this project was

revised and the subsidy applications submitted by Cable & Wireless were negotiated and agreed at the cost of One Million Two Hundred & Fifty-Eight Thousand Two Hundred & Six Dollars and Thirty-One Cent (\$1,258,206.31) in the final quarter of 2023. Under the new contract, police and health centres will benefit from faster speeds of 350Mbps download and 50Mbps upload for years 1-2 of the contract and 500Mbps download and 100Mbps upload for years 3-5 of the contract.

SMART Project

The first contract for this project was signed on November 20th, 2012, at a total cost of One Million, Six Hundred and Ninety-Eight Thousand, Nine Hundred and Ninety-Four Dollars (EC\$1,698,994) for the supply of equipment and teaching aids at the St. Vincent and the Grenadines Community College (SVGCC) to enable them to offer specialized ICT training. This five-year project was commissioned on September 25th, 2014, and came to an end on September 24th, 2019. The project was retendered on July 24th, 2019, and the NTRC subsequently entered into a contract with Cable and Wireless on March 26th, 2020.

Under the new project, the NTRC provides financial aid to the Cyber Security Programme offered at the St. Vincent Community College of which seven (7) students graduated in June 2023. The provision of access to subsidized internet at a cost of ten dollars per month is another component of this project. In 2022, a target was set to connect 160 households in 2023. This target was not met as only eighty-nine applications were received and seventy-Six (76) persons were approved and sent to C&W for connection of internet service. Under this project, six-Hundred and Forty (640) computers will be disbursed to various schools throughout St. Vincent and the Grenadines over the 5 years of the contract. In December 2022, a total of seventy-eight computers were purchased and distributed in 2023 to eight (8) schools. Sixty-seven (67) computers were purchased at the end of 2023 for donation to more schools.

Online 24/7 Project

The Online 24/7 project is a new project that replaces the community access project and the payphone project. Four lots of this project were tendered in February 2022 however, the Commission decided to proceed with Lot 1 and Lot 4 of the project only. Lot 1 saw the continued provision of wireless internet access at 120 existing locations throughout the urban and rural areas of

St. Vincent and the Grenadines. It also provided internet service to new locations and high traffic locations, NGOs, playing fields and hard courts with minimum speeds of 250Mbps download and 50Mbps upload in Year 1-2 then 300Mbps download and 100 Mbps upload from Year 3 – 5. Lot 4 of this contract comprises of two components.

1. The provision of high-speed internet connection at the St. Vincent Community College with minimum speeds of 500 Mbps download and 300 Mbps upload for the first 2 years and 1 Gbps

download and 700Mbps upload for the last 3 years of the project and;

2. The provision of fifty (50) Internal Access Points

The contract for the project was signed on July 18, 2022, between Digicel SVG Limited and the NTRC in the amount of Four Million, Three Hundred and Twenty- Six Thousand Three Hundred and Sixty-Three Dollars and Five Cents (\$4,326,363.05), however an addendum was added in 2023 to include internet service to the two new vegetable markets and two weather stations. The project was commissioned at the end of October 2023.

18. Statistics

The NTRC continued in 2023 with the provisioning of statistical data from the Telecommunications sector to several local, regional, and international entities. The following graphs depict some of the more relevant information on the sector while detailed information can be found on table 6 on pages 53-54, which gives a thorough overview of customer data supplied by Telecommunications Providers.

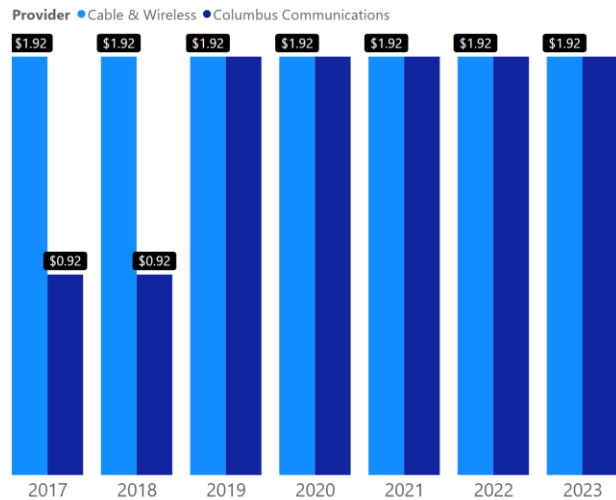


Figure 5 Fixed Line Rates to USA

Figure 5 shows that Columbus Communications and Cable and Wireless fixed line rates to the USA remained unchanged.

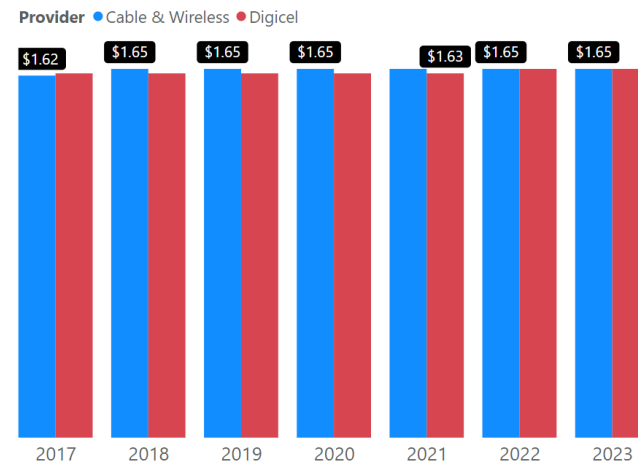


Figure 6 Mobile Rates to USA

Figure 6 shows that Digicel and Cable & Wireless's USA mobile rates remained unchanged.

Figure 7 Domestic on Network Rates

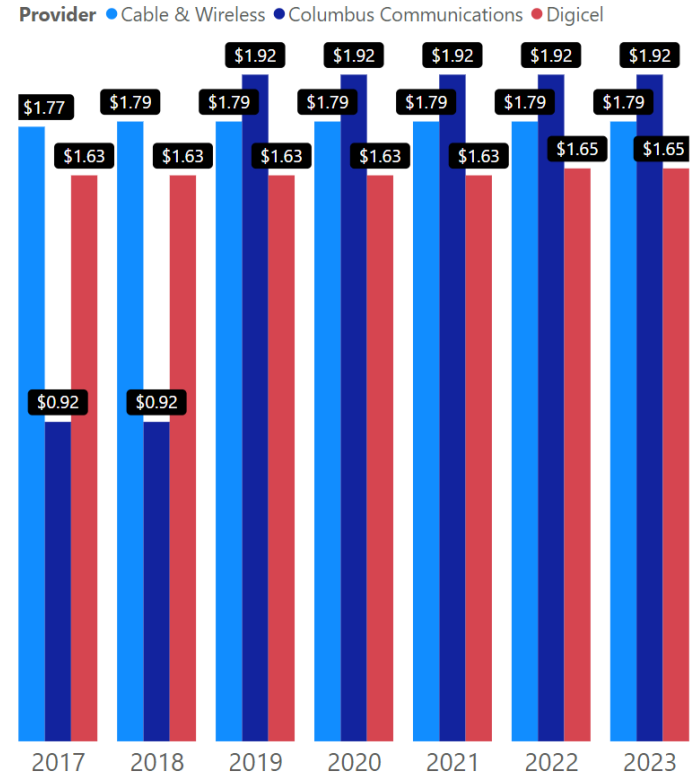


Figure 8 Daytime Rates to USA

The domestic rates in Figure 7 are the daytime rates for calls made to customers on the same network.

