



# CRAN

Communications Regulatory Authority of Namibia

## ICT Sector Regulatory Environment

### ICT-RE

Draft for comments

# Table of Contents

Introduction	4
Trends in ICT sector regulation	5
Telecommunication Sector	9
Incentives for private ICT sector investment	9
Increase competition in Namibia's ICT sector	12
Attracting Foreign Direct Investment	14
Infrastructure sharing	17
CRAN effectiveness at safeguarding fair competition	21
Spectrum Management	23
Licensing Framework	30
Administrative Burden	31
Summary	33
Broadcasting	34
Radio - digital migration	37
Incentives for private broadcasting investment	38
Competition in Namibia's broadcasting sector	41
Profitability in Namibia's broadcasting sector	42
Attracting foreign direct investment into the broadcasting sector	44
CRAN effectiveness at safeguarding fair competition	45
Licensing Framework	46
Broadcasting Spectrum	46
Administrative Burden	47
Summary	47
Conclusion	48
References	49
Appendix	50
Telecom Licences	50
Broadcasting Licenses	52
TV Spectrum	53
Radio Spectrum	55

## Table of Tables

Table 1: ICT Sector Assets in NAD million	4
Table 2: Telecom vs. Converged vs. Multi-sector regulator	6
Table 3: Evolving approaches to Regulation	7
Table 4: Consumer Protection Check list	7
Table 5: Factors listed by stakeholders for limiting private sector investment	10
Table 6: Initiatives to increase competition in Namibia	13
Table 7: Potential advantages and disadvantages of FDI	14
Table 8: Stakeholder views on dropping the foreign ownership requirement	15
Table 9: MTC's CAPEX	17
Table 10: Infrastructure sharing definitions from BEREC (2019)	18
Table 11: Benefits and drawbacks of different types infrastructure sharing for MTC and MTN	19
Table 12: Stakeholder views on infrastructure sharing	20
Table 13: Stakeholder views on CRANs performance in safeguarding competition	21
Table 14: CRANs performance on spectrum management	23
Table 15: IMT spectrum licences	25
Table 16: Fixed links licenses	26
Table 17: VSAT - Telecommunications licences	28
Table 18: Other Satellite licenses	29
Table 19: Effectiveness of CRANs licensing framework	30
Table 20: Administrative burden imposed on businesses	32
Table 21: Media Metrics for Radio and TV for 2022	34
Table 22: Broadcasting revenues in NAD million	36
Table 23: TV subscriptions	37
Table 24: Incentives for private broadcasting investment	38
Table 25: Incentives to increase competition	41
Table 26: Initiatives to increase profitability	43
Table 27: Foreign Ownership limitations	44
Table 28: Role of CRAN safeguarding fair competition	45
Table 29: Effectiveness of CRAN's licensing framework	46
Table 30: Regulatory burden for the sector	47
Table 31: Telecommunication licensees	50
Table 32: Broadcasting licensees	52
Table 33: TV Spectrum	53
Table 34: Radio spectrum	55

## Table of Figures

Figure 1: ICT Regulatory Ecosystem	5
Figure 2: Selected Countries for the Next Generation Internet Index for 2022 Q3.	15
Figure 3: 4G coverage	24
Figure 4: Favourite Radio Stations (Media Metrics 2022)	35
Figure 5: Broadcasting revenues in NAD million	36
Figure 6: Implied industry profits in NAD million (CRAN Portal)	42

## Introduction

**This Telecommunications Regulatory Environment assessment for 2023 analyses whether the Namibian telecommunication market is conducive for private sector investment.** The objectives of the Communications Act No 8 of 2009 include the objective of encouraging private investment in the telecommunications sector (Act No. 8, 2009, section 2(i)). Currently, the state controls 89.4% of ICT sector assets. While the private sector asset market share increased in the past 6 years, the increase is partly the result of the decline in asset values of Telecom Namibia. Telecom Namibia owned 51% of ICT sector assets in 2016 and only 37% in 2021. Paratus is the only notable private sector player in Namibia. Its asset market share increased from 4.1% in 2016 to 8.6% in 2021, which is still very small compared to MTC and Telecom Namibia. Paratus made up 81% of private sector assets in 2021.

**Table 1: ICT Sector Assets in NAD million**

		2016	2017	2018	2019	2020	2021
Other	NAD million	153	122	192	174	149	143
MTC	NAD million	1,967	2,331	2,694	3,058	3,263	3,429
Powercom	NAD million	101	111	139	172	249	244
Telecom Namibia (company)	NAD million	2,539	2,085	1,992	1,853	2,528	2,636
Paratus	NAD million	206	207	289	302	394	608
	% of private sector assets	57%	63%	60%	63%	73%	81%
Total	NAD million	4,966	4,856	5,306	5,559	6,583	7,060
	USD million	338	365	401	385	400	408
State Owned or controlled	NAD million	4,607	4,527	4,825	5,083	6,040	6,309
	%	92.8%	93.2%	90.9%	91.4%	91.8%	89.4%
Private Sector	NAD million	359	329	481	476	543	751
	%	7.2%	6.8%	9.1%	8.6%	8.2%	10.6%
FX	NAD per USD	14.7	13.3	13.2	14.5	16.5	17.3
Source: AFS of licensees							

**Market access in the ICT sector is typically restricted through licensing requirements to operate and to use spectrum for telecommunication services.** The main reason for market access restriction is to stimulate investment, which is substantial for national telecom networks and poses a natural market entry barrier. Too many licenses may mean it is too risky for a new market entrant. In the recent past, licenses have been awarded more generously and the key mechanism to limit access to the ICT market is via spectrum licenses. Number ranges are not technical barriers but may be used as a bureaucratic access barrier.

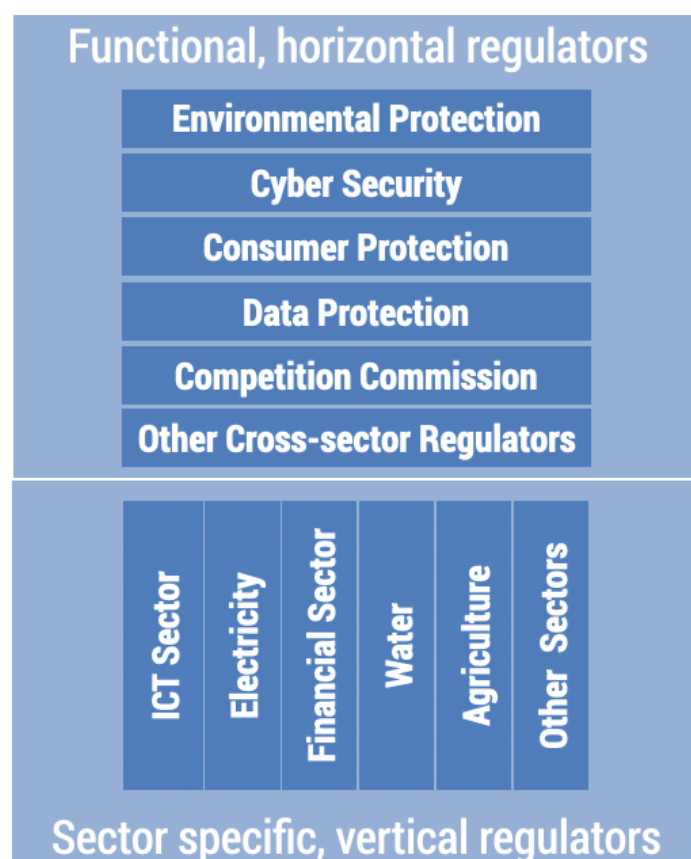
**The questions that this study tries to address is whether more can be done to incentivise private sector investment in Namibia.** Several potential regulatory functions are studied for this purpose: Is the number of licensees in the market too high for private investors to consider entering the ICT market? Is spectrum availability limiting private investors? Are other administrative procedures limiting investors such as access to number ranges, reporting requirements, CRAN license fees or other factors? This report first discusses global regulatory trends and then goes into detail on licensing, spectrum, and other administrative barriers and impediments to private sector investments into the telecommunication sector. The broadcasting sector is covered in the last chapter.



## Trends in ICT sector regulation

**The digitalisation of societies and economies is continuously generating record amounts of data.**

The digitalisation is driven by increased and faster connectivity of people and things. Fibre to the home (FTTx) and fast mobile networks provide the opportunity to engage in digital activities and user-generated content and the transition from classical broadcasting to streaming services provide the motivation for it. At the same time, more objects become “smart”, i.e., connected to the Internet to receive and send data. As a result of the explosion of data, new technologies have evolved that help to sift through data and derive value from combining and analysing large data sets. These technologies are often described in umbrella terms such as Artificial Intelligence (AI) and Big Data.



**Figure 1: ICT Regulatory Ecosystem**

**The new technologies require ICT regulators to reconsider the tools they deploy to facilitate fair competition in the ICT sector and protect consumers.** New technologies also pose legal, ethical and macro-economic challenges. Central banks, consumer protection agencies, competition commissions, and ICT regulators scramble to assess the implications for their fields of responsibility. The implication is that roles of sector-specific regulators such as for the ICT sector, water, electricity and banking, and subject-specific regulators such as a consumer protection agency or the competition commission may need to be redrawn and, in some cases, more specialised regulators may need to be established. Figure 1 depicts how a sector specific ICT Regulator is complimented by functional regulatory agencies that have responsibilities across all sectors of an economy.

**ICT regulators have expanded in scope as they transition from 1<sup>st</sup> generation to 4<sup>th</sup> generation regulation.** In the 1<sup>st</sup> generation, the regulator’s role was to oversee state monopolies. Their role was expanded as a wave of privatisations occurred. In the third generation, competition became the primary

mandate. In the 4<sup>th</sup> generation, an ICT regulator has an enormous scope of responsibility, from sector specific to cross-sector topics. Sector specific topics are, for example, interconnection, spectrum and infrastructure sharing. Cross-sectoral topics include, consumer protection, data protection and international collaboration.<sup>1</sup>

**Data protection is an example of regulation that requires regulation across sectors.** The European Data Protection Authority<sup>2</sup>, for example, is the independent supra-national body responsible for monitoring and ensuring the protection of personal data and privacy across the EU. The implementation of the EU's data protection laws within each nation is left to the national data protection agency. In the UK, this is the Information Commissioner's Office<sup>3</sup>. Data protection is not the responsibility of a sector-specific regulator such as Ofcom but to an agency with responsibility across all sectors.

**Table 2: Telecom vs. Converged vs. Multi-sector regulator**

	Telecom Regulator	Converged Regulator	Utility or multi sector Regulator
Responsibility	Telecommunication sector	Telecommunication, postal and broadcasting sectors.	Public utilities such as water, electricity and telecommunication
Advantages	Clear responsibility and accountability.	Broadcasting and Telecommunication have common regulatory requirements. Both require spectrum and rights of way regulations for cell and broadcasting towers.	Resource efficient
Disadvantages	It may be resource intensive to have separate regulators for postal, broadcasting and telecommunication.	Telecom is often prioritised in converged regulators and postal and broadcasting receive less attention.	If one institution does not work well then multiple sectors are affected.
Situation where recommended	If particular focus on a sector is required	This is the default configuration	Island and tiny nations or new set ups after crisis or war.
Examples	Niger	Most regulators	Jamaica, The Gambia

**While the desired outcomes, fair competition, consumer protection and economic development remain the same, the approaches to achieve them change across time and differ between countries.** In large converged markets such as the EU and the USA, functions to maintain fair competition have partially shifted from *ex-ante* to *ex-post* regulation, ie from sector specific regulators to competition commissions.

**The ITU<sup>4</sup> describes the evolution of a 5<sup>th</sup> generation of regulation, which is a response to mobile phones becoming portals to global online services and online content, as flexible, light-touch and open to partnership.** Collaboration between ICT regulators, facilitated through the ITU, has been common practice for decades, ranging from the global management of the radio-frequency spectrum and satellite orbits, agreeing to numbering ranges to settlement agreements for international traffic. The new collaboration needed for today's challenges is one of co-operation between domestic regulatory authorities such as ICT regulators and the central bank, the competition commission and consumer protection agencies, but also co-operation across borders with non-ICT-sector regulators. While collaboration between horizontal and vertical (sector and subject-specific) regulators is already

<sup>1</sup> ITU, 2014. Trends in Telecommunication Reform Special Edition: 4th Generation Regulation: <https://www.itu.int/en/ITU-D/Regulatory-Market/Pages/Trends/Trends-Special%20Edition.aspx>

<sup>2</sup> <https://edps.europa.eu>

<sup>3</sup> <https://ico.org.uk>

<sup>4</sup> <https://news.itu.int/why-we-need-5th-generation-ict-regulation/>,

complex, a collaboration of an ICT regulator with horizontal and vertical regulators from other jurisdictions could easily become overwhelming in terms of financial and human resources.

**Table 3: Evolving approaches to Regulation**

	Approach	ICT Regulator	Price Regulation	Access Control
First Generation	<ul style="list-style-type: none"> <li>Regulated public monopolies</li> <li>Command &amp; control approach</li> </ul>	Within line ministry	Retail prices	Laws
Second Generation	<ul style="list-style-type: none"> <li>Opening markets</li> <li>Partial liberalization and privatization across the layers</li> </ul>	Separate ICT Regulator	Wholesale and partially retail prices	Licences to operate
Third Generation	<ul style="list-style-type: none"> <li>Enabling investment, innovation and access</li> <li>Dual focus on stimulating competition in service and content delivery, and consumer protection</li> </ul>	Independent ICT Regulator	Wholesale prices	Licences to operate
Fourth Generation	Integrated regulation led by economic and social policy goals	Independent ICT Regulator with enforcement power	Wholesale prices	Licences to operate
Fifth Generation	Collaborative regulation, inclusive dialogue and harmonized approach across sectors	Independent ICT Regulator as part of a network of partner regulators across sectors and countries	Ex post price interventions	Spectrum licence
Source	Adapted from ITU (2017)			

**For governments to ensure that the objectives of consumer protection and competition are achieved, a rebalancing between sector and subject-specific regulators may be required from time to time.**<sup>5</sup> It may be more efficient to delegate some ICT sector-specific responsibilities to horizontal, subject-specific regulators such as the competition commission or a consumer protection agency as telecommunication markets become more competitive.

**Table 4: Consumer Protection Check list**

Steps			Yes	No
1	Does your country have a consumer protection law?			
2	Does the country have a Consumer Protection Agency?			
2	Is the consumer protection law adequate for dealing with	Consumer empowerment		
3		Advertisement and transparency		
4		Billing complaints		
5		Quality of service complaints		
6	Does the regulating authority has sufficient expertise and funding to educate and enforce the consumer protection law?			
7	Does the regulating authority have sufficient jurisdictional power and international co-operation to operate in multiple countries with multiple regulating authorities?			
A "Yes" to all questions allows consumer protection responsibilities to be delegated from the ICT regulator to the consumer protection agency, i.e., transfer from sector-specific to subject-specific regulator.				

<sup>5</sup> For a discussion on Elements for an Effective Regulator see: <http://www.ictregulationtoolkit.org/toolkit/6.5>

**A consumer protection agency is an example of the increased relevance of subject-specific regulatory bodies as opposed to sector-specific regulatory agencies.** As the threat of abuse and exploitation of individual data increases, so does the necessity for a competent and well resourced consumer protection agency. Many countries have multiple consumer protection agencies: for the telecom sector, for financial services, for transport, tourism and so on. While this set up may have served well in the past, consumer interests may be better protected by a specialised single consumer protection agency in the future. This in particular since services are being increasingly provided across borders. Once a consumer prevention agency is competent enough to handle ICT consumer complaints, the responsibility can be delegated from the ICT regulator to a consumer protection agency. The advantage of a subject regulator is a higher degree of specialisation and thus more effective collaboration across jurisdictions.

**CRAN is a converged 4<sup>th</sup> generation regulator, that is responsible for the telecommunication, postal and broadcasting sectors.** CRAN controls market access to the ICT sector and has various tools to establish and enforce fair competition and consumer protection.

## Telecommunication Sector

**CRAN conducted a survey among ICT sector licensees in late 2022 in order to understand how to stimulate private sector investment. The results to this survey are discussed in the following sections. Licensees were requested to respond to the following questions:**

- The Namibian ICT sector is dominated by state-owned enterprises. What are the factors that prevent private investment to play a wider role in Namibia's ICT sector?
- What initiatives can be taken to increase competition in Namibia's ICT sector?
- In how far would dropping the 51% Namibian ownership requirement in the communications act increase competition and private investment?
- In how far would enforcing passive or active infrastructure sharing increase competition and private investment?
- How effective is CRAN in safeguarding fair competition for Namibia's ICT sector?
- How effective is CRAN's spectrum management? How effective is?
- CRAN's licensing framework with regard to stimulating private investment and local participation?
- Please rate the administrative burden that CRAN imposes on your business from 1 to 7, where 1 is no burden at all and 7 is a burden that jeopardises your business.

### Incentives for private ICT sector investment

**A risk exists in Namibia that public enterprises (PEs) squeeze out private investment in the ICT sector.** There are various mechanisms through which this can happen:

- Setting prices that are too low for competitors or new entrants to match.
- Using exclusive contracts with suppliers or customers. Telecom Namibia and MTC had such an exclusive agreement with Nampower, for dark fibre lease for many years, for example.
- Using its political connections to gain favourable treatment from the regulator. With telcos often being among the biggest tax payers in a country, lobbying ICT ministers and other politicians is quite common.
- Using its political connections to gain favourable access to state assets, such as Nampower fibre cables, roads and rails.
- Favourable terms for access to loans due to state ownership and a track record of the state bailing out PEs if they fail.
- Barriers to market entry through assets invested by by PEs in the sector.

**As a result, PEs can maintain their position in the market and reduce the opportunities for private investors to enter and compete.** The lack of private investment can be harmful to the overall economy as it may lead to inefficiencies, reduced innovation, low quality of service and higher prices for consumers.

**These concerns are shared by a number of stakeholders.** For example, Paratus agrees that dominant public enterprises can limit competition and squeeze out private investment and points to the inability to sign national roaming agreements with dominant operators as a prime example. Another stakeholder gave the example of dominant operators setting prices that are too low for competitors to match. The example given is for the Langstrand suburb on the coast, where MTC has installed Fiber and "smaller fixed wireless providers cannot compete".

**Some stakeholders pointed out that public enterprises have easier and cheaper access to capital from the state and that this puts the private sector at a disadvantage.** The problem of access to

capital for the private sector is exacerbated by the 51% foreign ownership requirement that limits the pool of potential investors and thus also potential private capital. Large mobile operator groups, such as MTN, Orange, Airtel and Vodacom, typically require management control over their investment. For a local licensee to have an international partner would allow access to cheaper capital and equipment as well as provide access to technologies and skills.

**Several stakeholders offered other factors that prevent private investment.** These would affect private and public firms equally and so CRAN does not see that they play a role in limiting private investment. For example, skills shortage affects the industry as a whole and is not particular to the private sector. Respondent

**Table 5: Factors listed by stakeholders for limiting private sector investment**

Q1	The Namibian ICT sector is dominated by state-owned enterprises. What are the factors that prevent private investment to play a wider role in Namibia's ICT sector?
Respondent	The cost of infrastructure rentals specially on the towers. The lack of willingness of the state-owned enterprises to work with private organizations.
Respondent	State-owned entities are not the barrier to investment per se, but rather the dominance of these entities. CRAN speaks about "heightened regulation on telecommunications licensees that hold a dominant position in the market". The market has not seen any "heightened regulations" that obligate dominant licensees to actively engage with other operators. An example of this is national roaming, which despite efforts to engage the operators and request CRAN for assistance and intervention, has not seen progress. Due to the small population size, expansive territory and high cost of building infrastructure, a failure to share such infrastructure is the biggest barrier to investment and growth in the ICT sector.
Respondent	Number Portability: OmniTel Namibia (Pty) Ltd. and our main business is the supply Communication Servers and legacy PBX systems, and we are dependent on Network Operators to ensure uptime of services for our customers. When these services are plagued with outages, the only option for customers are to accept the outage till such time whereby it is resolved, or move to a different supplier, which requires major investment in the sense of new paper stocks, advertising, digital media alterations etc. To us this is a major stumbling block in offering / recommending alternative service provider to our customers. Although private sector service providers do have some market share in the telecommunication services, they are building a customer base and market share from the ground up, where private investment might be more lucrative and attractive for these entities, if customers could move service providers in a seamless manner.
Respondent	State-owned enterprises that dominate the ICT sector in Namibia may have an advantage over private companies in terms of access to resources and government support, making it difficult for private companies to compete. Limited access to financing, as private companies may face difficulties in securing the necessary funding to invest in the ICT sector.
Respondent	The Namibia ICT sector is dominated by state-owned enterprises and CRAN is also state-owned, which makes it difficult to believe in their total independence. CRAN's mandate is to regulate, supervise and promote the provision of telecommunication services in Namibia. Private investors compete directly with government and have a totally different mandate than government. Private companies find it difficult to get a return on their investment with the very high licensing fees and spectrum fees. Governments mandate is to serve the population as a whole with connectivity. Private companies cannot compete with government owned enterprises as private companies does not have the bail-out of government in tough financial times.
Respondent	This can be attributed to existing laws and regulations which investors might find unconducive or unfavorable in their views. The Namibian market might be considered too small and too difficult to penetrate in terms of new entries into the market.

Q1	<b>The Namibian ICT sector is dominated by state-owned enterprises. What are the factors that prevent private investment to play a wider role in Namibia's ICT sector?</b>
Respondent	<ul style="list-style-type: none"> <li>• The lack of infrastructure: One of the factors is the inadequate or insufficient infrastructure that can make it difficult for private companies to invest in the ICT sector.</li> <li>• Regulation: There are overly restrictive regulation and bureaucratic procedures which can however discourage private investment.</li> <li>• Lack of financing: Private companies may be deterred from investing due to the lack of financing options, such as loans or investment opportunities, because this sector is regarded as high-risk investment.</li> <li>• Lack of competition: A dominant state-owned enterprise can limit competition and discourage private investment.</li> <li>• Lack of market demand: If there is not enough demand for ICT services and products, private companies may be less likely to invest due to the lack of clientele for the provision of their services..</li> <li>• Skilled workforce shortage: A shortage of skilled workers can make it difficult for private companies to invest and compete effectively in the ICT sector.</li> </ul>
Respondent	Costs of implementing infrastructure and competing with state owned companies that monopolised the sector .
Respondent	<ul style="list-style-type: none"> <li>• It is our feeling that while we do not object to having state owned enterprises being the dominate operators, provision does need to be made to allow private companies to operate in the same sectors with fair competition. I make reference to one example of MTC offering high speed internet packages below the market norm eg. MTC Spectra 50Mbps for under N\$ 1000 per month.</li> <li>• In addition, neither enterprises (Telecom Namibia and MTC) are offering other licensees open access agreements to their fiber networks like Paratus is doing. This is giving them monopoly over areas preventing other service providers being able to compete there. Immediate example is the Langstrand suburb at the coast. MTC have installed Fiber the area and with the pricing model us smaller fixed wireless providers cannot compete.</li> <li>• More support for the wireless providers. As an example. South Africa has WAPA, which represents all the Wireless operators in South Africa. An association similar to this will give the smaller wireless operators a united voice in the market. In addition, members of this association can work together to improve wireless services in their respective areas. One such example of this is reduction of interference between operators on a shared locations. New licensees can be provided with training and a framework on how best to deploy their networks to minimize interference for themselves and existing operators.</li> <li>• Another possible association that will benefit Namibia is similar to ISPA (Internet service Providers Association). This body can provide the necessary governance alongside CRAN/ department of ICT and Na-Nic to regulate internet service providers and internet services provided in Namibia.</li> </ul>
Respondent	<ul style="list-style-type: none"> <li>• The industry is quite small and there are a lot of privately owned ISP's who have recently been registered as well. Licenses should not be given so easily to whoever requests it. The other major factor is the 51% Namibian ownership requirement which will be elaborated on further in #3 below.</li> <li>• Will always prove difficult finding private investment into SOE's, given their reputation.</li> </ul>
Respondent	Did not respond to this question

## Increase competition in Namibia's ICT sector

**Competition in the ICT sector may be increased through several initiatives that aim to promote market efficiency, encourage innovation, and ultimately benefit consumers.** Some of the common initiatives recommended by liberal economic theory include:

- **Liberalisation of market entry:** This involves removing barriers to entry and allowing new players to enter the market. This can be achieved through reducing licensing requirements, simplifying regulatory frameworks, and promoting foreign investment.
- **Privatisation of state-owned enterprises:** This involves selling off state-owned enterprises that operate in the ICT sector to private investors. This could promote competition by creating new market players. MTC and TN would potentially compete more with each other if owned by different private sector companies compared to the current situation where both are controlled by the state.
- **Infrastructure sharing:** This refers to the practice of multiple telecom service providers sharing the same physical network infrastructure, such as cellular towers, fiber optic cables, and other network components. There are advantages and disadvantages to infrastructure sharing that need to be carefully balanced. On the one hand it may reduce infrastructure based competition and on the other hand a new entrant could be allowed to quicker offer competition services.
- **Spectrum reform:** This involves reforming the way radio frequency spectrum is allocated. In the context of Namibia, this can be done by ensuring that there is spectrum set aside for new players or by excluding dominant operators from some spectrum frequencies or limiting the amount of spectrum that they can be awarded. Several initiatives around shared spectrum and spectrum parks exist that allow smaller players to get access to value spectrum without impeding spectrum efficiency objectives.
- **Competition law enforcement:** This involves enforcing laws that prevent anti-competitive behaviour in the ICT sector, such as price-fixing, abuse of dominant market positions, and collusion. A competition commission rules after the fact (*ex post*) and does not prevent anti-competitive behaviour, which is the function of CRAN (*ex ante*). However, a track record of significant penalties for anti-competitive behaviour functions as a warning to the industry.

**Stakeholders mainly saw infrastructure sharing as the main mechanism to increase competition in the telecom sector.** Some stakeholders argued for enforced discounts on infrastructure sharing for SMEs. The implication from stakeholders is that infrastructure sharing is currently not sufficiently enforced and that CRAN can play a role in improving this state of affairs.



**Table 6: Initiatives to increase competition in Namibia**

Q2	What initiatives can be taken to increase competition in Namibia's ICT sector?
Respondent	Special rates for SME on towers and from CRAN.
Respondent	Infrastructure sharing in terms of national roaming, open access and MVNOs.
Respondent	<p>We are of the opinion that the following initiatives might assist to increase competition in the Namibian market. Some of these are already implemented by the Authority, but is mentioned all the same.</p> <ul style="list-style-type: none"> <li>• Spectrum allocation: Allocating spectrum in an open, transparent and non-discriminatory manner to multiple operators to encourage new entrants.</li> <li>• Interconnection regulations: Regulating interconnection between operators to ensure fair access to networks and services.</li> <li>• Number portability: Implementing number portability to allow consumers to switch operators while retaining their phone number.</li> <li>• Roaming agreements: Encouraging roaming agreements between operators to allow consumers to use their devices while traveling.</li> <li>• Network neutrality: Enforcing network neutrality rules to prevent operators from discriminating against certain types of content or services.</li> </ul>
Respondent	The government can encourage and facilitate partnerships between private companies and state-owned enterprises to promote innovation and growth in the ICT sector. Government can invest in developing the necessary infrastructure, to support the growth of private companies in the ICT sector.
Respondent	The playing field in the ITC sector was advantageous to the government owned entities for too long and the private sector and new entrants will never be able to catch up if they are not subsidized to a certain extend or get certain tax redemptions from government in this regard. Governments can play a bigger role in supplying national backbone to operators on an equal basis for private operators to start competing in all areas of the country
Respondent	Eliminate barriers to entries by leveling the playing field.
Respondent	<ul style="list-style-type: none"> <li>• Deregulation: The government could remove or reduce restrictive regulations to make it easier for private companies to enter the market and compete with state-owned enterprises.</li> <li>• Encouraging private investment: The government could provide financial incentives and create a more favorable environment for private investment in the ICT sector.</li> <li>• Promoting innovation: The government could provide funding and support for research and development initiatives to encourage the development of new and innovative products and services in the ICT sector.</li> <li>• Building infrastructure: The government could invest in building infrastructure such as broadband networks, data centers, and other ICT facilities to support the growth of the sector.</li> <li>• Developing the workforce: The government could invest in training and education programs to develop the skills of the workforce, making it easier for private companies to compete in the ICT sector.</li> <li>• Encouraging collaboration: The government could encourage collaboration between state-owned enterprises and private companies to foster competition and drive innovation in the ICT sector and to create influence.</li> </ul>
Respondent	Providing financial incentives for state owned and larger service providers to provide potential Open Access service to smaller ISP's throughout their national infrastructure to reduce bandwidth costs for the smaller ISP's.
Respondent	I would like to see CRAN facilitate more infrastructure sharing policies to allow smaller operators access to a wider coverage of the country. I make reference to open access agreements for fiber networks of Telecom and MTC from above.
Respondent	<ul style="list-style-type: none"> <li>• Infrastructure sharing is a problem, especially MTC</li> <li>• Number portability</li> </ul>
Respondent	Did not respond to this question

## Attracting Foreign Direct Investment

**Foreign direct investment (FDI) can be a source for economic development.** FDI is a source of additional private sector capital and is crucial for countries with limited local capital. Substantial evidence exists that FDI benefits host countries, however, its potential impact needs to be carefully and realistically assessed.<sup>6</sup> The OECD (2002 page 9) notes *"Most empirical studies conclude that FDI contributes to both factor productivity and income growth in host countries, beyond what domestic investment normally would trigger."*

**FDI funded the introduction of mobile telecommunications in Namibia.** This is the same time that Namibia was a leading ICT country in Africa and when MTC and Leo, both managed by foreign entities, competed with Telecom Namibia. The history of FDI in the ICT sector includes:

- In 1995, Mobile Telecommunications (MTC) was established with Swedish technical partners Telia and Swedfund
- In 2006, Portugal Telecom bought 34% of MTC for N\$1.02 billion. The foreign owned MTC share changed hands several times after that but management remained consistent until the State took full ownership in 2018.
- In 2006, PowerCom (Cell One then later Leo) was awarded a second cellular licence. It started operations in March 2007. In 2009, Orascom bought Leo.











**Table 7: Potential advantages and disadvantages of FDI**

		Selected Arguments
Advantages	Jobs	Increased employment and increased buying powers boosts the overall economy
	Skills	Skills transfer through training and experience can boost the human capital.
	Technology	Access to the latest financing tools, technologies, and operational practices from all across the world, resulting in enhanced efficiency and effectiveness of the industry.
	Access to capital	<ul style="list-style-type: none"> <li>• Inflow of capital is beneficial for countries with limited domestic savings.</li> <li>• Foreign investors may also have a better credit rating than local firms and being able to tap into international capital markets.</li> </ul>
	Competition	FDI may break domestic monopolies and promote competition. Fair competition generally leads to better and more affordable services benefiting consumers and the economy overall.
Disadvantages	Crowding out of domestic investment	FDI may crowd out domestic investment. Recently, Namibia seen an increase in private investment through Paratus, however not enough to compete with MTC or TN head on.

**Telecom Namibia took over the privately owned Leo (Powercom) in 2014.** In 2018, NPTH increased its shareholding in MTC to 100%. Following its listing on the Namibian Stock Exchange (NSX) on 19 November 2021, NPTH still retained control, with a 60% ownership. Telecom Namibia is 100% owned by NPTH, which itself is 100% owned by the State. State ownership pushed out private sector investment and innovation and Namibia has fallen far behind its African peers and ranks 24<sup>th</sup> on the Next Generation Internet Index for Africa and 124<sup>th</sup> globally.<sup>7</sup>

<sup>6</sup> <https://www.imf.org/external/pubs/ft/fandd/2001/06/loungani.htm>

<sup>7</sup> [https://researchictolutions.com/ngii-portal/next\\_generation\\_internet\\_index.php](https://researchictolutions.com/ngii-portal/next_generation_internet_index.php)

Countries	NGII	Rank	Region	Rank in Region	Subregion	Rank in Subregion	Fast Internet	Low Latencies	Affordability
 Botswana	10%	128	Africa	27	Southern Africa	4	10%	0%	20% 
 Eswatini	3%	145	Africa	39	Southern Africa	5	10%	0%	0% 
 Lesotho	20%	110	Africa	14	Southern Africa	1	10%	50%	0% 
 Namibia	13%	124	Africa	24	Southern Africa	3	0%	0%	40% 
 South Africa	40%	114	Africa	17	Southern Africa	2	10%	30%	80% 

**Figure 2: Selected Countries for the Next Generation Internet Index for 2022 Q3.**

**Stakeholders were divided over the question of foreign ownership limits.** The majority of stakeholders wanted to retain the foreign ownership requirement even though some acknowledged that the limitation prevents foreign investment in the sector, with the associated negative effects. Respondent 2, for example, argued that dropping the limitation would result in profits being exported outside of the country. Respondent 4 and Respondent 5, in contrast, both argued that dropping the limitation would improve access to financing and also the introduction of new technologies.