The international rates in Figure 8 are the fixed line daytime rates for calls to the USA for providers. Columbus Communications, Digicel SVG Limited and Cable and Wireless rates remained unchanged in 2023.

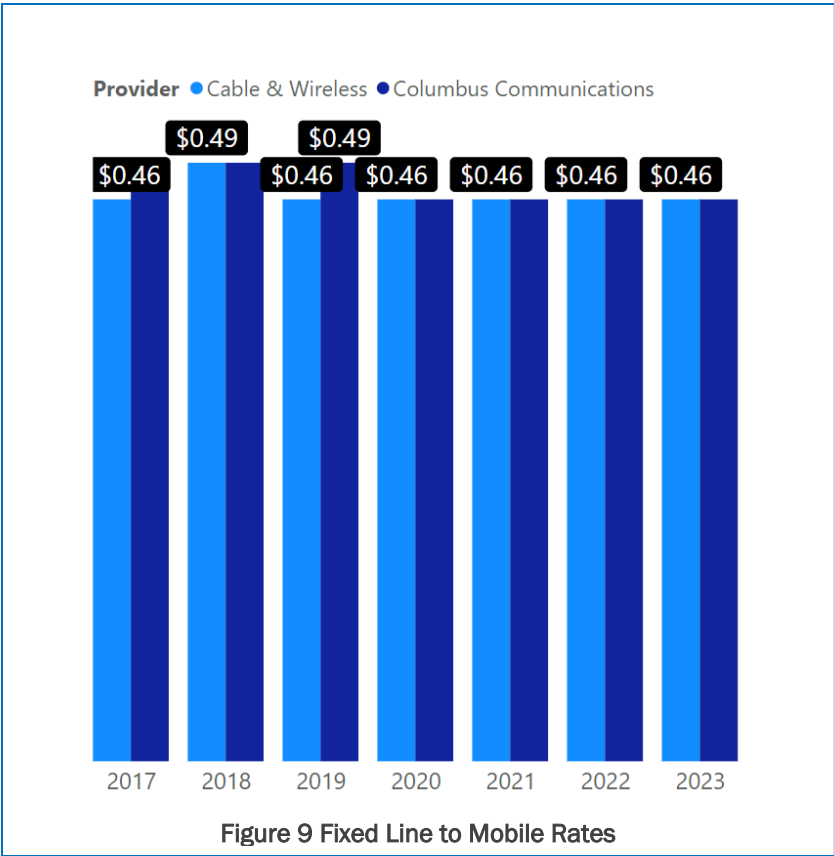


Figure 9 shows Cable & Wireless' and Columbus Communications fixed line to mobile rates for 2017 to 2023. Cable & Wireless and Columbus Communications rates remained unchanged in 2023.

Figure 10 Mobile Subscribers 2023

Figure 11 Percentage of Population with a Mobile Subscription

Figure 10 shows the number of mobile subscribers for 2023. It is noted that both Digicel SVG Limited and Cable & Wireless' mobile subscribers increased in 2023.

Figure 11 shows the percentage of population with a mobile subscription from 2017 to 2023. For 2023 we see that there was a slight decrease in the number of mobile subscriptions.

Figure 12 Mobile Data Subscribers 2023

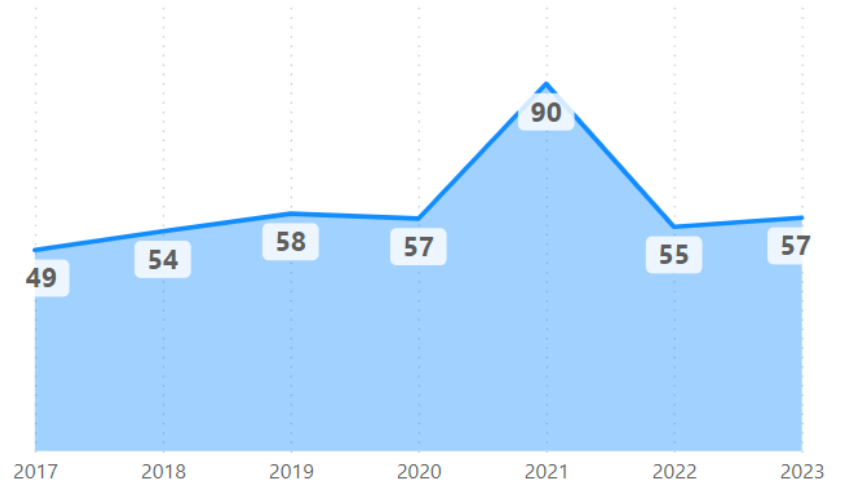


Figure 13 Percentage of Population with Mobile Data Subscription

Figure 12 shows a comparison of the total Mobile Data Subscribers for Cable & Wireless and Digicel.

Figure 13 shows a slight increase in mobile data penetration when compared to 2022, however, it is still lower than the spike observed in 2021 during the period of the COVID-19 pandemic.

Figure 14 Fixed Line Subscribers 2023

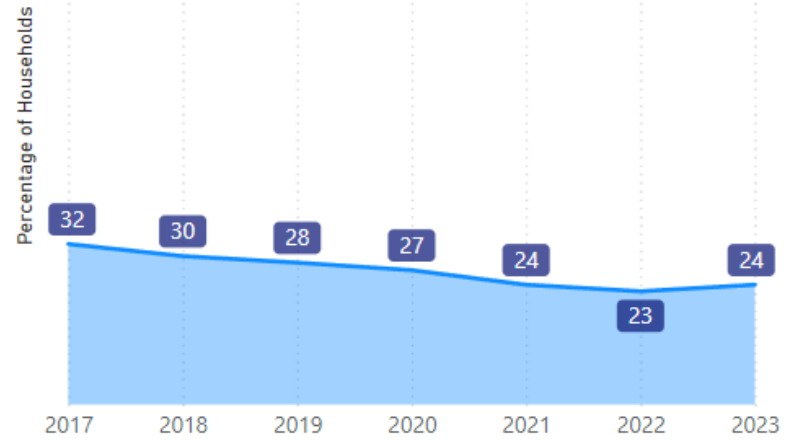


Figure 15 Percentage of Households with Fixed Line Subscriptions

Figure 14 shows the total number of Fixed Line Subscribers. As Cable and Wireless completes its migration of its fixed line customers to Columbus communications in 2023 this total will represent only one provider.