**Table 8: Stakeholder views on dropping the foreign ownership requirement**

Q3	In how far would dropping the 51% Namibian ownership requirement in the communications act increase competition and private investment?
Respondent	This must not be done we want to live in a Proud Namibian Country rather help Namibians to start their own ICT companies.
Respondent	Namibian operators fought hard to have the ownership minimum included in the Communications Act to maintain a sense of not only being proudly Namibian but Namibian- owned. To consider the removal of this requirement could risk foreign entities doing business in Namibia to "export" profits from the country and not invest in the future of Namibia. The Act and regulations allow Namibian entities to effectively compete in the industry and enable them to engage foreign entities by providing their services through interconnection, resell of services, or open access infrastructure. Namibia has tremendous opportunities that should be protected for Namibian entities that wish to expand their footprint from Namibia and not allow foreign entities from exploiting the open market system that Namibia has to the detriment of the industry, the country and its people.
Respondent	The Respondent is of the opinion, that the practice of having at least 51% Namibian ownership for licensees is a fair practice and should not be altered. The Namibian market is relatively small compared to other countries, based on total population and population density. Servicing this market should remain the responsibility of Majority Namibian Owned Businesses.
Respondent	With increased foreign investment, local companies could gain access to global markets, which would help to increase their competitiveness and ability to grow. Therefor dropping the 51% Namibian ownership requirement in the Communications Act could help to increase competition and private investment in the ICT sector by attracting foreign investment, improving access to financing, and promoting technology and partnerships.
Respondent	This factor is surely a limiting factor as it hampers foreign investment. A big foreign investor is hesitant to invest if they don't have the controlling or majority share in a business in a country that is hampered by corruption. Dropping this requirement will definitely promote foreign investment. Other requirements can be imposed eg certain amount of locals needs to be employed , especially at management level or foreigners to be employed for a limited time only to ensure transfer of skills etc.
Respondent	It might encourage investors to come on board and by default increase competition amongst various players. However while it might be a good thing on one hand, the initial objectives meant to be attained with majority shares allocation to Namibians should be mitigated via other means to avoid capital flight risk and to ensure that Namibia and Namibians benefits in terms of development.

Q3	In how far would dropping the 51% Namibian ownership requirement in the communications act increase competition and private investment?
Respondent	<p>Attracting foreign investment Removing the ownership, requirement could attract foreign investment, which would bring in new capital and expertise to the ICT sector. This could lead to the development of new products and services and increase competitiveness in the market.</p> <ul style="list-style-type: none"> <li>• Encouraging partnerships: The ownership requirement can make it difficult for international companies to form partnerships with local companies, which could limit collaboration and cooperation in the ICT sector. Removing this requirement would allow for greater collaboration and competition.</li> <li>• Promoting innovation: By encouraging the entry of new players, including international companies, the ICT sector could become more innovative and dynamic, as companies seek to differentiate themselves and offer unique products and services.</li> <li>• Providing access to capital: Foreign investment can provide access to capital and financing options that may not be available to local companies, enabling them to grow and expand their businesses.</li> <li>• Increasing market efficiency: By removing barriers to entry, competition in the ICT sector could increase, leading to improved efficiency and lower prices for consumers.</li> </ul> <p>However, it's important to note that removing the ownership requirement could also have potential drawbacks, such as a loss of control over the direction of the ICT sector and the potential for foreign companies to dominate the market. It's important for the government to weigh the potential benefits and drawbacks before making any changes to the ownership requirement.</p>
Respondent	<p>It would not necessarily increase competition positively and could allow for the Namibian industry to recede while trying to compete with international entities.</p>
Respondent	<p>Even as a foreign owner myself, I personally feel that this potentially opens the door for large international telecommunication providers to come in and become dominate operators and undercut the existing market, resulting in the smaller operators losing business. More effort should be put into local development and support so that Namibian's can invest within its own people to develop the ICT sector.</p>
Respondent	<p>This would make a massive change and increase competition tremendously. We would like to see Namibian ownership requirement be dropped to 30% minimum. This will increase foreign investment into the Namibian ICT sector immensely, followed up with increasing skills levels.</p>
Respondent	<p>Did not respond to this question</p>

## Infrastructure sharing

**Infrastructure sharing** is a means to promote competition, reduce costs, and improve access to telecom services where a duplication of infrastructure is not economical. Some of the benefits of infrastructure sharing are:

- **Reduced costs:** Sharing infrastructure can help reduce the costs of building and maintaining network infrastructure, particularly in areas with low population density or difficult terrain. This can lower the barriers to entry for new players in the market and increase competition.
- **Increased network coverage:** Sharing infrastructure can help expand network coverage to areas that are underserved or unserved, particularly in rural or remote areas. This can improve access to telecom services for more people.
- **Improved quality of service:** Sharing infrastructure can help improve the quality of service for consumers, particularly in areas where multiple providers share the same infrastructure. This can result in faster and more reliable connections.
- **Reduced environmental impact:** Sharing infrastructure can help reduce the environmental impact of building and maintaining network infrastructure, particularly in areas with limited space or sensitive ecosystems.

**The vast majority of stakeholders support infrastructure sharing.** They point to the size of the country, its relative sparseness of population and its environmental benefits as advantages. MTC, on the other hand, is opposed to infrastructure sharing on the basis that its network is already at full capacity and that infrastructure sharing will negatively impact on quality of service.

**Table 9: MTC's CAPEX**

		2016	2017	2018	2019	2020	2021	2022	Change
Net profit after tax	NAD million	579	712	802	797	772	743	793	37%
	USD Million	39	53	61	55	47	50	48	23%
Addition to Network Equipment	NAD million	148	164	176	161	121	246	71	-52%
	USD Million	10.1	12.3	13.3	11.1	7.4	16.6	4.3	-57%
	% of after tax profit	26%	23%	22%	20%	16%	33%	9%	
EBITDA margin	%	56%	58%	60%	52%	52%	51%	51%	
USD exchange rate (Bank of Namibia)		14.7	13.3	13.2	14.4	16.5	14.8	16.4	
Source:		MTC annual reports, 2016-2022							

**MTC's congestion is likely the result of underinvestment due to a lack of competition.** Additions to network and equipment increased to 33% of net profits in 2021, after declining since 2016, but dropped to a mere 9% in 2022. MTC invested only USD 4.3 million in the FY 2022, compared to USD 10.1 million in 2016. For a company with an EBITDA margin of above 50% having a congested network is the result of a strategic decision on the part of management not to invest in network infrastructure. Furthermore, given it is the most used mobile network in Namibia, it means that Namibia's economic growth is held back by MTC's under investment.

**Table 10: Infrastructure sharing definitions from BEREC (2019)**

	Description
Passive sharing	Passive sharing is the common use by two or more operators of passive elements of their respective networks. Passive elements are those which are not able to process or convert telecommunication signals in any way and which are not integrated parts of the system dedicated specifically to the conveyance of signals. Passive elements are sometimes referred to as 'unpowered components' as these elements usually do not require a power supply. This is however not always the case. For instance, air conditioning for cooling equipment might be considered a passive element, but usually requires an external power supply. Passive sharing can encompass the sharing of passive backhaul elements.
Co-location	Co-location is a form of passive sharing where the operators share the same location (such as compound, base station sites, rooftops, etc.) for the construction of the base stations. It could be limited to a common access to the location. It could also include the use of common masts and other mounting/supporting constructions or cabinets including related installations (such as air conditioning, power supply etc.).
Site sharing	Site sharing is a form of co-location where two or more operators agree to deploy their masts or other supporting constructions in the same location. Typically, each operator provides own mast, backhaul, cabinets and active equipment.
Mast sharing	Mast sharing is a form of co-location where two or more operators agree to use the same mast or other supporting construction. Generally, each operator provides own backhaul, cabinets and active equipment.
Active sharing	Active sharing is the common use by two or more operators of active elements of their respective networks. Active elements are those which are able to generate, process, amplify and control signals. Examples of active elements are very diverse and include many different types of electronic equipment (hardware and software) capable of various functions (transmitters, receivers, amplifiers, decoders etc.). While antennas have been traditionally classified as passive elements, technology advance has led to a paradigm shift to active antenna systems (AAS), which are considered a key enabler for 5G networks. Such antennas (or antenna arrays) can also be considered as active when equipped with radio frequency units such as amplifiers and signal processing elements. Furthermore, 5G, including virtualization technology, may enable new forms of network sharing, in particular for building common network slices tailored to specific services.
RAN sharing	RAN sharing is a form of active sharing where two or more operators agree to use the same access network equipment, including base station active equipment and possibly the antenna. Each operator uses its own core network. This type of active sharing itself can typically be split into two types, depending on whether operators share the same spectrum or not: <ul style="list-style-type: none"> <li>Multi-Operator Radio Access Network (MORAN) sharing is a form of RAN sharing where only equipment is shared (i.e. not spectrum). The end-users of each operator access the services of their respective MNO with the frequencies of their respective MNO.</li> <li>Multi Operator Core Network (MOCN) sharing is a form of RAN sharing where all elements of the radio access network, including spectrum, are shared. The end-users of each operator can access the services of their respective MNO through all the frequencies that are shared in the access network. The frequencies can be provided by one or several operators that are part of the sharing. When the frequencies of several operators are used, it is called MOCN with frequency (or spectrum) pooling.</li> </ul>
National roaming	National/local roaming is a form of active sharing where one operator uses the mobile service of another operator within the same country for the purpose of providing services to its end users.
Core Network sharing	Core Network sharing is a form of sharing where operators agree to share elements of their core network, either on a standalone basis or in addition to sharing elements of their access network(s). Core network sharing can be limited to data transmission ring which connects the core network components and can extend to components themselves (such as switching centre with HLR, billing platforms and value-added services (VAS)).
Backhaul sharing	Backhaul sharing is a form of sharing where one or more operators share backhaul elements. It is a form of passive sharing when the shared elements are passive, for example ducts and poles. It is a form of active sharing when it is the common use of network components for data transmission.

**Active infrastructure sharing may increase network efficiencies and lower the cost for MNOs, in particular for 5G, but that requires excess capacity as well as the commercial interest to work together for all involved MNOs.** The Common Position on Mobile Infrastructure Sharing of the European Union published by BEREC in 2019 lists the following benefits and drawbacks of infrastructure sharing (BEREC, 2019):

- **Benefits:** sharing can save costs, improved efficiency with respect to administrative costs and efficient use of spectrum, enhancing consumer choice and environmental and health protection (fewer sites and masts).
- **Drawbacks:** reduced incentives to invest/ability to compete, requirement for increased coordination between participants, reduced network resilience due to increased demand on host networks/sites.

**A regulator should only intervene with regard to infrastructure sharing to promote competition; and to promote the interests of the citizens of a country.** Table 5 displays the definition of various forms of infrastructure sharing as defined by the EU (BEREC).

**Table 11: Benefits and drawbacks of different types infrastructure sharing for MTC and MTN**

Sharing Type	Host	Seeker	Competition	End user	Capacity assessment
Passive sharing	Reduced site OPEX	Reduced site CAPEX and OPEX	<b>Increase</b> Infrastructure competition with own backhaul	More choice and faster services	Site inspection to establish capacity
Active sharing (selected elements and or sites)	Wholesale revenue for selected sites that are fibre backhauled	Fast service rollout, but limited scope for service differentiation.	<b>Neutral</b>	More choice	Analysis of relevant site and element capacity
Multi-Operator Radio Access Network (MORAN)	Whole sale revenue Host's RAN sites	<ul style="list-style-type: none"> <li>Fast service rollout:</li> <li>Using own spectrum for product differentiation,</li> </ul>	<b>Increase</b> Seeker and Host have their own cells but at the same locations	<ul style="list-style-type: none"> <li>More choice</li> <li>Faster services if own backhaul is established.</li> </ul>	Analysis of RAN network, core network and backhaul capacity on sub national level
Multi Operator Core Network (MOCN)	<ul style="list-style-type: none"> <li>Whole sale revenue Host's RAN sites</li> <li>Host can use Seeker's spectrum also</li> <li>Revenue boost can be used to extend backhaul capacity</li> </ul>	<ul style="list-style-type: none"> <li>Fast service rollout:</li> <li>Pooling spectrum with Host</li> </ul>	<b>Neutral</b> Higher spectrum efficiency	<ul style="list-style-type: none"> <li>More choice</li> <li>faster services through more spectrum</li> <li>Potentially backhaul upgrades.</li> </ul>	
National/local roaming	Whole sale revenue	Fast service rollout, but limited scope for service differentiation.	<b>Neutral</b>	More choice	

**There are many forms of infrastructure sharing with different benefits and drawbacks that can be explored for Namibia.** Passive infrastructure sharing provides cost savings for both parties, more choice for consumers and increased competition. Active infrastructure sharing can be agreed on for specific elements, such as specific sites for the entire RAN network. Table 12 summarises infrastructure sharing options and their impacts on stakeholders in general terms.



**Table 12: Stakeholder views on infrastructure sharing**

<b>Q4</b>	<b>In how far would enforcing passive or active infrastructure sharing increase competition and private investment?</b>
Respondent	I don't think it will play a role. The cost and red tape to erect a tower in Namibia is just to long
Respondent	Increasing both forms of infrastructure sharing will remove the burden of having to rebuild infrastructure which could have been shared. Sharing will create the opportunity for smaller operators to enter niche markets and serve underserved areas with a focus on customer value propositions.
Respondent	In Namibia with its sparse population density and vast distances, infrastructure sharing is a must, no single service provider would be able to cover the entire country and provide services while making a realistic return on investment on their customer base, if infrastructure sharing is not enforced. OmniTel Namibia (Pty) Ltd. believes that infrastructure sharing should be enforced, however also regulated to ensure that the owner of the infrastructure is not penalised or disadvantaged by such an enforced sharing agreement.
Respondent	Enforcing passive or active infrastructure sharing in Namibia's ICT sector can help to increase competition and private investment by reducing costs, improving coverage and access, and facilitating entry of new players.
Respondent	Shared infrastructure is a must from an environmental, efficiency and cosmetic perspective. It will reduce overall operating cost and can help private investors to enter the market. There is no benefit in duplicating efforts in terms of EIA's space and costs. Even fibre operators have to be forced to use ducting, supplied by authorities to pull fibre and not do trenching around cities ever operator by itself. That needs to be controlled by local authorities and government must provide the basic infrastructure means for operators to use in a well-controlled and managed environment.
Respondent	It would increase competition as it would eliminate barriers to entry. It would also make it easier for smaller players or new players to quickly deploy their products in the market. This would further encourage innovation and allow investors to focus on products development.
Respondent	<p>Enforcing passive or active ICT network infrastructure sharing can increase competition and private investment in the following ways:</p> <ul style="list-style-type: none"> <li>• Lowering barriers to entry: By requiring companies to share their network infrastructure, smaller companies or new entrants to the market would have access to the infrastructure they need to compete, reducing the barriers to entry and promoting competition.</li> <li>• Reducing costs: Sharing network infrastructure can reduce costs for companies, which would make it easier for them to invest in the ICT sector and offer more competitive prices to consumers.</li> <li>• Improving coverage: By sharing network infrastructure, companies can extend their coverage and reach more customers, increasing the size of the market and attracting more investment.</li> <li>• Encouraging innovation: Sharing network infrastructure can encourage companies to focus on developing new and innovative products and services, rather than investing in expensive network infrastructure.</li> <li>• Improving quality: By sharing network infrastructure, companies can spread the costs of maintaining and upgrading the infrastructure, leading to higher quality networks and better service for customers.</li> </ul>
Respondent	If done correctly could increase the ability for smaller ISP's to grow their national footprint.
Respondent	By allowing the non-dominate operators access to wider coverage via shared infrastructure, reduces the capital expenses for said operator, while increasing revenue for dominate operator. This needs to apply to both backhaul connectivity, physical tower sharing and last mile services (FTTx, fixed wireless)
Respondent	This is a tremendous obstacle currently, especially with MTC, and also because of infrastructure sharing rates which also needs to be regulated better. This will increase private investment immensely as well.



Q4	In how far would enforcing passive or active infrastructure sharing increase competition and private investment?
Respondent	<ul style="list-style-type: none"> <li>• Section 50 of the Communications Act (No.8 of 2009) requires dominant operators to share infrastructure. Sharing of infrastructure places a burden on a n operator's network, infrastructure and further affects its quality of service.</li> <li>• Through various submissions and applications the Respondent has indicated the congestion on its network. Nonetheless, the Respondent is mandated to share infrastructure on a nationwide scale, which will certainly impact it's quality of service.</li> <li>• The Respondent herewith rates the burden of dominance placed on operator's business as a 7. The declaration of dominance places a huge burden on operator's operations and infrastructure through the requirements of Section 50 of the Act.</li> </ul>

## CRAN effectiveness at safeguarding fair competition

**The role of a regulator in ensuring fair competition in the telecom sector is critical.** The regulator must ensure that the market is open and competitive, and that all players in the market have an equal opportunity to compete. This requires a range of regulatory tools and policies to promote fair competition, prevent anti-competitive behaviour, and protect the interests of consumers.

**Generally, stakeholders were satisfied with CRAN's performance in safeguarding competition.** Some stakeholders pointed out that CRAN could take a more active role in addressing complaints of anti-competitive behaviour and more interventionist when it comes to protecting consumer interests. An issue that was raised by Respondent 2 is the conflict of interests arising from the City of Windhoek administering rights of way while at the same time competing as a licensee.

**Table 13: Stakeholder views on CRANs performance in safeguarding competition**

Q5	How effective is CRAN in safeguarding fair competition for Namibia's ICT sector?
Respondent	There is still a lot of private companies that is not registered with CRAN, that is killing the bandwidth in the unregulated space. Because of unlicensed links
Respondent	The Regulator seems to take a passive stance on complaints of anti-competitive behaviour preferring to act as a bystander to conflict rather than taking a stance. This is evident in the ongoing litigation. It is believed that the Authority has applied their minds to the matter of affording the City of Windhoek a telecommunications licence when the same entity who now owns a license is the same entity that can approve or decline another operator from accessing vital infrastructure for telecommunications purposes, as dictated by Part V of the Communications Act.
Respondent	CRAN has maintained fair policies in safeguarding competition in the ICT sector without imposing too restrictive policies on licensees.
Respondent	CRAN is very effective in playing an important role in safeguarding fair competition for Namibia's ICT sector through its regulation of monopolies and dominance.
Respondent	The respondent is satisfied with the rules and regulations set. It is surely a big challenge of a regulator to operate as a supervisory body for government in a sector that is totally dominated by government owned entities. It surely constitutes a conflict of interest. CRAN can only regulate 100% independent if all operators are privately owned. This will enhance competition and ensuring that leading edge technology is enabled. The 51% shareholding requirement is a limiting factor for competitors to enter the market. An un-even playing field with years of advantageous benefit to the 2 state-owned enterprises is surely a challenge to CRAN. Competition cannot be safeguarded by CRAN with the shareholding limitation and years of monopolistic advantage that was ensured by regulation in the past.
Respondent	CRAN has been effective thus far in meeting its mandate.

Q5	How effective is CRAN in safeguarding fair competition for Namibia's ICT sector?
Respondent	<p>The effectiveness of the Communications Regulatory Authority of Namibia (CRAN) in safeguarding fair competition for Namibia's ICT sector depends on several factors. CRAN is responsible for regulating the ICT sector and ensuring that competition is fair and that the interests of consumers are protected.</p> <p>If CRAN is effectively implementing its mandate, it can help to promote fair competition in the ICT sector by:</p> <ul style="list-style-type: none"> <li>• Monitoring market practices: CRAN can monitor market practices and ensure that companies are not engaging in anti-competitive behavior, such as price fixing or monopolistic practices.</li> <li>• Promoting competition: CRAN can take steps to encourage competition, such as promoting new entrants to the market and ensuring that larger companies do not abuse their market power.</li> <li>• Protecting consumer interests: CRAN can enforce consumer protection laws and regulations to ensure that customers are not being exploited by companies operating in the ICT sector.</li> <li>• Regulating pricing: CRAN can regulate pricing and ensure that prices are reasonable and do not harm consumers or stifle competition</li> </ul>
Respondent	Reasonable.
Respondent	I have had no direct engagement with situations regarding fair competition, as such cannot provide constructive feedback.
Respondent	<ul style="list-style-type: none"> <li>• CRAN in our view is doing a fair job. In saying this, it is partially because of not having a major say or foot to stand on in enforcing safeguarding against state-owned enterprises.</li> <li>• Having too many competitors or licenses out there, also makes the task harder to manage.</li> </ul>
Respondent	Did not respond to this question

## Spectrum Management

**The role of the regulator in spectrum management is to ensure that radio frequency spectrum is allocated and used in an efficient manner.** Spectrum management involves the planning, allocation, assignment, and monitoring of radio frequency spectrum for use by different wireless services, including telecom services, broadcasting, satellite communication, and other wireless services. The regulator also governs technical standards for the use of spectrum; resolving and preventing interference issues and spectrum licensing.

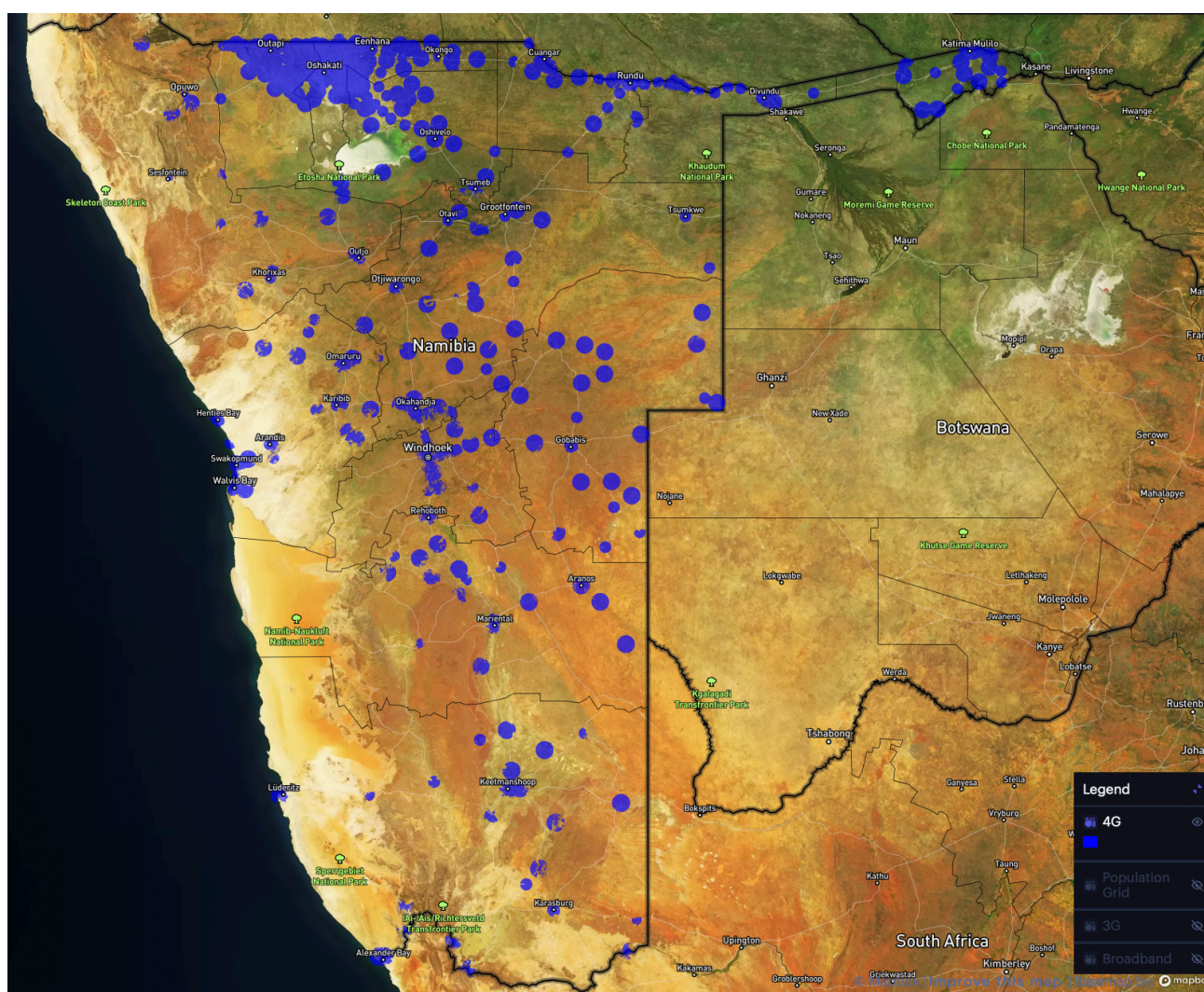
**Table 14: CRANs performance on spectrum management**

Q6	How effective is CRAN's spectrum management?
Respondent	I think that in the licensed band it is not to bad, but in the open bands 2.4 MHz and 5.8 MHz there is too much unregistered links from private people.
Respondent	CRAN's spectrum management is managed well, and we have nothing to add at this stage.
Respondent	The Respondent has very little experience with CRAN on the issue of Spectrum Management, as we do not own or intend to own our own spectrum in the near foreseeable future.
Respondent	CRAN's spectrum management in Namibia is effective, including the efficient allocation and management of spectrum.
Respondent	Spectrum is too expensive for private investors to enter the market and compete on equal grounds with a 30-year disadvantage and no clear incentive to promote investment.
Respondent	No comment.
Respondent	<p>The effectiveness of CRAN's spectrum management depends on several factors. Spectrum management involves the allocation and regulation of radio frequency (RF) spectrum, which is a finite and valuable resource that is used for a variety of ICT services, such as mobile communications, broadcasting, and wireless networking. CRAN is responsible for managing the RF spectrum in Namibia and ensuring that it is used efficiently and effectively to support the development of the ICT sector. If CRAN is effectively managing the spectrum, it can help to:</p> <ul style="list-style-type: none"> <li>• Promote efficient use of spectrum: By ensuring that spectrum is allocated and used in a way that maximizes its value and utility, CRAN can promote the efficient use of this scarce resource.</li> <li>• Encourage investment: By making spectrum available to companies, CRAN can encourage investment in the ICT sector and support the development of new services and products.</li> <li>• Reduce interference: By properly managing the spectrum and preventing spectrum congestion, CRAN can reduce interference between different services and ensure that the ICT sector operates smoothly.</li> <li>• Promote innovation: By making spectrum available for new and innovative services, CRAN can encourage the development of new technologies and business models in the ICT sector.</li> </ul> <p>However, the effectiveness of CRAN's spectrum management will depend on its ability to enforce its regulations, as well as its independence and transparency in carrying out its duties. If CRAN lacks the resources, independence, or expertise to manage the spectrum, it may not be able to effectively promote the efficient use and development of the ICT sector in Namibia.</p>
Respondent	Reasonable, CRAN spectrum management is sufficient though ISP management could be better.
Respondent	As an operator in the ISM band, this question is not applicable. I would like to make a recommendation that additional ISM band be made provision for (if not already) eg. The 24 and 60GHz ISM band.
Respondent	Spectrum management is good, but applications take too long. Once again state-owned enterprises have monopoly here and due to infrastructure sharing being limited, it hampers growth of private entities.
Respondent	Not answered

**Stakeholders were of the opinion that CRAN was effective at spectrum management.** However, some stakeholders pointed to bureaucratic delays as an impediment to effective spectrum management. For example, Respondent 10 argued that spectrum applications take too long and this has an impact on investment by private entities.

**There are multiple ways to make spectrum more accessible and affordable for smaller licensees.**

A Managed Spectrum Park (MSP) allows for the assignment of spectrum licences on a shared access basis. This was implemented by the Ministry of Business, Innovation and Employment, in New Zealand for spectrum in the 2575-2620 MHz spectrum band.<sup>8</sup> The MSP could be managed by CRAN and the spectrum would be assigned administratively on a per-site level. This safeguards competition and facilitates private investment and local participation. Community networks may utilise the spectrum at a single local site only. An MSP can either have its own spectrum block or it can allocate the spectrum for areas where spectrum is not used by existing RAN sites.



**Figure 3: 4G coverage**

**A use-it-or-share-it clause could be implemented for each new spectrum license.** Namibia is a sparsely populated country and national spectrum licenses may not be efficient. Figure 3 displays 4G network coverage for Namibia. The areas with no blue dots indicates the large areas where the 4G spectrum is currently not used. While these are even less populated areas compared to those covered

<sup>8</sup> Managed Spectrum Park Allocation Rules, Managed Spectrum Park Licence Agreement and Managed Spectrum Park Rules, <https://www.rsm.govt.nz/projects-and-auctions/expressions-of-interest/managed-spectrum-park>



by signal, it does not mean that some innovative way to use the spectrum cannot be found for those areas. CRAN could use a use-it-or-share-it clause for any new spectrum that is assigned. This would mean that CRAN could, at a later stage, use the spectrum in areas where the current licensee is not using it. These secondary licensees could be SMEs and community based organisations.

**Table 15: IMT spectrum licences**

Licensee	Bandwidth (MHz)	Start Frequency (MHz)	Stop Frequency (MHz)	Comment
MTC	18	885	903	FDD pair
MTC	18	930	948	
MTC	35	1,710	1,745	FDD pair
MTC	35	1,805	1,840	
MTC	20	1,920	1,940	FDD pair
MTC	20	2,110	2,130	
Telecom Namibia	12	903	915	FDD pair
Telecom Namibia	12	948	960	
Telecom Namibia	20	1,765	1,785	FDD pair
Telecom Namibia	20	1,860	1,880	
Telecom Namibia	5	1,965	1,970	FDD pair
Telecom Namibia	5	2,155	2,160	
Telecom Namibia	5	1,975	1,980	FDD pair
Telecom Namibia	5	2,165	2,175	
Telecom Namibia	40	2,308	2,348	TDD
Paratus	20	1,745	1,765	FDD Pair
Paratus	20	1,840	1,860	
Paratus	20	2,505	2,525	FDD Pair
Paratus	20	2,625	2,645	
MTN	20	1,940	1,960	FDD Pair
MTN	20	2,130	2,150	
MTN	10	2,387	2,397	TDD
MTN	20	3,570	3,590	TDD
Swakop Uranium	20	1,447	1,467	TDD
UNAM	20	1,447	1,467	TDD
<b>Total Allocated</b>	<b>460</b>			
<b>MTC share</b>	<b>32%</b>			
<b>Telecom Namibia share</b>	<b>27%</b>			
<b>Paratus share</b>	<b>17%</b>			
<b>MTN / UCOM share</b>	<b>15%</b>			

**An example of this kind of clause can be found in Section 4.2 of the OFCOM 800MHz and 2600MHz licence which states:**<sup>9</sup> "For the avoidance of doubt the Licences will not guarantee exclusive use of the spectrum awarded. In the future we may grant additional authorisations to allow the use of all, or part, of the spectrum, including the spectrum that is the subject of this Award Process. We would develop and consult on the conditions of use under any such additional authorisations in order to manage the risk of harmful interference." CRAN will be issuing new spectrum licenses with a clause similar to this.

**Table 16: Fixed links licenses**

Customer	Bandwidth (MHz)	Start Frequency (MHz)	Stop Frequency (MHz)	Comment
MTC	40	3,750	3,790	FDD PAIR
MTC	40	4,050	4,090	
MTC	31.5	7,121	7,233	FDD PAIR
MTC	31.5	7,303	7,429	
MTC	28	10,168	10,196	FDD PAIR
MTC	28	10,518	10,546	
MTC	82.5	18,003	18,140	FDD PAIR
MTC	82.5	19,013	19,150	
MTC	280	22,288	22,568	FDD PAIR
MTC	280	23,296	23,576	
PARATUS	112	8,024	8,136	FDD PAIR
PARATUS	112	8,290	8,402	
PARATUS	28	14,571	14,599	FDD PAIR
PARATUS	28	14,991	15,019	
PARATUS	194.5	17,783	17,975	FDD PAIR
PARATUS	194.5	18,793	18,985	
UCOM	112	27,577	27,633	FDD PAIR
UCOM	112	28,585	28,641	
UCOM	168	37,086	37,198	FDD PAIR
UCOM	168	38,346	38,458	
ECHO NAMIBIA	29.65	5,945	5,975	FDD PAIR
ECHO NAMIBIA	29.65	6,197	6,227	
ECHO NAMIBIA	80	10,755	10,835	FDD PAIR
ECHO NAMIBIA	80	11,285	11,365	
ECHO NAMIBIA	25	3,650	3,675	TDD
TELECOM	38	2,348	2,386	FDD PAIR

<sup>9</sup> [https://www.ofcom.org.uk/\\_\\_data/assets/pdf\\_file/0022/32872/im.pdf](https://www.ofcom.org.uk/__data/assets/pdf_file/0022/32872/im.pdf)

Customer	Bandwidth (MHz)	Start Frequency (MHz)	Stop Frequency (MHz)	Comment
TELECOM	38	2,442	2,480	FDD PAIR
TELECOM	52	2,540	2,592	TDD
TELECOM	5	2,620	2,625	TDD
TELECOM	34	2,656	2,690	TDD
TELECOM	42	3,405	3,447	FDD PAIR
TELECOM	42	3,505	3,547	
TELECOM	80	6,460	6,580	FDD PAIR
TELECOM	80	6,800	6,920	
TELECOM	56	7,170	7,198	FDD PAIR
TELECOM	56	7,331	7,395	
TELECOM	112	7,485	7,569	FDD PAIR
TELECOM	112	7,653	7,737	
TELECOM	56	14,515	14,543	FDD PAIR
TELECOM	56	14,935	14,963	
TELECOM	168	14,739	14,879	FDD PAIR
TELECOM	168	15,159	15,299	
TELECOM	84	21,966	22,050	TDD
TELECOM	196	22,106	22,274	FDD PAIR
TELECOM	196	23,114	23,282	
ERONGORED	28	7,447	7,461	FDD PAIR
ERONGORED	28	7,615	7,629	
ERONGORED	28	24,609	24,623	FDD PAIR
ERONGORED	28	25,617	25,631	
NBC	140	7,777	8,089	FDD PAIR
NBC	140	8,118	8,276	
NBC	7	7,253	7,260	FDD PAIR
NBC	7	7,414	7,421	
NBC	7	7,421	7,428	FDD PAIR
NBC	7	7,428	7,435	
NBC	28	8,120	8,148	TDD
NBC	28	7,332	7,360	TDD
NAMDEB	28	8,335	8,363	FDD PAIR
NAMDEB	28	8,461	8,489	

Customer	Bandwidth (MHz)	Start Frequency (MHz)	Stop Frequency (MHz)	Comment
NAMDEB	28	7,996	8,024	FDD PAIR
NAMDEB	28	8,262	8,290	
NAMDEB	28	14,893	14,921	FDD PAIR
NAMDEB	28	15,509	15,537	
NAMDEB	28	18,181	18,209	FDD PAIR
NAMDEB	28	19,191	19,219	
NCAA	59.3	5,975	6,005	FDD PAIR
NCAA	59.3	6,227	6,257	
NAMPORT	28	12,863	12,891	TDD
NAMPORT	28	13,129	13,157	TDD
COW	20	4,890	4,910	TDD
COW	20	4,930	4,950	TDD
DEBEERS	64	3,804	3,860	TDD
CTS	30	2,595	2,625	TDD
GLOBAL STAR	16.5	2,484	2,500	TDD
<b>Total Allocated</b>	<b>5093.4</b>			
<b>MTC share</b>	<b>18%</b>			
<b>Telecom Namibia share</b>	<b>33%</b>			
<b>Paratus share</b>	<b>13%</b>			
<b>MTN / UCOM share</b>	<b>11%</b>			

**MTC holds 32% of the assigned International Mobile Telecommunications (IMT) spectrum. Telecom Namibia holds 27% and Paratus 17%.** CRAN may consider reforming this spectrum or subject it to use-it or-share-it principle. An obvious of this principle is also the IMT spectrum held by Unam and Swakop Uranium. It is only used in specific locations, the mines and campuses, and should be made available to other licensees where it is currently not being used.