Figure 15 shows the Percentage of Households with Fixed Line Subscriptions. In 2023 we note that fixed line penetration remained constant.

Figure 16 Broadband Subscribers 2023

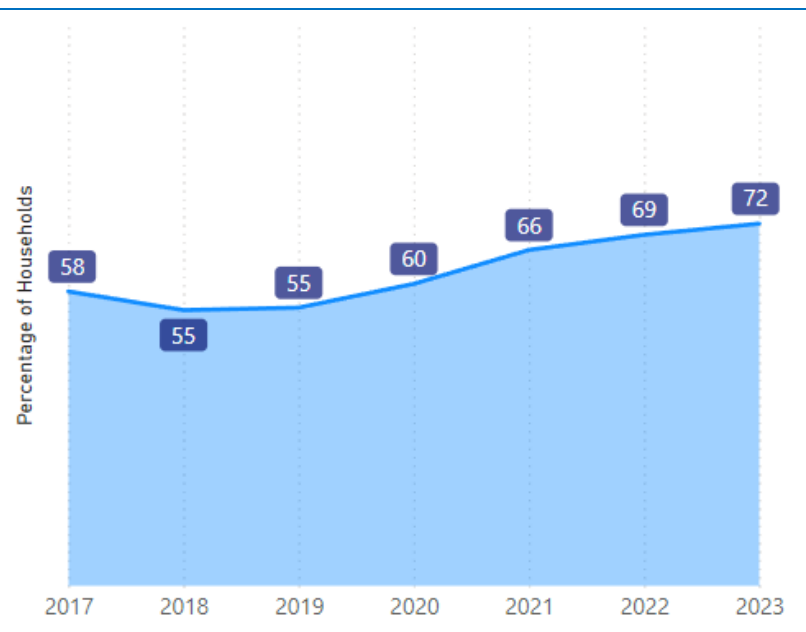


Figure 17 Percentage of Households with Broadband Subscription

Figure 16 shows the number of Fixed Broadband Internet Subscribers. There is a further decline in Cable and Wireless broadband subscribers in 2023, as they continue to migrate customers to Columbus Communications network.

Figure 17 shows the Percentage of Households with Broadband Subscription. In 2023, there was an increase in the percentage of households with a broadband subscription.

Figure 18 Cable TV Subscribers 2023

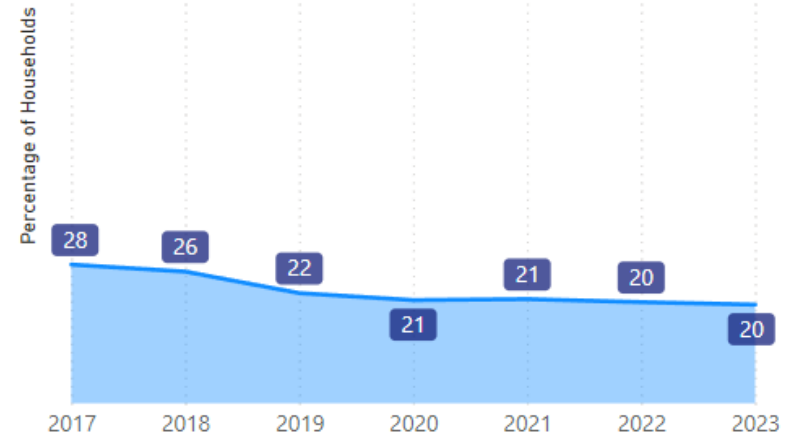
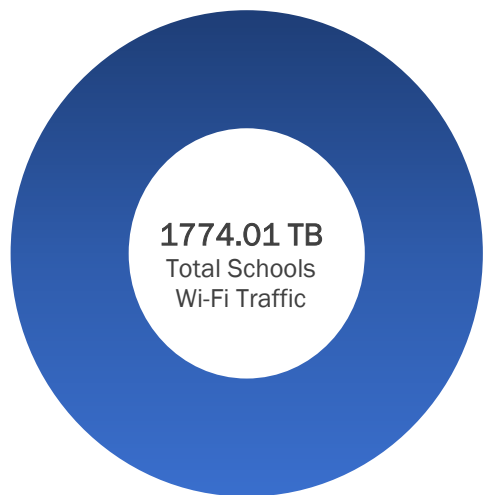


Figure 19 Percentage of Households with Cable TV Subscriptions

Figure 18 shows the Cable TV subscribers for 2023.

Figure 19 illustrates the percentage of households with a cable tv subscription. In 2023 we note that the Cable TV penetration remained constant.



Average Traffic

Daily: 4.6 TB
 Weekly: 21.9 TB
 Monthly: 48.3 TB

Figure 20 Traffic consumed at NTRC WIFI Access Points at Schools

Figure 20 shows the total traffic consumed at the Meraki Access Points placed at schools under the USF funded Schools project across St. Vincent and the Grenadines.

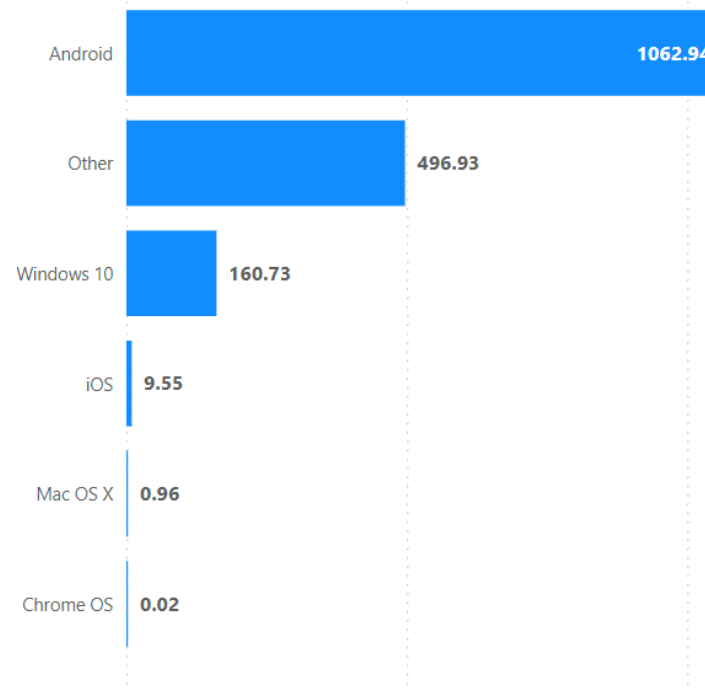


Figure 21 Traffic consumed by Operating System.

Figure 21 illustrates that the most traffic consumed in 2023 was by Android devices with 1062.94 TB.

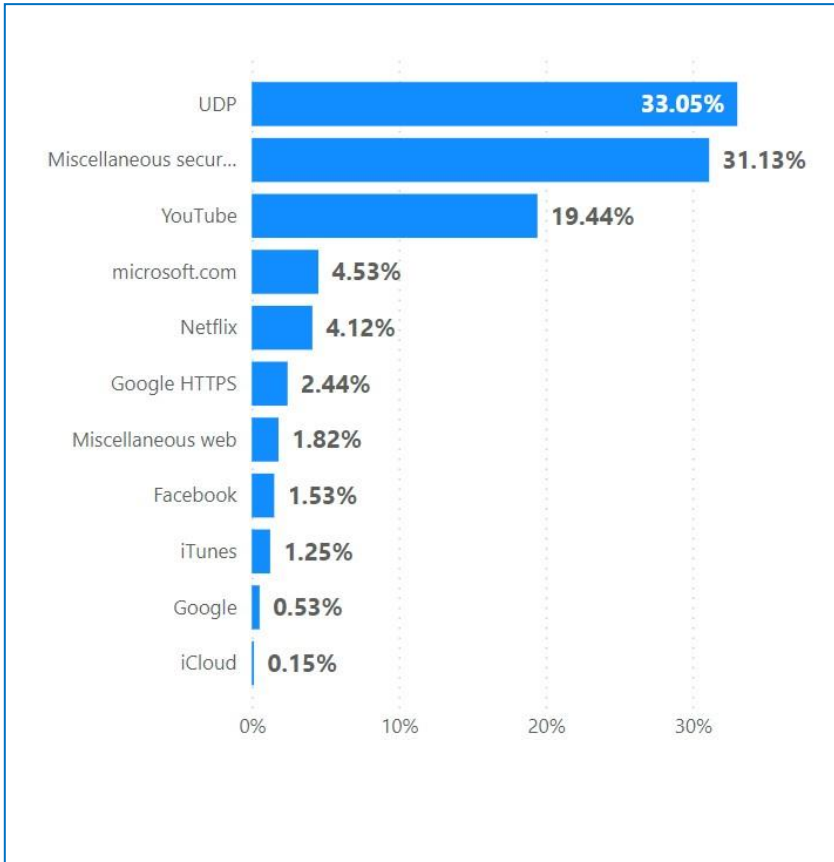


Figure 22 shows the top applications for which traffic was exchanged in 2023.

19. Licensing

The NTRC continued in 2023 to facilitate the application process for new licencees under the Telecommunications Act (CAP 418) of the Revised Laws of St. Vincent and the Grenadines 2009. Applications for Individual licencees were forwarded to ECTEL for evaluation while those for Class licencees were evaluated by the NTRC. The NTRC also evaluated and made recommendations to the Minister on several frequency applications.