**Table 17: VSAT - Telecommunications licences**

Customer	Uplink Frequency (MHz)	Downlink Frequency (MHz)	Bandwidth h (kHz)	Share
M-Wireless (Pty) Ltd	14,025	10,975	36,000	29.18%
MTN / Ucom	14,123	11,073	20,000	16.21%
Drillship Kithira Owners (Incorporated)	6,110	3,876	16,400	13.29%
De Beers Marine Namibia (Pty) Ltd	2,222	2,019	14,000	11.35%
United States Embassy (Usa)	4,200	3,600	10,000	8.11%
Q-Kon Telecom Namibia	11,547	11,539	7,750	6.28%
MTC	14,048	1,101	5,000	4.05%



Customer	Uplink Frequency (MHz)	Downlink Frequency (MHz)	Bandwidth (kHz)	Share
Comprehensive Nuclear Test Ban Treaty	6,309	4,084	4,200	3.40%
Paratus	13,752	10,997	3,000	2.43%
Anglogold Namibia	6,299	4,074	3,000	2.43%
Mainmast Electronics Cc	14,144	12,685	1,000	0.81%
Echo Namibia	28,073	19,773	1,000	0.81%
Echo Namibia	14,226	11,176	1,000	0.81%
Echo Namibia	14,378	12,618	1,000	0.81%
Bank Windhoek	6,280	4,055	30	0.02%
<b>Total</b>			<b>123,380</b>	

**Table 18: Other Satellite licenses**

Customer	Satellite Site Type	Uplink Frequency (MHz)	Downlink Frequency (MHz)	Bandwidth (kHz)
Globalstar Satellite Namibia (Pty) Ltd	Mobile Satellite	2,492	1,616	11,350
Metagalaxy Space Science And Technology	Earth Station	2,046	2,221	40,000
	Earth Station	8,066	8,026	40,000

## Licensing Framework

The role of a regulator with regard to stimulating private investment and local participation via the licensing framework includes the following tasks:

- **Encourage Competition:** Regulators can encourage competition by promoting policies that support new entrants and prevent anti-competitive behaviour. This can be achieved by setting up an effective licensing framework that allows for new players to enter the market, and by providing clear rules for market entry and operation.
- **Foster Public-Private Partnerships:** Regulators can encourage private investment and local participation in the telecom sector by promoting public-private partnerships. This can involve providing incentives to private investors who collaborate with local entities.
- **Set Clear Guidelines for Local Participation:** Regulators can set clear guidelines for local participation in the telecom sector, such as requiring a certain percentage of ownership to be held by local investors. This can encourage local participation and ensure that the benefits of telecom investment are shared within the local community.
- **Ensure Fair Access to Spectrum:** Regulators can ensure fair access to spectrum by promoting policies that allow for equitable access to spectrum, particularly for smaller players. This can promote competition and encourage investment in the sector.
- **Ensure Regulatory Stability:** Regulators can promote investment in the telecom sector by ensuring regulatory stability. This can involve providing a stable regulatory environment that promotes long-term investment and provides certainty for investors.

**Stakeholders believed that CRAN had performed well in terms of managing its licensing framework.** Some stakeholders raised issues that are outside of CRANs purview, such as the 51% local ownership requirement.

**Table 19: Effectiveness of CRANs licensing framework**

Q7	How effective is CRAN's licensing framework with regard to stimulating private investment and local participation?
Respondent	OK
Respondent	No specific contribution to make on this point.
Respondent	The Respondent has successfully applied and received our Telecommunications Class Comprehensive (ECNS and ECS) license in 2016. We have had very little experience in the licensing framework since then, for us to provide actionable or meaningful feedback.
Respondent	CRAN's licensing framework play an important role in stimulating private investment and local participation in Namibia's ICT sector by providing a clear and transparent process, fair and equal access to resources, encouragement of innovation, and cost- effectiveness and efficiency.
Respondent	The 51% shareholding requirement is a limiting factor for competitors to enter the market. An un-even playing field with years of advantageous benefit to the 2 state-owned enterprises is surely a challenge to CRAN. Competition cannot be safeguarded by CRAN with the shareholding limitation and years of monopolistic advantage that was ensured by regulation in the past. The Respondent intends to commence a mobile network with the intention to create competition for the state-owned entities and in the process reducing rates as prescribed by CRAN, for the benefit for the people across the Namibian landscape. We believe in the same philosophy the Authority goes by that every person deserves access to a modern connected life, wherever they are across the Namibian landscape.
Respondent	Quite effective. The licensing framework has been responsive in terms of attracting various players to apply for their preferred licences. Measures appears to be in place to monitor licensees via different regulations.

Q7	How effective is CRAN's licensing framework with regard to stimulating private investment and local participation?
Respondent	<p>The effectiveness of CRAN's licensing framework in stimulating private investment and local participation depends on several factors. CRAN's licensing framework is responsible for regulating the use of the ICT sector and ensuring that the sector operates in a way that is conducive to investment and growth.</p> <p>If CRAN's licensing framework is effective, it can help to:</p> <ul style="list-style-type: none"> <li>• Encourage private investment: By providing a clear and predictable regulatory environment, CRAN's licensing framework can encourage private investment in the ICT sector and promote growth and development.</li> <li>• Promote local participation: By ensuring that licensing opportunities are available to local companies and entrepreneurs, CRAN's licensing framework can promote local participation in the ICT sector and support the development of a local ICT industry.</li> <li>• Foster competition: By allowing multiple companies to compete for licenses, CRAN's licensing framework can promote competition in the ICT sector and encourage innovation and investment.</li> <li>• Ensure compliance: By enforcing licensing requirements, CRAN's licensing framework can ensure that companies operating in the ICT sector comply with regulations and operate in a responsible and transparent manner.</li> </ul> <p>However, the effectiveness of CRAN's licensing framework will depend on its ability to enforce its regulations, as well as its independence and transparency in carrying out its duties. If CRAN lacks the resources, independence, or expertise to effectively regulate the licensing process, it may not be able to promote private investment and local participation in the ICT sector in Namibia.</p>
Respondent	Reasonable, a more diverse licensing spectrum could be implemented to allow for more private investment and competition in different fields.
Respondent	While the framework can be bit confusing at times especially for new applications, CRAN staff have always been helpful in providing clarification.
Respondent	Namibian ownership requirements (51%) is the biggest stumbling block and prevents private investments into the sector.
Respondent	Did not respond to this question

## Administrative Burden

The administrative burden placed by a regulator on a telecom company can jeopardise its business in several ways:

- **Increased costs:** Regulatory compliance requires significant resources, including staff time and money, to ensure that the company is meeting all the necessary requirements. This can result in increased costs that can eat into the company's profits and hinder its ability to invest in other areas of the business.
- **Reduced efficiency:** Regulatory compliance can also slow down the company's operations and reduce its efficiency. The company may need to devote more time and resources to compliance-related tasks, which can distract from core business functions.
- **Reduced innovation:** The administrative burden of regulatory compliance can also stifle innovation. The company may be reluctant to invest in new technologies or services because of the added costs and complexities of complying with regulations.
- **Reduced competitiveness:** If the regulatory burden placed on a telecom company is significantly greater than that placed on its competitors, it could put the company at a disadvantage in the marketplace. This could result in reduced market share and lower revenues.

**Stakeholders rated the administrative burden imposed by CRAN at 3.4 out of 7.** In other words, CRAN scored approximately average. Some stakeholders believed that it was doing an excellent job,

while others rated it as 5 out of 7. CRAN believes that there are improvements that can be made to the administrative burden to make it more stream-lined and effective. The reporting requirements would need be reviewed and potentially split with less burden for smaller licensees.

**Table 20: Administrative burden imposed on businesses**

Q8	Please rate the administrative burden that CRAN imposes on your business from 1 to 7, where 1 is no burden at all and 7 is a burden that jeopardizes your business.	
Respondent	5 it is a lot of paper work for a small company. This is not there main stream of income. Then also the Cran import regulations on Products make it very difficult for the company that do it to regulations but other people bring stuff over the border without any paperwork.	5
Respondent	Rating—5. The administration that must be done for the Authority is not automated. Tariff submissions are Word and Excel based and the collection of some data such as quality reports and consumer complaints are also manual. Requests for technical information are often drafted too vaguely to understand the ambit of the submission which consumes internal time trying to determine what information to submit and in how much detail. Regulations setting out the processes on the Authority's website are not annotated. We have experienced situations where the incorrect form is sent, although the form was repealed. When contacting the legal department for clarity the answers are often only a line or two and do not answer the question posed. For example, when Respondant queried the invoice of its number range the response from legal was—the invoice is correct. However, we later received an investigation notice addressed to another licensee indicating that the numbers we were invoiced for were not correct.	5
Respondent	The Respondent would rate the administrative burden at 3. However, we do understand the necessity for regulation and the physical procedures that go along with such a practice is unavoidable.	3
Respondent	The burden is there but manageable. We would rate this at 4/7.	4
Respondent	2	2
Respondent	1 = because the process of quarterly / annual reports compilation is fairly straight forward, easy and does not take up much of our time.	1
Respondent	A solid 6.	6
Respondent	(3) faster feedback could be given with submission of yearly requested documentation.	3
Respondent	2, minor additional admin work, but nothing that puts business operations at jeopardy.	2
Respondent	3 – Administration requirements/reporting should be done bi-annually not quarterly.	3

Q8	Please rate the administrative burden that CRAN imposes on your business from 1 to 7, where 1 is no burden at all and 7 is a burden that jeopardizes your business.	
Respondent	<ul style="list-style-type: none"> <li>Licensees are required to submit the following reports annually:               <ol style="list-style-type: none"> <li>1. Annual Consumer Complaint Report;</li> <li>2. Annual Audited Financial Report;</li> <li>3. Bi-Annual Quality of Service Report;</li> <li>4. Quarterly Data Requirement Reports;</li> <li>5. Number Audit Report;</li> <li>6. Network Interruptions Report submitted daily.</li> </ol> </li> <li>The Respondent rates the administrative requirements from the Regulator as 5, licensees are required to employ staff and invest in equipment and systems in order to meet reporting requirements. This places a financial burden on the Respondent. Whereas, it is unclear why licensees are required to provide the reports and what the information is utilized for.</li> <li>Some of the reports do not yield the intended results, the Quality of Service requirements are not sufficient to indicate the exact state of licensee's networks. The manner in which the QoS requirements are written do not provide a full picture of a licensee's network, Some networks are congested, however, the QoS reports do not indicate such congestion.</li> <li>Additionally, applications placed with the Regulator are extensive and take along period to be concluded, which effects operator's business. Especially in relation to the number licence applications and spectrum licence applications, customers are consistently complaining about how long they have to wait for numbering resource assignment. It would greatly assist licensees if the Regulator is able to expedite the application processes.</li> </ul>	5
Average		3.40

## Summary

Licensees are generally positive about CRAN's regulatory performance. However, CRANs performance can be streamlined in several areas.

Generally, the telecommunication sector can be made more competitive through private investments by reducing state-ownership. Alternatively, competition may be revived by attracting DFI through issuing a licence with bundled spectrum that does not have an ownership restriction.

The opening of Nampower fibre services to all licensees based on open access principles may also serve as a model for all state-owned critical infrastructure. This may require that open access principles are also enforced in cases such as infrastructure sharing and rights of way. Open access for critical infrastructure needs to become the default business practice instead of being the exception.

The moratorium on telco licenses should be lifted. It does not lead to more private investment of existing licensees since market access is mostly regulated through spectrum licenses. Also the main obstacle to private sector investment is the the extend of state involvement in the sector.

Other recommendations to improve the regulatory environment include:

- Improve the infrastructure sharing framework to ensure adherence to the Act;
- Streamline and revise the reporting obligations to reduce the burden on especially smaller licensees;
- Revise and improve the quality of services regulations to ensure for consumer protection reflecting changes in business models and technologies.

Overall the market is not saturated since there are currently only 2 national mobile operators both belonging to the State. There is a need for more effective competition in the mobile sector. Most of the other licensees operate in niche markets or are still expanding from a very small base.

## Broadcasting

### Broadcasting licensees were asked similar questions to telecommunication sector licensees.

However, much fewer responses were received compared to the telecommunication sector. This chapter responds to feedback received by licensees. The questions included in the public consultation were:

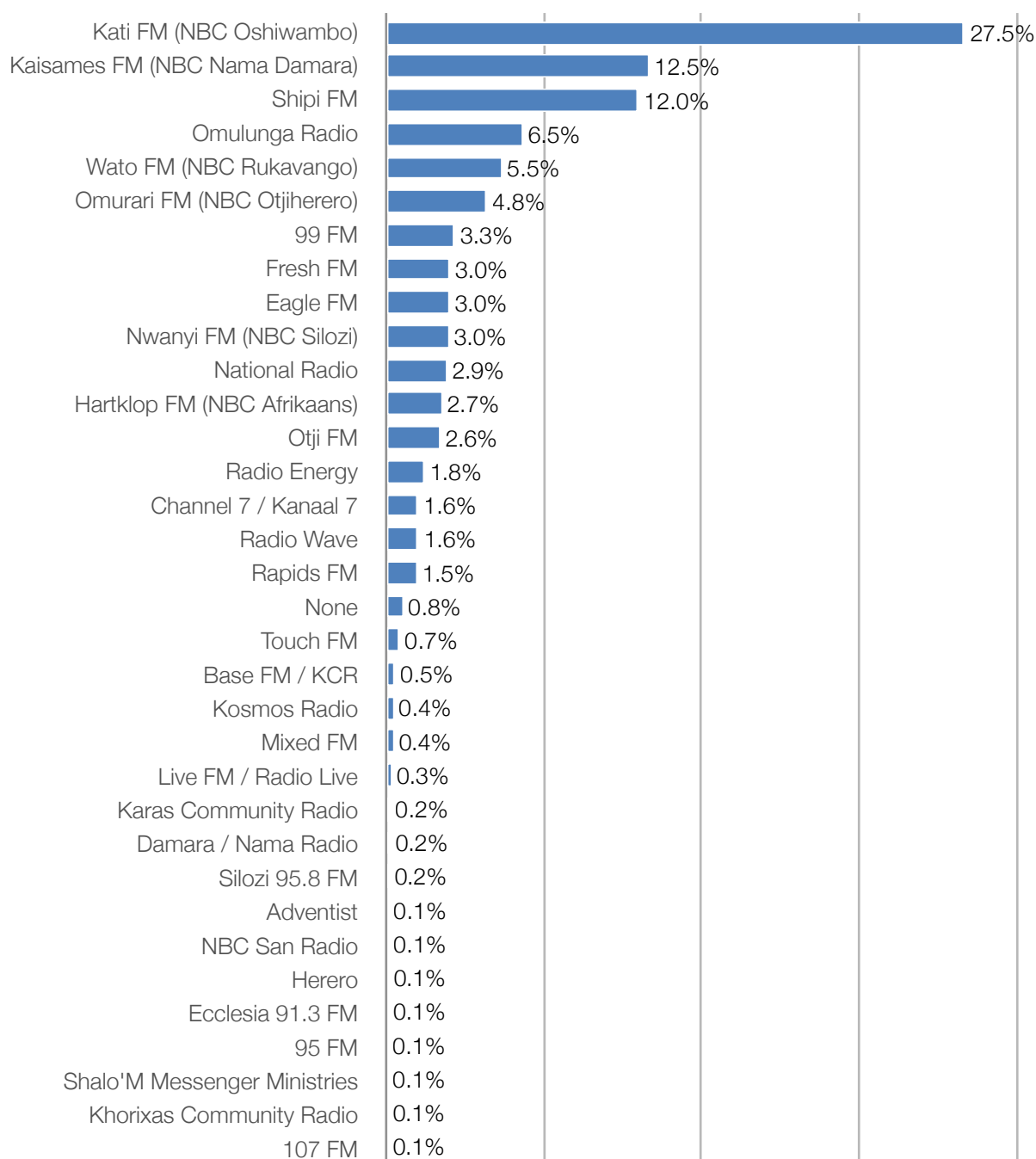
- The Namibian broadcasting Sector is dominated by the NBC and Multichoice. What are the factors that prevent local private investment to play a wider role in Namibia's broadcasting sector?
- What initiatives can be taken to increase competition in Namibia's broadcasting Sector?
- What initiatives can be taken to assist the broadcasting sector to become more profitable and sustainable?
- In how far would dropping the 51% Namibian ownership requirement in the communications act increase competition and private investment? Please elaborate.
- How effective is CRAN in safeguarding fair competition for Namibia's broadcasting sector?
- How effective is CRAN's licensing framework with regards to stimulating private investment and local participation? Please elaborate.
- Please rate the administrative burden that CRAN imposes on your business from 1 to 7, where 1 is no burden at all and 7 is a burden that jeopardizes your business. Please elaborate.