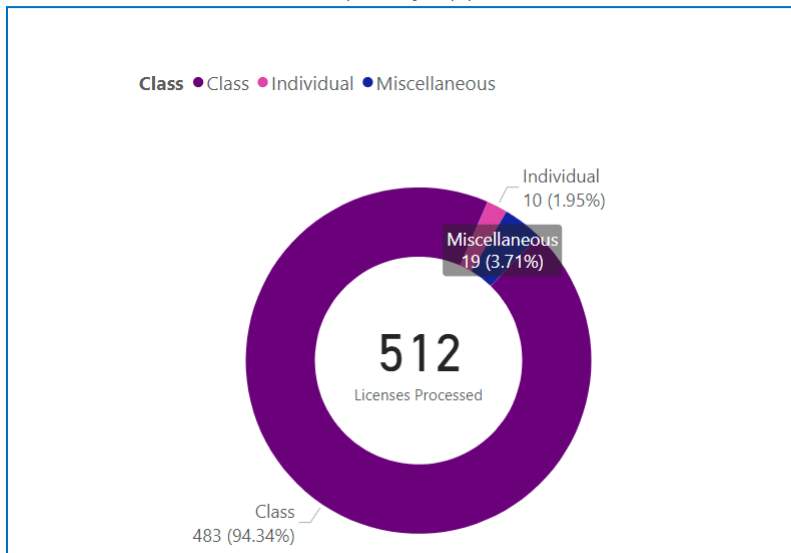


Figure 23 Licenses Processed in 2023

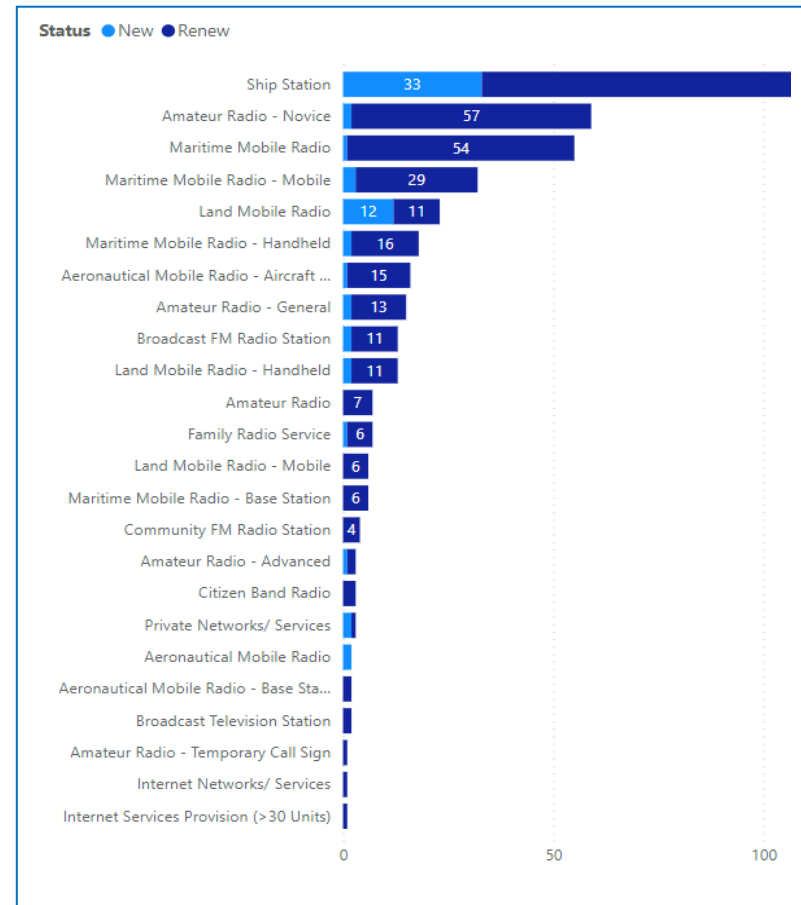


Figure 24 Class Licenses Processed in 2023

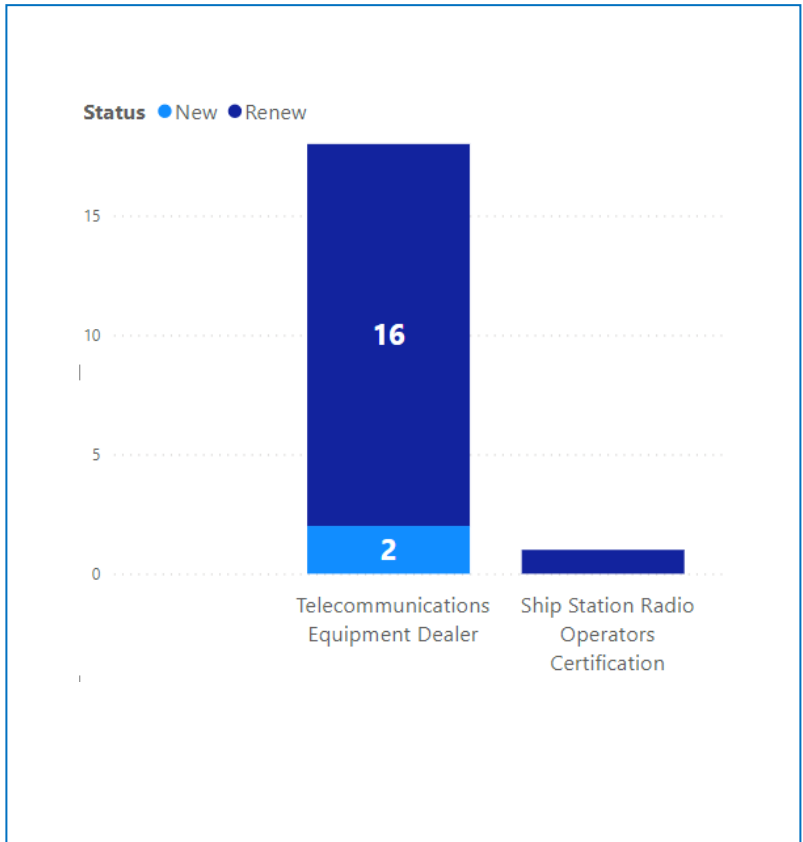


Figure 25 Misc. Licenses Processed in 2023

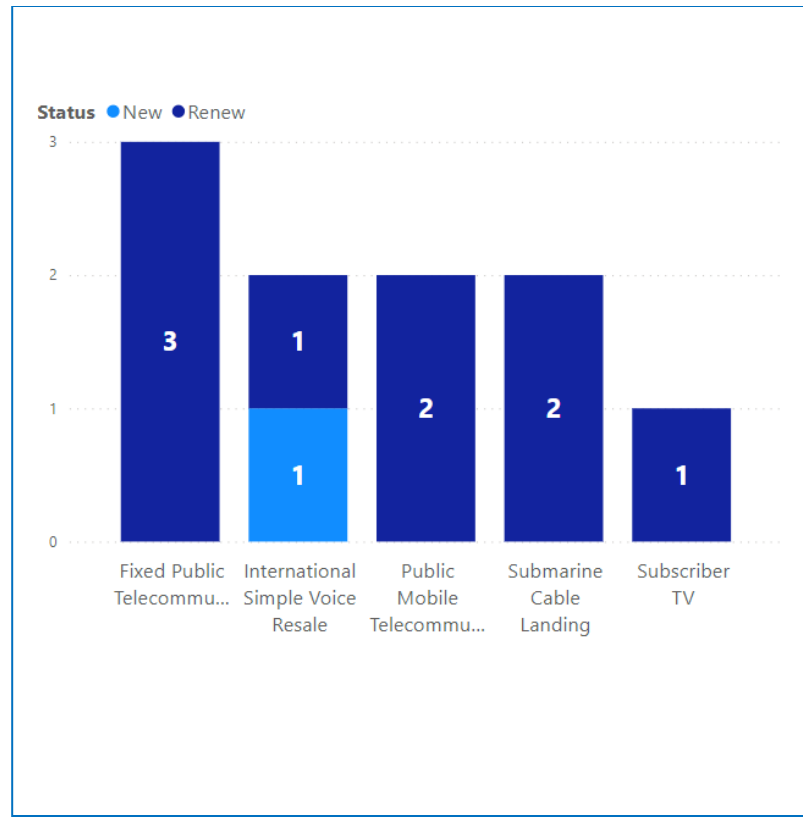


Figure 26 Individual Licenses Processed in 2023

20. RESULT INDICATORS 2023

1. To execute the 11th annual NTRC's Icode784 competition (formerly i2 Competition).

This objective was completed. The competition was launched on September 13, 2023. The preliminary judging was held October 24-25, 2023, and the finals were held on November 15, 2023, at the Kingstown Baptist Church. For 2023 there were a total of 52 entries with 29 teams advancing to the finals. In 2022 there were a total of fifty-seven (57) teams that entered the competition compared to twenty-three (23) in 2021. The winners of the Open category were Team E-tech members: Ansonique Cuffy and Nicholai Williams who received a trip to attend the 4yfn (Four Years from Now) forum for tech startups to be held in Barcelona Spain in March 2024. The main aim of the icode784 competition is to inspire our youths to become involved in the software industry. An area that our Caribbean civilization is currently lacking behind. The current global software and services industry has a market

size of US\$474 billion and is projected to grow by 11% per year until 2030.

2. Sensitize the public regarding the provisions of the new Electronic Communications Act.

This is incomplete as the act has not been proclaimed as yet.

3. Complete the implementation of the Online 24/7 project which comprises of two lots. Lot 1 covers the provision of free wireless internet access at community centers, learning resource centers, playing fields and hard courts, tourism sites and NGOs, and lot 2 covers the provision of a high-speed internet connection at the St. Vincent Community College Glen Campus as well as, the purchasing of 200 internal access points.

Implementation of the Online 24/7 Project is now complete. Under Lot 1 of this project, thirteen (13) learning resource centers, twenty-three (23) community centers, five (5) libraries, twenty-two (22) playing fields/hard courts, twenty-one (21) tourism sites, eight (8) fish markets, four (4) Grenadine Ports, ten (10) schools, sixteen (16) NGOs and

five (5) government locations were connected with Wi-Fi internet access via high-speed fiber connections of 250MBps. Under this project, four lots were put out to tender and lots 1 and 4 were executed. Under Lot 1, the provision of internet service and new access points to offer open Wi-Fi access at 120 locations across St. Vincent and the Grenadines was implemented. Under lot 4, the provision of a high-speed internet connection at SVGCC Glen Campus was completed. This fiber connection is being supplied by Digicel and is at 500Mbps download and 300Mbps upload which will increase to 1 Gbps download and 700 Mbps upload in year three of the project. It complements the existing 100Mbps symmetrical (same download and upload speeds) fiber connection being provided by Cable & Wireless under our existing schools project at this location. The purchase of 200 internal access points was also completed. These 200 access points were also be installed in various schools in 2023. Some were used to replace existing access points that had reached the end of life while others were used to provide improved coverage in the larger schools. More detail on this is captured under item 7 below.