**Table 21: Media Metrics for Radio and TV for 2022**

Watched TV yesterday		57.0%
Listed to Radio yesterday		66.1%
Main Source of News	Radio	40.7%
	Internet	23.6%
	TV	21.2%
	Newspaper	12.0%
	Social Media	0.1%
	Other	2.3%
How to watch TV	Via a decoder	91.7%
	Via online streaming	7.7%
	Another way	4.8%
Type of decoder	DStv Decoder	59.2%
	GOtv Decoder	36.2%
	NBC Decoder	10.3%
	Other	1.2%
Source: Media Metric 2022		

**Radio is still used more regularly than TV on a daily basis.** In 2022, 66% had listened to radio the day before they were surveyed compared to 57% that watched TV. Radio is also the main source of news for Namibians with 40.7% identifying it as the main source of news. Unexpectedly, the Internet (23.6%) is the second most used source for news. TV (21.2%) and Newspapers (12%) are used less than radio or

the Internet. Radios are much cheaper to operate, and the cost is mainly the purchase price and then occasionally some batteries. It is also prevalent in most modes of transport, such as cars, taxis or public buses.



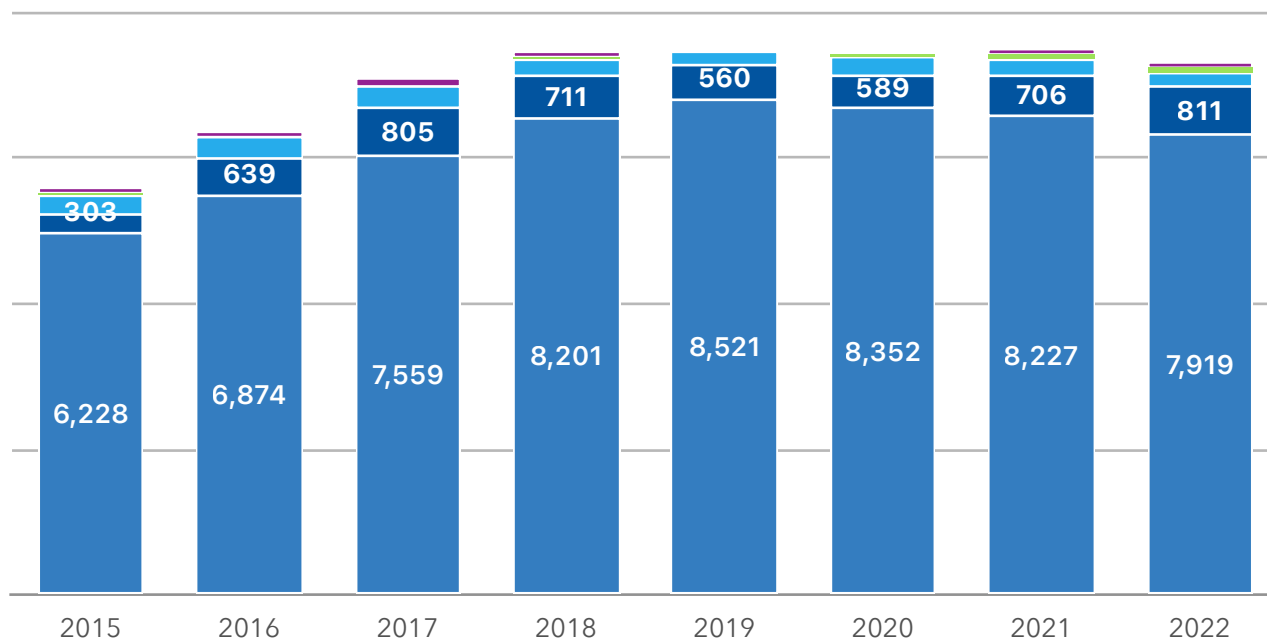
**Figure 4: Favourite Radio Stations (Media Metrics 2022)**

**The NBC remains the most popular radio stations with Kati FM (NBC Oshiwambo) being the most popular radio station (Figure 4).** The second most popular station is also from the NBC, Kaisames FM (NBC Nama Damara) with 12.5%. In total, the NBC is the most popular radio station for 56% of radio listeners. The most popular commercial radio stations were Shipi FM and Omulunga, with 12% and 6.5% of the votes respectively.

**TV is mostly watched using a decoder (92%), of which MultiChoice (DStv) decoders were the most often used in 2022 with 59%.** The GOtv decoder was the second most popular decoder with

36%. Based on the decoder preference, MultiChoice (DStv) remains the most popular choice for watching TV in 2022.

Subscriptions Advertising Decoder sales infrastructure sharing Other  
SMS short codes Sponsorships



**Figure 5: Broadcasting revenues in NAD million**

**Advertising revenues have increased since 2019, which is encouraging for broadcasters.** Subscription revenues have decreased since 2019. Multichoice is responsible for 87% of private sector broadcasting revenues and 98% of the subscription revenues. Its share of total revenue declined from 90% in 2019 to 86% in 2022 (Table 24).

**Table 22: Broadcasting revenues in NAD million**

NAD million except if in %		2015	2016	2017	2018	2019	2020	2021	2022
Total revenues	All (excl NBC)	703	799	890	933	944	932	935	918
	Multichoice	659	723	780	833	861	848	833	800
	Multichoice share	94%	90%	88%	89%	91%	91%	89%	87%
Subscriptions	All (excl NBC)	623	687	756	820	852	835	823	792
	% of total	89%	86%	85%	88%	90%	90%	88%	86%
	Multichoice	623	687	743	802	834	818	807	776
	Multichoice share	100%	100%	98%	98%	98%	98%	98%	98%
Subscription revenue in % of total		89%	86%	85%	88%	90%	90%	88%	86%
Source:		CRAN Portal							



## Radio - digital migration

**Radio has not yet migrated to digital broadcasting in Namibia.** Respondent 15 stated that digital broadcasting does not solve any problems for radio broadcasters and that the current analogue FM signal is more than adequate for audio services, relatively cheap and stable. Further, the digital signal would simply replace the analogue signal at a much higher cost with no tangible benefits for listeners or broadcasters. Respondent 15 noted that introducing more channels, which is the main benefit of digital sound broadcasting, would only further dilute the audiences and therefore the revenue for the industry. Adding channels will not bring additional revenues for a market with a limited set of advertisers. Their conclusion is that there is currently no business case for digital sound broadcasting.

**The main obstacle to digital sound broadcasting is the cost and availability of digital radio receivers.** Current digital radio receivers are costly and not widely available in Namibia. In contrast, analogue radios are widely used and are very affordable. Licensees pointed out that dual illumination, i.e. analogue and digital broadcasting, would be too expensive. Digital broadcasting is not expected to increase the customer base significantly enough to justify investment in the short to medium term. Evolving broadcasting standards also makes digital broadcasting investments risky for the next 10 years.

**Table 23: TV subscriptions**

Subscribers	2015	2016	2017	2018	2019	2020	2021	2022
Digital mobile	9,641	5,851	876	-	2,770	50,914	288,245	800,878
Digital terrestrial	212,889	221,642	228,349	246,824	275,301	285,251	452,846	295,239
		4%	3%	8%	12%	4%	59%	-35%
Satellite TV subscriptions	418,664	456,249	472,979	531,823	535,879	539,254	519,290	496,753
		9%	4%	12%	1%	1%	-4%	-4%
Source:	CRAN Portal							

**The number of listeners may decline as broadband adoption increases in Namibia.** While it is not free, data usage fees may apply, and while the broadcasting signal usually propagates further than broadband signals, Internet Radio has the advantage of a wider range, ability to record and availability on demand. Radio stations have to compete with services such as Deezer, Spotify, Apple Music, Youtube, Google Play Music, and now Prime Music (Respondent 15). The trend in radio subscriptions could be similar to TV subscriber trends, where broadband subscribers have increased and satellite subscriptions have declined since 2020 (Table 23).

## Incentives for private broadcasting investment

**Respondent 12 believes that the radio and the TV markets are saturated and that there is enough competition.** Respondent 12 points out that the NBC is not profitable and that Multichoice does not rely on revenues from subscriptions in Namibia to cover its expenditure. In Namibia, available advertising spend goes to state-owned broadcasters or multinationals that can subsidise their content from markets across Africa. Respondent 12 also argues that social media also reduced the market for advertising revenues. However, this is not supported by the data, which shows that TV broadcast advertising revenues have increased since 2019 (Figure 5).

**The return on investment (ROI) is low for community and commercial radio in Namibia.** Respondent 15 argues that a minimum ROI threshold in Namibia is 10% and that community and commercial broadcasters do not meet these returns. It argues that some of the reasons for the low ROI is the high cost of infrastructure sharing as well as predatory pricing by incumbents like NBC. Respondent 13 also cited the insufficient or too expensive co-location of broadcasting equipment and also raised a concern about rights-of-way for community broadcasters. Respondent 14 also listed the cost and availability of infrastructure as one of the causes limiting private investment.

**An important issue seems to be unfair competition from the NBC.** For example, one avenue to investigate would be a Reference Infrastructure Sharing template (with co-location at cost plus). This could reduce the cost for commercial and community broadcasters to put up antennas as well as incentivise additional investment and address many of the concerns raised by smaller broadcasters such as Respondent 12, Respondent 14 and Respondent 15. The NBC is financed by license fees and advertising revenues as well as state subsidies to cover losses.<sup>10</sup> This means the NBC can undercut the competition which, in turn, disincentivises investment.

**In summary, private investment into TV or radio stations is limited by the size of Namibia's broadcasting market, the availability of advertising and skewed competition via state subsidies to the NBC.** There are several potential solutions to these challenges: one option is to turn the NBC into a wholesale advertising channel and require the NBC to carry advertising for other broadcasters, for which it gets a commission. Another option is to split the NBC into a wholesale (i.e., an open access broadcasting infrastructure company) and a separate retail company (i.e., a public content company). This could resolve competition issues like predatory pricing and also facilitate the transition to digital terrestrial sound and TV broadcasting. These options – as well as several others – would need to be investigated to determine their political and economic viability.

**Table 24: Incentives for private broadcasting investment**

Q1	What are the factors that prevent local private investment to play a wider role in Namibia's broadcasting sector?
Respondent	In our view, the cost of visual broadcasting services with sweeping coverage across the country and the possible return on investment is the major limiting factor. It is common knowledge that NBC is not a profitable enterprise and MultiChoice does not rely on the Namibian economy for income. In fact, 90 percent of its adverts are only relevant to the South African market. There is simply not enough money to go around – especially for more visual broadcasters to enter the market. Social media has also taken its toll with the accompanying digital advancement. It is far too easy and cheap to create content, quickly, and share it under a brand name. This, in our opinion, will become more challenging going forward with consumers looking for quick, accurate and free information. As an aside, the fact that OneAfrica is not included in this question demonstrates that the market is saturated.

<sup>10</sup> NBC receives N\$392 million funding from Govt, The Namibian: <https://www.namibian.com.na/nbc-receives-n392-million-funding-from-govt/>

Q1	<b>What are the factors that prevent local private investment to play a wider role in Namibia's broadcasting sector?</b>
Respondent	<p>Some of the factors that could possibly prevent local private investments in the broadcasting sector is amongst other: Local authorities making it tough for broadcasters especially community radios to make land available to setup their own studios instead of renting buildings. To make land available to erect Towers, especially at villages and remote places infrastructure Sharing at times is costly, or struggle to get access/letters of intent due to tower companies not getting back timeously. Increasing coverage to reach more listenership is limited because internet service providers is making it barely impossible also due to the high rates of internet connectivity to expand your frequency.</p>
Respondent	<ul style="list-style-type: none"> <li>• Hoarding of licences, especially frequencies, crowds out new players with different viable propositions. Most licences are used for music and light entertainment. The airwaves are dominated by few strong players who act like the oligopolies to stifle competition.</li> <li>• Overall low return on investment is a factor.</li> <li>• Namibia's broad geographical landscape with sparse populations makes it difficult to push for higher numbers of listeners and viewers.</li> <li>• Lack of financial viability flow from poor return on investment for various reasons.</li> <li>• Infrastructure like tower space is at times hard to find.</li> <li>• NBC is both an infrastructure owner/regulator and thus can decide to frustrate private investment in radio and television airwaves. Example: Windhoek Höhe/Auasblick we are told has no space. Multichoice decide who rides on their infrastructure.</li> <li>• Infrastructure owners use taxpayer funds yet insist on charging so-called commercial fees.</li> <li>• Monopolies like NBC and Multichoice gobble up advertising by dropping rates to uncompetitive low levels. That's because they have massive state subsidies (NBC) or legacy big brother with a monopolistic footprint.</li> <li>• Equipment do not come cheap.</li> <li>• Online services such as Netflix also forces commercial licensees to think twice about investing into TV because it's simply expensive and the market is too small.</li> <li>• There must be a clear distinction between community and non-profit broadcaster. Shipi FM is an example that needs clarifying.</li> </ul>
Respondent	<p>It is axiomatic that private investment (investors) seek returns on capital or debt- burdened investments that will provide superior returns than the guaranteed bank rates at any given time. In a Namibian context, that would mean an Annual weighted ROI of around 10% at a minimum. In addition, these profits would have to be predictable and reliably above that level for relatively long period. Namibian radio assets do not provide these returns currently, for a variety of reasons:</p>
	<p>A. These entities are generally without any hard assets, and so are effectively cashflow businesses with a fixed cost model. The fixed cost is effectively made up of Transmission expenses The staff required to run a station. As the business model for all stations is effectively identical, so are costs. All Capex is imported, and therefore more expensive for local operators than operators in other parts of the world, and are all USD or EUR based.</p>
	<p>B. The cashflow model is attractive once break-even is achieved, with cash conversion close to 85%. However, this applies in reverse, with 115% negative cash conversion below break-even. This creates a high risk environment for marginal operators.</p>
	<p>C. For new operations, the setup cost of a modern FM studio with one Transmission site and a 1KW Tx installation would be around N\$1m, with opex of around N\$10K to N\$40K/m dependent on software costs. Things may be done cheaper, but with last-gen technology that will always hamstring the operator.</p>
	<p>D. The industry is rapidly approaching a digitization threshold, with analogue transmission technologies fading quickly in highly developed markets. Whilst Namibia may be behind highly industrialised nations in IP technologies and access, the trends towards IP as a distribution method (direct delivery to devices) is obvious as data costs fall and fibre/4G/5G becomes increasingly available. FM technology is currently essential for operators, but will increasingly fade in importance whilst costs of this analogue technology increase.</p>