4. Adjust the NTRC's processes and procedures to be in line with the new Electronic Communications Act.

This is incomplete as the act has not been proclaimed as yet. While the new processes were not implemented the NTRC has already developed them and is in a position to implement them whenever the new act is proclaimed.

5. Work with the Ministry of Tourism to launch the Explore SVG app.

During 2023, the NTRC completed the iOS and Android versions of the Explore SVG app (now the Discover SVG App). The Tourism Authority launched the iOS version on November 25th, 2023. The Android version of the app was completed in mid-December 2023. The apps are available for download in the Apple store and the Google play store. These apps will be maintained and improved by the NTRC going forward as per the requirements of the Tourism Authority.

6. Connect 160 needy households with wireless internet access at a subsidized price of \$10 per month in our efforts to bridge the digital divide.

The NTRC did not meet the target of 160. Eighty-nine applications were received. Seventy-Six (76) persons were approved and sent to C&W for connection of internet service.

7. Replace 200 internet access points in our schools.

While the original plan was to replace 200 existing access points the decision was taken to ensure that the service at each school was at a certain acceptable level. To achieve this, we decided to only work at 29 schools within this project phase (secondary and large primary schools) which involved replacing access points that were end of life and adding new access points to fill in coverage as well as capacity gaps. In 2024 the NTRC will seek to address the remaining schools that need new access points, which would mainly be some of the remaining primary schools. The 200 access points were installed at the following schools:

- 1) Bishop's College Kingstown
- 2) Campden Park Secondary

3) Division of Technical Services (SVGCC)

4) Dr. J P Eustace Memorial

5) Emmanuel High Secondary

6) Emmanuel High Secondary Annex

7) Intermediate High School

8) St Joseph's Convent K/Town

9) St. Martin's Secondary

10) St. Vincent Grammar School

11) Adelphi Secondary School

12) Barrouallie Secondary

13) Bequia Community High

14) Bequia SDA Secondary

15) Buccament Bay Secondary

16) Canouan Secondary School

17) George Stephens Secondary

18) Mountain View S. D. A.

19) North Union secondary

20) Petit Bordel Secondary

21) Sandy Bay Secondary

22) St Joseph's Convent Mespo

23) St. Clair Dacon Secondary

24) Troumaca Secondary

- 25) Union Island Secondary
- 26) West St George Secondary
- 27) C. W Prescod Primary
- 28) St. Mary's Roman Catholic
- 29) Kingstown Preparatory School

- 8. Work along with ECTEL and the other NTRC's to complete the Regional Integrated Spectrum Management and Monitoring System.

The objective is incomplete. The Commission continues to work with ECTEL and Spectrum Center with regards to the implementation of the Regional Integrated Spectrum Management and Monitoring System which consists of the procurement of mobile spectrum analyzers and fixed monitoring units, spectrum management system software to automate our licensing processes and the purchasing spectrum monitoring vehicles. The analyzer and fixed monitoring units have already been purchased and are in use. During this year work continued on the spectrum management system software which saw the individual

licensing workflow being developed but not yet tested. Additionally, the broadcasting, ship station and amateur radio platforms were developed but not yet completed. The type approval module is currently live and being used by applicants for the submission of type approval applications. There are 9 modules remaining for completion. These should be completed by the second quarter of 2024.

- 9. Complete renovations of the Layne's Building and relocate the NTRC's office.

This was not completed. The contract for renovations started in April 2023 and was to end in October 2023. There were no valid reasons for the delay in completion and as such the NTRC has implemented the relevant provisions of the contract that relate to non-completion. As of December 27, 2023, 95% of the internal works of the building were completed. All internal work should be completed by the second week of January 2024. Noting this, we believe it would be possible to relocate the NTRC's office to the new location in February 2024. The main work items to be completed externally are the installation of the concrete pavers for the parking area, replace some of the roof

sheeting with new galvanize, construct a new garage for the spectrum monitoring vehicle, install the new gates and complete the external painting.

10. Develop a prototype of the National Addressing system for approval by Cabinet.

This objective is complete. The Commission has developed a prototype of the National addressing system via a mobile app that will utilize existing as well as new datasets. It is expected that it will be demonstrated to the Cabinet in the first quarter of 2024.

11. Host two MyApp summer programs.

This objective is complete. For 2023, the NTRC hosted the MyAPP summer program at two locations: one at the Bequia Anglican school from July 17-August 4, 2023, and the other at the St. Vincent Grammar School for the period July 31 – August 18, 2023. Twenty-eight (28) students took part in the St. Vincent grammar school program while sixteen (16) took part in Bequia. These annual summer programs target students in the 13-18 age group and

expose them to coding (software) and robotic skills development. This year was an historic one for the program as it saw the tutor for the Grammer school event being a former student of the MyApp summer program and a current member of the robotics team from St. Vincent and the Grenadines (SVG) that finished 67th out of 191 countries in the 2023 First Global Challenge (FGC), which was held in Singapore from October 7th to 10th under the topic "Hydrogen Horizons."

12. Collaborate with SVGCC to update the curriculum in the Cyber Security programme.

This is complete. The revised curriculum was sent to SVGCC on December 6, 2023. This final revision was based on feedback provided by the SVGCC on the earlier document that was developed by the multi stakeholder committee that was set up to undertake this objective.

13. Create a new USF project for the disabled and elderly people requiring special equipment.

This is incomplete. Some work was done on this objective in 2023. The main reason for it not being completed was the reduction in resources in the USF department during

the period April to September. The USF administrator resigned at the end of March 2023 and the post was not filled until October 2023. The tender documents for the project will be completed in the first quarter of 2024.

14. Work along with the world bank funded Caribbean Digital Transformation Project (CarDTP) to help execute the project.

This is complete. Apart from the NTRC participation at the level of the steering committee for this project it also provided feedback on a number of project reports during the year. The NTRC would have also attended a number of events and meetings held by consultants for the project.

21. MAJOR OBJECTIVES FOR 2024

1. Review and transform the icode784 competition.
2. Sensitize the public regarding the provisions of the new Electronic Communications Act.
3. Provide faster internet service in St. Vincent and the Grenadines by linking the Internet Exchange point (IXP) at Anos Vale to the cache servers located at the IXP in Grenada utilizing the Carcip Subsea fiber.
4. Adjust the NTRC's processes and procedures to be in line with the new Electronic Communications Act.
5. Execute the National ICT Survey with a sample size of 2000 persons.
6. Connect 157 needy households with wireless internet access at a subsidized price of \$10 per month in our efforts to bridge the digital divide.
7. Improve and expand the Wi-Fi service in our schools.
8. Work along with ECTEL and the other NTRC's to complete the Regional Integrated Spectrum Management and Monitoring System.
9. Relocate the NTRC's offices to its new location at Richmond Hill.
10. Seek approval of Cabinet for the prototype National Addressing system.
11. Execute 2 MyApp summer programs with a minimum of 40 students at Georgetown and Canouan.
12. Implement an online system to process custom clearances for telecom equipment entering SVG.