Q1	<b>What are the factors that prevent local private investment to play a wider role in Namibia's broadcasting sector?</b>
	<p>E. The transmission environment in Namibia is problematic. The NBC owns the best sites for FM transmission, but is reluctant to allow private operators access at an affordable price. Sites that are owned by Powercom (towers) are co-operated by Telekom (Sheds and power access). Additionally, Nampower or local municipalities are increasingly struggling to match power supply demands on the local grid with available Capex – making key sites like Gros Hertsog and Rossing increasingly unreliable for power supply. So on Gros for eg:</p> <ul style="list-style-type: none"> <li>• NBC key site, requiring permissions for certain maintenance operations</li> <li>• Powercom at the landlord BUT</li> <li>• Telekom provide power and electrical services BUT</li> <li>• Nampower (pr COW – it is unclear) cannot replace a blown substation on the local grid making power supply erratic.</li> </ul> <p>Thus, for a small private operator to have to navigate the political and bureaucratic vagaries of four separate SOE's just to install and/or maintain a transmitter is a high barrier to clear.</p> <p>F. A lack of reliable and accurate research that helps smaller operators convince marketers or business owners that their offering is competitive to the either the NBC TV, Multichoice or NBC radio. They have neither the finance nor the resources to conduct private research. In any event, the programmatic advertising industry generally only accepts third party or independent research for procurement decisions. In Namibia's case, many advertisers skip the country altogether for lack of data, and instead apply those funds to larger markets (Kenya, Nigeria, South Africa) where fund allocation can be better justified by stable and reliable media research.</p> <p>G. Importantly, the current advertising market is very small. CRAN's own records show advertising spend on radio and TV of approximately N\$80m (*2021/22). In comparison, the PWC report for Media shows combined radio and TV advertising revenue in South Africa to be in excess of R31bn (2021). This means that the Namibian market is 0.2% of the SA market, despite GDP being approx. 5% of the SA GDP – enormously disproportionate.</p> <p>H. There is an almost total lack of skills available in certain key areas. For example, there is one RF technician currently available to private operators. There is almost no financial talent available trained in the media space. General management experience outside of existing operators is non-existent.</p> <p>I. The market is over-licensed. A radio station requires a certain size audience to attract advertising, below which it becomes irrelevant to advertisers (irrespective of the quality of the product). Namibia currently has 11 NBC stations, 24 Commercial channels for a population of 2.5m (One channel for every 71 000 citizen). South Africa in comparison has 40 commercial channels and 12 SABC radio channels for a population of est. 55m. (One station for every 715 000 citizens). Botswana has 2 state channels and 3 commercial channels with 2.6m citizens – 1 station for each 520 000 citizens. Despite the idea that more players introduce competition, there is also a level below which the entire market becomes uncompetitive with other media types, or other countries. It is probable that Windhoek has the most channels per capita for any capital city in the world!! This dilution results in many smaller and less resourced operators.</p> <p>J. There are extremely limited funding options. No Namibian financial institute is prepared to see the radio (or even media) sector as sustainable or viable marketplace – for all the reasons highlighted above. If debt cannot be introduced into a capital model, the cost of capital usually increases, further disincentivizing local investment.</p> <p>K. Radio is currently having to re-invest to create a digital ecosystem to survive the transition from analogue to digital distribution. This will not be cheap, and will not replace FM transmission in the short term – so it is additional investment.</p> <p>When an investor considers plowing either new or additional capital into a venture, they also consider alternative markets or opportunities. Medium sized high growth areas like IT, food production, hospitality, logistics and retail are attractive alternatives currently, requiring similar capital but with far less constraints, and higher ROI models.</p>

## Competition in Namibia's broadcasting sector

**Respondent 15 raised the issue of an unfair regulatory playing field.** Local stations have content restrictions while competing social media companies are not subject to these types of regulation. Also, Respondent 15 pointed out that streaming services and social media companies do not pay local taxes (like VAT), while broadcasters with an annual turnover of more than NAD 500,000 have to charge VAT. However, this issue has largely been addressed via withholding taxes. VAT legislation has also been modified to include VAT collected by streaming platforms from their customers and this is paid over to the Namibia Revenue Agency.

**Respondent 14 raises technical interference issues as a challenge and also spectrum allocation.** This is something CRAN is monitoring continuously and any complaint raised with CRAN will be investigated. Spectrum issues will be dealt with in a later section.

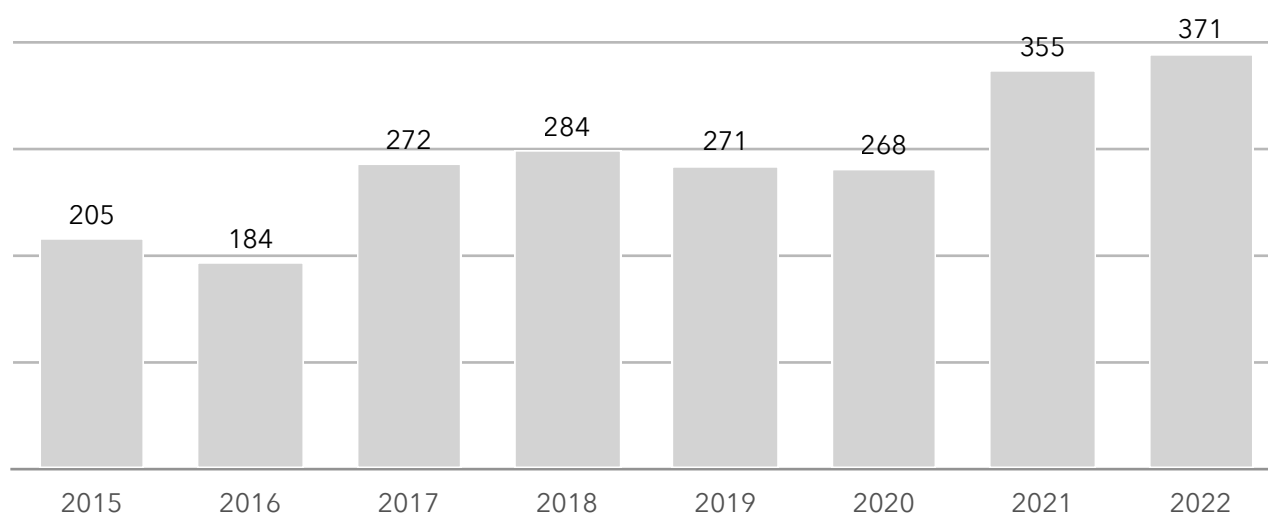
**Table 25: Incentives to increase competition**

Q2	What initiatives can be taken to increase competition in Namibia's broadcasting Sector?
Respondent	We believe the market is saturated already. There is enough competition, especially in radio.
Respondent	As part of the Authority's, they can promote competition in the market for the supply of telecommunications and broadcasting services and products, and to promote, develop and enforce fair competition and equality of treatment among all providers of telecommunications and broadcasting users of such services.
Respondent	<ul style="list-style-type: none"> <li>• In radio, for example, Cran can address the issue of one radio station have two or more frequencies in the same geographical area.</li> <li>• Clarification of community radio stations will be helpful so that all are able to raise revenue competitively.</li> <li>• Public interest content should be a requirement in order to provide listeners with broader choice and quality.</li> <li>• A market assessment is needed with aimed at reducing saturation of frequency licences in one area.</li> <li>• PRICE RATES: Action should be taken against anti- competitive behaviour such as unreasonable advertising rates discounting or charging uncompetitive low rates which is only possible with having a monopolistic advantage including multiple frequencies and government subsidies.</li> <li>• Change rules so that no organisation can be owning and operating communal infrastructure as well as servicing end users.</li> <li>• Limit community stations' to geographical area as the countrywide licencing for some provides room for misuse of what a community is. In fact, having a fluid and mobile community runs the risk of increasing divisions along tribal and religious lines.</li> <li>• Put a cap on monopolies within the industry especially when you have five (5) radio stations under one house would lead to collusion. This is seen already in with NBC which in turn ends up dropping advertising rates using its many services as leverage.</li> </ul>

Q2	What initiatives can be taken to increase competition in Namibia's broadcasting Sector?
Respondent	<ul style="list-style-type: none"> <li>• It is my belief that the market is already extremely (and counter-productively) competitive in terms of radio alone. What the regulator may be overlooking is that broadcasters are in practice competing directly with Out of Home companies, Newspapers, Cinema, SMS marketing, Direct Mail marketing, Below the Line activities such as sampling and exhibition in the local market.</li> <li>• Additionally, broadcasters are also competing head-on with Facebook, Instagram, TikTok LinkedIn and Google. Amazon will be following shortly after they open their African base in Cape Town next year. These companies all offer pure advertising models, competing directly with our offerings – often with far better data and systems than we can offer.</li> <li>• Additionally, for audiences we now compete directly with Deezer, Spotify, Apple Music, Youtube, Google Play Music, and now Prime Music. These are subscription models based outside of Namibia.</li> <li>• What is important to note is that these companies in the last two batches are not regulated, do not pay local taxes, employ no-one, and create an annual exodus of marketing funds believed to be the region nearly N\$400m a year – far in excess of the entire broadcast sector.</li> <li>• The focus for CRAN should be on sustainability of the sector.</li> </ul>

## Profitability in Namibia's broadcasting sector

**The profitability of Namibia's broadcasting sector is steadily increasing in nominal terms.** While the implied profit (revenue minus expenditure) flatlined between 2017 and 2020, it significantly increased in 2021 and 2022. Respondent 12 and Respondent 15 lament the lack of media research, which would provide insight into the local sector and support targeted advertising. However, Media Metrics has conducted such media research for many years and its data was used for this report. Respondent 15 proposed an industry forum to tackle industry wide issues such as infrastructure sharing, foreign content and local content development.



**Figure 6: Implied industry profits in NAD million (CRAN Portal)**

**Table 26: Initiatives to increase profitability**

Q3	What initiatives can be taken to assist the broadcasting sector to become more profitable and sustainable?
Respondent	<p>An annual market survey of consumer preference, times broadcasting services are used, which service is used, what is the consumer's needs and what irks. This will go a long way in making broadcasting more responsive and will help the business sector in the country to make the correct decision when using any of these services for marketing purposes. It will aid in streamline the industry.</p>
Respondent	<p>In my opinion if broadcasters especially community broadcasters which is more in need of funding can have assistance from government (Ministry of information and Communication) if would be beneficial for them e.g. a minimum monthly or annual contribution. If more trainings can be offered to these institutions by Organizations like DW on issues of marketing, management, finances etc. Having your own buildings (studio) which in turn you lease/rent e.g. Conference/ office facilities can generate income for the entity. Having a tower and infrastructure sharing in place can also generate income that would lead to sustainability. Marketing in terms in logo paintings on your own outside boundary walls (of your premises) lets you earn an income as a broadcaster.</p>
Respondent	<ul style="list-style-type: none"> <li>• CRAN needs to map out frequencies and review frequency allocations in highly populated areas.</li> <li>• CRAN can encourage use of advanced technologies: telecommunication companies to be nudged to provide VOiP services as that will help increase engagement with audiences; digital technologies should be used to allow for transmission and frequencies.</li> <li>• Double frequencies for the same place should be revoked to allow those who are able to use them.</li> <li>• Engage media buyers and advertisers on the broadcasting relationship and what they want to see change.</li> <li>• Put a requirement on all vehicles, especially so-called grey imports, to ensure that they change all radio sets to local frequencies. This issue has contributed to many taxis moving away from radio due to the fact that only the stations below the 89MHz band are playing. Many of the taxis are imported.</li> </ul>
Respondent	<ul style="list-style-type: none"> <li>• There are a few initiatives that could greatly assist with sustainability and potentially profitability:</li> <li>• Allow or encourage consolidation to create a few strong players who can make the necessary investment – a stronger revenue base allows for greater investment confidence.</li> <li>• Make certain that there is media research available that will encourage local and South African businesses to invest marketing budgets in local radio and television channels, as opposed to Facebook and Tiktok.</li> <li>• Create an industry forum for greater communication, engagement and learning through the broadcast sector. This forum can, together with CRAN, tackle some industry wide issues such as infrastructure, foreign content, local content development (quotas help, but do very little in isolation), skills development and digital transformation. Increasingly, journalism and the role it plays in a healthy democracy should also be an area of concern for broadcasters as newspapers slowly disappear (along with the valuable role that their journalism plays).</li> </ul>



## Attracting foreign direct investment into the broadcasting sector

**There is no consensus amongst respondents regarding the 51% Namibian ownership requirement.** Respondent 15 believes dropping the requirement could attract investment and create jobs, while Respondent 12, Respondent 13 and Respondent 14 are in favour of keeping the foreign ownership limitation.

**Table 27: Foreign Ownership limitations**

Q4	In how far would dropping the 51% Namibian ownership requirement in the communications act increase competition and private investment? Please elaborate.
Respondent	The market is already saturated and foreign ownership will further disempower not only Namibians employed in the sector but will also make broadcasting less information-centred and more profit-centric. Numerically, 70 percent. There is concern with single ownership of multiple services with different target markets and this needs to be managed.
Respondent	I personally do not see a problem with the 51% Namibian ownership. As far as I am concerned is that who ever wants to partner with a Namibian broadcaster and owns 49% stake as a shareholder will invest if he or she wants to. The 1% is a drop in the ocean. As long as competition is fair in Namibia under the leadership of Cran, investment will occur. Applications for licensing will still be considered.
Respondent	We do not foresee this increasing competition in fact its will simply allow such investments to stifle local investors from the industry. The current ownership requirement is perfect as foreign investors still continue to invest but also bring in expertise.
Respondent	I do not believe that this is a significant barrier at the moment. I additionally believe that direct foreign investment invariably creates jobs, allows for valuable skills transfer, and would assists in sustainability. The next step in African Media will be country consolidation - essential due to the way Spotify and all the streaming players are able to bring targeted products to countries without any physical presence in-country. Should CRAN make it simpler for a consolidation investor ( for eg, SA, Botswana, Zambia, Namibia and Zimbabwe network) it would certainly assist in improving sustainability.



## CRAN effectiveness at safeguarding fair competition

**The overall consensus is that CRAN has done an excellent job of safeguarding competition.** However, one area of investigation is the distinction between a community radio station and a commercial station. The regulations are ambiguous on the distinction. Another area of investigation is infrastructure sharing and how this can lower operating costs and potentially improve competition.

**Table 28: Role of CRAN safeguarding fair competition**

Q5	How effective is CRAN in safeguarding fair competition for Namibia's broadcasting sector?
Respondent	Over the years, CRAN has become very efficient, especially with regards to local content and accompanying regulations.
Respondent	I would say the current regulation is very good. Cran is doing a good job and is fair in the process. As a broadcaster you can see the effectiveness and the playing field is fair for everyone, considering the amount applications coming in from the different broadcasters, time stamps n the approval process is even faster.
Respondent	<p>A. Not effective as it has approved monopolies to grow, hoarding of frequencies and price dilution by big players. If there was a score it will be a third.</p> <p>Licensing of new radio stations without due diligence on the market has actually created a saturation in the market. Too many stations end up doing the same thing without helping with local content production.</p> <p>Entertainment stations often end up using content created by other Namibian media as well as from outside.</p> <p>Effective (or lack of) regulation of competition is evident in the unclear differentiation between commercial and community radio stations.</p> <p>There are licensees that have two frequencies broadcasting exactly the same content, meaning that they have an added advantage, for example in the band below the 89Mhz.</p>
Respondent	I see no defects in the competitive landscape commercially. I do think infrastructure sharing will become a bigger problem (for competition matters) in the future, and CRAN may have a role to play there.

## Licensing Framework

**CRAN issued 21 commercial broadcasting and 14 community broadcasting licenses.** It also issued a signal distribution licence. Generally, licenses are not a scarce resource and the main consideration for CRAN is interference between radio stations. The licensing framework is seen as fair by the responding broadcasters and CRAN has been lauded for doing a good job.