13. Create a new USF project for the disabled and elderly people requiring special equipment.
14. Provide support to the project management unit of the world bank funded Caribbean Digital Transformation Project (CarDTP).
15. Upgrade 42 Police stations and 32 Health facilities with faster internet connectivity, more secure Wi-Fi Access points and network switches.

Year	Kelcom Int'l (Columbus Communications)						Silvakast	Andre Walker	Spectra		
	Fixed Line Revenue (EC\$)		Cable TV Revenue (EC\$)	Internet Revenue (EC\$)	Other Revenue (EC\$)	Total	Cable TV Revenue (EC\$)	Voice Resale (EC\$)	Cable TV Revenue (EC\$)	Internet Revenue (EC\$)	Total
	International Revenue (EC\$)	Domestic Revenue (EC\$)									
2015	█	█	█	█	█	█	█		█		█
2016	█	█	█	█	█	█	█		█		█
2017	█	█	█	█	█	█	█	█	█		█
2018		█	█	█	█	█	█	█	█		█
2019	█	█	█	█	█	█	█	█	█	█	█
2020	█	█	█	█	█	█	█	█	█	█	█
2021	█	█	█	█	█	█		█	█	█	█
2022	█	█	█	█	█	█		█	█	█	█
2023	█	█	█	█	█	█		█	█	█	█

Table 2 Total Revenue earned by providers of telecommunications services from 2015 to 2023.

Year	NTRC Application fees	Percent increase	NTRC & ECTEL Frequency Fees	Percent increase
2004	8,800	73%	1,577,400	15%
2005	10,300	17%	1,539,669	-2%
2006	11,275	9%	1,681,560	9%
2007	22,725	102%	1,245,183	-26%
2008	13,325	-41%	1,906,089	53%
2009	13,225	-1%	1,487,390	-22%
2010	23,846	80%	1,392,962	-6%
2011	16,109	-32%	1,723,158	24%
2012	16,390	2%	2,055,433	19%
2013	15,927	-3%	1,787,020	-13%
2014	31,547	98%	1,748,588	-2%
2015	25,617	-19%	2,681,489	53%
2016	25,324	-1%	2,708,686	1%
2017	22,473	-11%	2,226,562	-18%
2018	27,685	23%	3,190,599	43%
2019	28,199	2%	3,037,137	-5%
2020	23,521	-17%	3,126,872	3%
2021	27,074	15%	3,395,118	9%
2022	43,093	59%	2,911,639	-14%
2023	26,588	-38%	3,721,857	28%

Table 3 displays the Revenue for ECTEL & NTRC collected for 2004 to 2023

Year	License Fees	Percent Increase
2004	3,329,145	19%
2005	3,421,159	3%
2006	3,850,955	13%
2007	4,301,521	12%
2008	4,081,151	-5%
2009	4,065,706	0%
2010	4,034,096	-1%
2011	3,886,912	-4%
2012	3,756,898	-3%
2013	3,638,128	-3%
2014	4,146,265	14%
2015	4,079,164	-2%
2016	3,788,925	-7%
2017	3,617,662	-5%
2018	3,535,564	-2%
2019	2,517,823	-29%
2020	4,570,250	82%
2021	3,740,171	-18%
2022	3,927,195	5%
2023	4,020,593	2%

Table 4 shows the Licence Fees Collected from 2004 to 2023

			2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	
Cable & Wireless (WI) Ltd	Fixed Line Subscribers	Residential	█	█	█	█	█	█	█	█	█	█	█	█	
		Business	█	█	█	█	█	█	█	█	█	█	█	█	
		Total	█	█	█	█	█	█	█	█	█	█	█	█	█
	Internet Subscribers	Dialup	█	█	█	█	█	█	█	█	█	█	█	█	█
		ISDN													
		ADSL (Residential)	█	█	█	█	█	█	█	█	█	█	█	█	█
		ADSL (Business)	█	█	█	█	█	█	█	█	█	█	█	█	█
		Total	█	█	█	█	█	█	█	█	█	█	█	█	█
	Mobile Subscribers	Post paid	█	█	█	█	█	█	█	█	█	█	█	█	█
		Prepaid	█	█	█	█	█	█	█	█	█	█	█	█	█
Total		█	█	█	█	█	█	█	█	█	█	█	█	█	
Digicel	Mobile Subscribers	Post paid	█	█	█	█	█	█	█	█	█	█	█	█	
		Prepaid	█	█	█	█	█	█	█	█	█	█	█	█	
		Total	█	█	█	█	█	█	█	█	█	█	█	█	
	Broadband subscribers	Residential									█		█	█	█
		Business									█	█	█	█	█
Total										█	█	█	█	█	
Columbus Communications	Cable TV Subscribers	Residential	█	█	█	█	█	█	█	█	█	█	█	█	
		Business	█	█	█										
		Free Service	█	█	█										
		Total	█	█	█	█	█	█	█	█	█	█	█	█	█
	Internet Subscribers	Residential	█	█	█	█	█	█	█	█	█	█	█	█	█
		Business	█	█	█	█	█	█	█	█	█	█	█	█	█
		Free Service	█	█	█										

	Fixed Line Subscribers	Total	█	█	█	█	█	█	█	█	█	█	█	█	
		Residential	█	█	█	█	█	█	█	█	█	█	█	█	█
		Business	█	█	█	█	█	█	█	█	█	█	█	█	█
		Free Service	█	█	█	█	█	█	█	█	█	█	█	█	█
		Total	█	█	█	█	█	█	█	█	█	█	█	█	█
SilvaKast	Cable TV Subscribers	Residential	█	█	█	█	█	█	█	█	█	█	█	█	
		Business	█	█	█	█	█	█	█	█	█	█	█	█	
		Total	█	█	█	█	█	█	█	█	█	█	█	█	█
Spectra	Cable TV Subscribers	Residential	█	█	█	█	█	█	█	█	█	█	█	█	
		Business	█	█	█	█	█	█	█	█	█	█	█	█	
		Free Service	█	█	█	█	█	█	█	█	█	█	█	█	
		Total	█	█	█	█	█	█	█	█	█	█	█	█	█
	Internet Subscribers	Residential	█	█	█	█	█	█	█	█	█	█	█	█	█
		Business	█	█	█	█	█	█	█	█	█	█	█	█	█
		Total	█	█	█	█	█	█	█	█	█	█	█	█	█

Table 6 shows the subscriber data for the providers for 2012 to 2023

		2016		2017		2018		2019		2020		2021		2022		2023	
		New	Renew	New	Renew	New	Renew	New	Renew	New	Renew	New	Renew	New	Renew	New	Renew
Individual Type Licenses	Fixed Public	0	N/A	0	N/A	0	1	1	1	0	2	1	1	0	0	0	0
	Internet Networks	0	N/A	0	N/A	0	0	0	N/A	0	0	1	0	0	0	0	0
	Subscriber Television	1	N/A	1	N/A	0	4	0	4	0	3	0	3	0	0	0	0
	Int'l Simple Voice Resale	0	N/A	0	N/A	0	1	0	1	0	1	0	1	0	0	1	0
	Mobile Cellular	0	N/A	0	N/A	0	N/A	0	1	0	2	2	0	0	0	0	0
	Public Radio paging	0	N/A	0	N/A	0	N/A	0	N/A	0	0	0	0	0	0	0	0
	Submarine cable	0	1	1	1	0	1	1	1	0	2	0	2	0	0	0	0
Class type Licenses	Private network/services	1	1	1	1	0	1	0	N/A	0	0	1	0	0	0	2	0
	Internet services	0	2	1	1	0	2	0	2	0	3	0	2	0	0	0	0
	Radio Broadcast	1	7	1	8	0	12	0	11	0	6	2	6	0	0	1	0
	Value Added Services	0	0	0	0	0	1	0	N/A	0	0	0	0	0	0	0	0
	Community radio	2	3	2	4	0	5	1	3	0	4	1	3	0	0	0	0
	Television Broadcast	0	1	0	2	0	0	0	2	0	0	1	0	0	0	0	0
	Maritime mobile	1	26	3	44	10	18	2	24	3	23	10	21	57	29	6	105
	Land mobile	10	20	12	28	2	17	4	18	7	19	6	21	8	23	7	28
	Aeronautical radio	0	0	0	0	0	0	3	2	0	2	0	2	0	2	1	2
	Aircraft station	1	17	1	18	3	18	0	18	0	16	0	16	1	16	1	15
	Amateur Radio station	20	20	23	14	8	76	12	76	3	83	18	73	6	83	5	80
	Citizen Band radio	0	0	0	0	2	2	0	5	0	4	0	4	0	4	0	3
	Family Radio Band	2	1	1	1	0	2	0	2	1	0	1	1	4	2	1	6
	Ship Station	41	184	40	163	22	175	28	168	10	156	12	142	34	142	33	158
Miscellaneous	CPE Dealers reg. fee	5	18	5	20	6	22	2	25	1	19	3	18	3	16	2	16
	Exam Fees for Radio Operators	0	N/A	0	N/A	0	N/A	0	0	0	0	0	0	0	0	0	0
	Type Approval fee	85	N/A	102	N/A	125	N/A	85	N/A	0	93	72	0	84	0	77	0
	Ship station Operators	16	28	18	30	6	22	26	17	6	34	46	19	0	57	0	1
	Aircraft Station Operators	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table 7 outlines the number of licences issued from 2016 to 2023. The issued licences are broken down as new licences, issued in the specific year, and renewals of existing licences, first issued in

23.ANNEX B

Technical Definitions/Terminology

CANTO Caribbean Association of National Telecommunication Organizations
CANTO provides a platform for all Caribbean telecommunications operators to speak with one voice to policy makers, regulators and other stakeholders in the sector in influencing the creation of a favorable business environment for all stakeholders.

CIDA Canadian International Development Agency
CIDA supports sustainable development in developing countries in order to reduce poverty and to contribute to a more secure, equitable and prosperous world.

CITEL Inter-American Telecommunication Commission

CITEL is an entity of the Organization of American States, it is the main forum in the hemisphere in which the governments and the private sector meet to coordinate regional efforts to develop the Global Information Society. CITEL endeavors to make telecommunications a catalyst for the dynamic development of the Americas by working with governments and the private sector.

Coursera provides universal access to the world's best education, partnering with top universities and organizations to offer courses online. Every course on Coursera is taught by top instructors from the world's best universities and educational institutions. Courses include recorded

video lectures, auto-graded and peer-reviewed assignments, and community discussion forums. When you complete a course, you'll receive a shareable electronic Course Certificate.

CTO Commonwealth Telecommunications Organization
The (CTO) is a partnership between Commonwealth governments and telecommunications businesses to promote ICT in the interests of consumers, businesses, and social and economic development. It's Program for Development and Training (PDT) is a unique program of training and expert assistance in every aspect of telecommunications for Commonwealth developing countries

	<p>CTU Caribbean Telecommunications Union CTU is the major Telecommunications policy organ in the Region, directed by Inter-Governmental specialized action under a special Agreement establishing the Union.</p>	<p>ITU International Telecommunication Union ITU works closely with all standards organizations to form an international uniform standards system for communication.</p>	<p>earth stations, and group calls. These identities are formed in such a way that the identity or part thereof can be used by telephone and telex customers connected to the general telecommunications network principally to call ships automatically.</p>
<p>Frequency</p>	<p>The rate of a repetitive event. The standard unit for frequency is the hertz (Hz), defined as the number of events or cycles per second. The frequency of electrical signals is often measured in multiples of hertz, including kilohertz (kHz), megahertz (MHz), or gigahertz (GHz).</p>	<p>Land Mobile A mobile service between base stations and land mobile stations</p> <p>Maritime Mobile A mobile service between coast station and ship stations, or between ship stations, or between associated on-board communication stations; survival craft stations, and emergency position- Indicating radio beacon stations may also participate in this service.</p>	<p>Radio frequency spectrum That part of the electromagnetic Spectrum used for communications; includes frequencies used for AM- FM radio and cellular phones and television etc.</p> <p>Ship Station A Mobile station in the maritime mobile service Located on board a vessel which is not permanently moored, other than a survival craft station</p>
<p>GMDSS</p>	<p>Global Maritime Distress and Safety System The GMDSS provides for automatic distress alerting and locating in cases where a radio operator doesn't have time to send an SOS or MAYDAY call.</p>	<p>MMSI Maritime Mobile Service Identity MMSI are formed of a series of nine digits which are transmitted over the radio path in order to uniquely identify ship stations, ship earth stations, coast stations, coast</p>	<p>Spectrum "(Electromagnetic Spectrum) is an ordered array of the components of an emission or wave. Sound, Radio Frequency Spectrum, Infra-Red, Visible Light, Ultraviolet Rays, X-Ray etc. are all part of the</p>

Electromagnetic Spectrum in that order.

Stations

One or more transmitters or receivers or a combination of transmitters and receivers, including the accessory equipment, necessary at one location for carrying on a radio communication service, or the radio astronomy service

Telecommunications

Any transmission, emission or reception of signs, signals, writings, images and sounds or intelligence of any nature by wire, radio, optical or other electromagnetic systems.

Universal Service

universal service" includes the provision of –

- a. Public voice telephony.
- b. Internet access.
- c. Telecommunications services to schools, hospitals, and similar institutions and the disabled and physically challenged; or
- d. Other service by which people access efficient, affordable and modern telecommunications.

USAID

The US Agency for International Development

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