**Table 29: Effectiveness of CRAN's licensing framework**

Q6	How effective is CRAN's licensing framework with regards to stimulating private investment and local participation? Please elaborate.
Respondent	The Respondent currently has no concerns regarding challenges in spectrum management but, there could be challenges in the future.
Respondent	The framework is effective, it is appealing, so that investment and active participation can occur. The framework even promotes itself so that potential licensees can take the opportunity to get licenses in the areas of broadcasting etc. if you look at the processes and requirements one can see the opportunity for investments is there.
Respondent	I would say it is good, but it is limited in certain areas. I don't know why but if one looks at the demographics of which there are only the NBC present than you ask yourself how is it possible that only the national broadcaster is present in this area. For example: take Bethanie in the southern part of Namibia there are NO spectrum available at this moment for any other broadcaster to bring competition to that area for the NBC? If for instance, a broadcaster wants to invest in that area it is currently impossible we do not know until when? Aus is also included!
Respondent	A. Fair so far as it protects private investment by ensuring that there is always local shareholders in any transaction. The only area that seem lacking is investment in infrastructure by the private sector as this is highly dominated by the public sector. Perhaps private public partnerships could work and lessen the financial burdens on commercial broadcasters when it comes to infrastructure development.
Respondent	<ul style="list-style-type: none"> <li>• CRAN is doing a great job with local participation. However, as I have mentioned above, I believe that CRAN has ignored a number of red flags over the past few years, and has over-licensed the commercial radio space. The question is not how many people want to invest in radio (the answer is lots). The question is how many people will be prepared to continually invest in broadcasting over the next decade (sustainable investing). Here is where I believe that CRAN also carries a responsibility to protect the marketplace, which is not what I think has happened.</li> <li>• An analogy would be livestock farming. A piece of ground can accommodate a certain amount of livestock for a short period, but a much lower number for the long term. Overgrazing can destroy an entire farm for up to a decade.</li> <li>• CRAN is doing a good job with spectrum management.</li> </ul>

## Broadcasting Spectrum

**Only two licensees are licensed to use TV spectrum in Namibia: the NBC and Multichoice.** Multichoice has less spectrum than the NBC because most of its customers access its content via satellite receivers. A question that arises is whether more can be done to allow the provision of local content via the NBC and Multichoice.

**CRAN reserved three spectrum bands for digital sound broadcasting in 2019 that cater for multiple digital technologies.** To date, CRAN has not received a single application for this spectrum. Radio broadcasters continue to use analogue FM broadcasting. Analogue FM broadcasting is not restricted by spectrum availability at the moment and a new FM channeling plan is due to be Gazetted in 2023. Respondent 13 raises spectrum availability for Bethanie and Aus as an issue but this is linked to analogue spectrum. Another area for investigation is on spectrum interference and several respondents have complained about radio interference as a serious concern.

## Administrative Burden

**Overall the administrative burden imposed by CRAN on broadcasters is seen as average with a score of 3.4 out of 7.** Respondent 15's perception of the administrative burden is that it is low while Respondent 13 perceives it as fairly onerous. One option for CRAN to reduce the administrative burden is to limit reporting requirements below a certain revenue threshold. Broadcasters below a certain revenue would have registration requirements only. Broadcasters above a certain threshold would have to comply with a more comprehensive regime.

**Table 30: Regulatory burden for the sector**

Q8	Please rate the administrative burden that CRAN imposes on your business from 1 to 7, where 1 is no burden at all and 7 is a burden that jeopardizes your business. Please elaborate.	
Respondent	3.5	3.5
Respondent	I would say 5. At times the deadlines given is sometimes impossible to reach. Especially if it is a lot information being requested etc.	5
Respondent	Three (3). There isn't so much administrative burden in my view as these are quarterly submissions. Reporting also assists broadcasters in tracking their own work and improving their offering to end-users.	3
Respondent	We believe the administrative burden is low (2). The process is however troublesome in that the portal is unreliable, and we sometimes have to resubmit or we are told that our submission was lost. In general though, dealing with CRAN is a pleasure.	2
Average		<b>3.4</b>

## Summary

**Private investment into TV or radio stations is limited by the broadcasting market size, the size of the advertising market and skewed competition via state subsidies to the NBC.** CRAN needs to investigate several regulatory routes that could address these challenges. One option is to require the NBC to offer wholesale advertising rates for commercial broadcasting companies. Another option is to split the wholesale and retail arms of the NBC into an open access broadcasting infrastructure company and a content entity. This would address issues of potential predatory pricing and could address competition issues. Another benefit of this approach is that reducing the cost of digital infrastructure would facilitate the transition to digital terrestrial sound and visual broadcasting. Outside of the competition concerns, spectrum allocation will have to be reviewed and tested in order to address interference concerns. To reduce the administrative burden, particularly for small broadcasters, reporting requirements could be minimised to registration only below a certain revenue threshold. Issuing new licenses is seen as a threat given the small advertisement revenue pool. However, while a moratorium on new licenses would protect existing licensees, it will also erode competition over time. The market is limited due to the lack of advertisement revenue but is not saturated and the moratorium can be lifted.

## Conclusion

Licensees are generally positive about CRAN's regulatory performance. However, CRAN's performance can be streamlined in several areas. These include:

- Spectrum allocation for new entrants and smaller players needs to be investigated. This can be potentially achieved through shared spectrum and spectrum parks.
- Current regulations on infrastructure sharing need to be enforced and standards/requirements updated. Provisions for SMEs and community based organisations should be explored.
- CRAN could advocate for a lower foreign ownership limitation but the general consensus is that some form of foreign ownership should remain in effect. Paragraph 46 (2) states that "The Minister may beforehand authorise the acquisition of control or ownership of stock that is prohibited by subsection (1)." In other words FDI would be possible through larger operator groups that require control over their investment. This exception was granted to MTN Business and Orascom before.
- While MTC complains about the burden of being a dominant operator, it is clear that the heightened regulatory burden for dominant operators has not yet been enforced. The first such case is active infrastructure sharing which still remains unresolved today.
- CRAN believes that there are improvements that can be made to the administrative burden to make it more streamlined and effective. The reporting requirements would need to be reviewed and potentially split with less burden for smaller licensees.

Generally, the telecommunication sector can be made more competitive through private investments by reducing state-ownership. Alternatively, competition may be revived by attracting DFI through issuing a licence with bundled spectrum that does not have an ownership restriction.

The opening of Nampower fibre services to all licensees based on open access principles may also serve as a model for all state-owned critical infrastructure. This may require that open access principles are also enforced in cases such as infrastructure sharing and rights of way. Open access for critical infrastructure needs to become the default business practice instead of being the exception.

The moratorium on telco licenses should be lifted. It does not lead to more private investment of existing licensees since market access is mostly regulated through spectrum licenses. Also the main obstacle to private sector investment is the extent of state involvement in the sector.

The broadcasting sector could potentially be made more competitive by breaking up the NBC into an open access broadcasting infrastructure company and a public content entity. This could also facilitate the transition to digital terrestrial sound and visual broadcasting.

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## Appendix

### Telecom Licences

**Table 31: Telecommunication licensees**

Name	Licence type	Namibian Ownership	Licence date
Individual (ECS & ECNS)	Telecom Namibia Limited	100%	May-11 (Section 45 Of the Act)
	Karubeams Crime Prevention Forum	100%	Jul-20
	Olympia Neighbourhood Watch	100%	Jul-20
	Dorado Park Neighbourhood Watch	100%	Aug-22
	Kalkfeld Farmers Association	100%	Dec-20
	Namibia Chapter Internet Society	100%	Nov-22
Class Non-Profit ECNS	Wanderport Namibia Trust	66%	Oct-22
	Academia Neighbourhood Watch	100%	Apr-19
	IXP Namibia	100%	Dec-18
	Kleine Kuppe Neighbourhood Watch	100%	Sep-18
	Ludwigsdorf Neighbourhood Watch	100%	Sep-18
	Namibia University of Science & Technology	100%	Sep-18
	Pioneerspark Neighbourhood Watch	100%	Apr-18
	Vibrant Community Development Network	100%	Mar-20
	Data Continuity Namibia (Pty) Ltd	100%	Dec-19
	Fiber Communications Namibia CC	100%	Nov-22
Class Non Profit ECS/ ECNS	Lightstruck Operating Company Pty) Ltd	51%	Sep-19
	Namibia Power Corporation	100%	Jun-17
	Powercom (Pty) Ltd	100%	Jun-17
	Sat-Com (Pty) Ltd	100%	Mar-20
	Tulive Private Equity (Pty) Ltd	100%	Dec-20
	Virtua Porting XS	51%	Jun-17
	Integrated Communication Systems CC	100%	Sep-16
	Namibia Water Corporation Limited	100%	Dec-20
Class Network Facilities	Bank Windhoek Holdings Limited	100%	Mar-17
	Namibia Civil Aviation Authority	100%	Sep-19
	Namibian Ports Authority (Pty) Ltd	100%	Apr-19
Class ECS	Swakopmund Uranium (Pty) Ltd*	10%	Mar-20
Class ECNS			

Name	Licence type	Namibian Ownership	Licence date
Class Comprehensive ECS & ECNS	University of Namibia	100%	Mar-20
	Mobile Telecommunications Limited	100%	Transitioned from NCC May 2012
	Globalstar Satellite Namibia (Pty) Ltd*	30%	Mar-20
	Acunam Information Technology (Pty) Ltd	100%	Dec-14
	Artemis Telecommunications (Pty) Ltd	51%	Oct-20
	Blue Telecommunications Namibia (Pty) Ltd	100%	Jan-18
	Cathral Investments Ninety-Six (Pty) Ltd	100%	Jul-14
	City of Windhoek	100%	Mar-20
	Click Cloud Hosting CC	100%	Nov-22
	Coastal Network Solutions	100%	Jun-17
	Compuserve	100%	Apr-21
	Converged Telecommunications Solutions (Pty)Ltd	51%	Transitioned from NCC July 2013
	Demshi Investment Holdings P(ty) Ltd	100%	Nov-20
	Dimension Data (Pty) Ltd	51%	Jul-13
	Echo Telecommunications (Pty) Ltd	62%	Dec-15
	Excellent Communications (Pty) Ltd	60%	Nov-20
	Focus Engineering Services CC	100%	Jan-18
	IR Telecom Systems and Services	51%	Jul-21
	IT Guru Solutions CC	60%	Jun-16
	Lizalex Communications Services (Pty) Ltd	51%	Jul-20
	Loc8Mobile	100%	Nov-20
	Mainmast Electronics CC	51%	May-21
	Metagalaxy Space Science & Technology CC	100%	Oct-21
	Mwireless (Pty) Ltd t/a Africa Online	51%	Transitioned from NCC May 2012
	Oblixx Communications Networks CC	100%	Apr-18
	Omnitel Namibia (Pty) Ltd	100%	Jun-16
	Ongos Connect (Pty) Ltd	100%	Apr-21
	Paratus Telecommunications (Pty) Ltd	100% listed on NSX	Transitioned from NCC May 2012
	Pektech Technologies CC	100%	Oct-22
	Q-Kon Telecom (Namibia)	51%	Sep-18
	Salt Essential IT (Pty) Ltd	61%	Jul-13
	Schoeman Technology (Pty) Ltd	90%	Jan-18
	Technology Warehouse (Pty) Ltd	100%	Aug-21



Name	Licence type	Namibian Ownership	Licence date
	Telepassport Communications (Pty) Ltd	60%	Apr-21
	UCOM Mobile Namibia (Pty) Ltd	100%	Feb-14
	United Africa Group (Pty) Ltd	100%	Jul-22
	Virtua Technologies (Pty) Ltd	100%	Sep-18
	Xylo Technologies Investment CC	100%	Nov-22

## Broadcasting Licenses

**Table 32: Broadcasting licensees**

Licence Type	Name	Namibian Ownership	Licencing date
Commercial Broadcasting	1 99FM (Pty) Ltd	100%	Renewed 11 July 2022
	2 Cosmos Digital Namibia (Pty) Ltd t/a Kosmos	60%	Renewed 11 July 2022
	3 EFM Radio CC	100%	Renewed 18 October 2022
	4 Fresh FM (Pty) Ltd	100%	Renewed 11 July 2022
	5 Hitradio Namibia cc	100%	Renewed 3 January 2023
	6 Infinity investments CC	100%	01 October 2021
	7 John Walenga	100%	01 December 2018
	8 Multichoice Namibia (Pty) Ltd	51%	Renewed 14 Oct 2021
	9 Namibia Press Agency	100%	01 January 2023
	10 Omulunga Radio (Pty) Ltd	100%	Renewed 11 July 2022
	11 One Africa Television (Pty) Ltd	100%	Renewed 13 May 2022
	12 Radiance Consulting and Trading Services t/a Rapids FM	100%	Renewed 14 October 2021
	13 Radio 100 (Pty) Ltd	100%	Renewed 18 October 2022
	14 Radio Wave CC	100%	Renewed 11 July 2022
	15 Satelio Television Namibia	70%	01 June 2017
	16 The Free Press of Namibia (Pty) Ltd	100%	01 August 2021
	17 Universal Media CC	100%	01 April 2019
	18 Urban Café Radio CC	51%	01 August 2021
	19 West Coast FM (Pty) Ltd	100%	Renewed 24 Jan 2022
	20 Otji Investments CC	100%	01 December 2020
	21 Radio Kudu (Pty) Ltd t/a JACC FM	100%	Renewed 11 July 2022
	1 Adventist Development & Relief Agency Namibia	100%	01 November 2017

Licence Type		Name	Namibian Onwership	Licencening date
Community Broadcasting	2	Focus Community Radio	100%	01 August 2021
	3	Gospel Mission Ministries	100%	01 April 2019
	4	Kunene Community Radio	100%	01 December 2016
	5	Media for Christ	100%	Renewed 18 October 2022
	6	Namibian College of Open Learning	100%	01 September 2018
	7	Omaheke Community Radio	100%	Oct-16
	8	Oranjemund Community Radio	100%	Renewed 23 November 2017
	9	Shalo'm Messenger Ministries	100%	Renewed 14 October 2021
	10	Shipi FM	100%	01 April 2020
	11	Southern Sun Media Trust t/a Karas FM	100%	Renewed 13 May2022
	12	Supreme Voice Radio	100%	01 January 2022
	13	Trinity Broadcasting Namibia (TBN)	100%	Transitioned from NCC Nov 2011
	14	University of Namibia	100%	Renewed 18 October 2022
Public Broadcasting	1	Namibian Broadcasting Corporation	100%	01 July 2021
Signal Distribution	1	Satelio Television Namibia	70%	01 August 2017

## TV Spectrum

**Table 33: TV Spectrum**

Site Name		Bandwidth (kHz)	Power to Antenna (W)	Site TX Frequency (MHz)	EIRP (dBm)
Multichoice	Arendsnes	8000	1000	530	67.5
	Arendsnes	8000	1000	474	67.5
	Gross Hertzog	8000	4500	562	74
	Gross Hertzog	8000	4500	498	74
	Oshakati NBC	8000	2000	618	70.5
	Oshakati NBC	8000	2000	682	70.5
	Rossing Mountain	8000	2000	594	70.5
	Rossing Mountain	8000	2000	690	70.5
	Brukaros	8000	100	186	57.5
	Eenhana	8000	100	578	57.5
	Erongo Mountain	8000	100	178	57.5

Site Name		Bandwidth (kHz)	Power to Antenna (W)	Site TX Frequency (MHz)	EIRP (dBm)
NBC	Gam	8000	100	186	57.5
	Ovitoto	8000	100	514	57.5
	Paresis	8000	100	178	57.5
	Renosterkop	8000	100	234	57.5
	Schlip	8000	100	178	57.5
	Tsumeb	8000	100	626	57.5
	Tsumkwe	8000	100	602	57.5
	Arendsnes	8000	500	210	64.5
	Aranos	8000	500	570	64.5
	Buitepos	8000	500	498	64.5
	Epukiro	8000	500	178	64.5
	Katima Mulilo	8000	500	178	64.5
	Mariental	8000	500	202	64.5
	Rietfontein	8000	500	650	64.5
	Shamvura	8000	500	626	64.5
	Stampriet	8000	500	186	64.5
	Ur	8000	500	658	64.5
	Windhoek Hohe	8000	500	178	64.5
	Aminuis	8000	1000	210	67.5
	Bethanien	8000	1000	202	67.5
	Gobabis	8000	1000	650	67.5
	Gross Hertzog	8000	1000	178	67.5
	Kamanjab	8000	1000	178	67.5
	Keetmanshoop	8000	1000	210	67.5
	Klein Waterberg	8000	1000	186	67.5
	Maltahohe	8000	1000	586	67.5
	Nkurenkuru	8000	1000	210	67.5
	Okongo	8000	1000	178	67.5
	Omuthiya	8000	1000	514	67.5
	Opuwo	8000	1000	178	67.5
	Oshakati NBC	8000	1000	194	67.5
	Otjinene	8000	1000	634	67.5
	Rossing Mountain	8000	1000	194	67.5

Site Name		Bandwidth (kHz)	Power to Antenna (W)	Site TX Frequency (MHz)	EIRP (dBm)
	Signalberg	8000	1000	194	67.5
	Andara	8000	100	754	57.5
	Aroab	8000	100	634	57.5
	Aus	8000	100	626	57.5
	Aussenkehr	8000	100	498	57.5
	Ekuli	8000	100	498	57.5
	Gibeon	8000	100	762	57.5
	Kalkrand	8000	100	490	57.5
	Koes	8000	100	530	57.5
	Luderitz	8000	100	626	57.5
	Nakop	8000	100	626	57.5
	Nkurenkuru	8000	100	730	57.5
	Noordoerwer	8000	100	210	57.5
	Maltahohe	8000	100	186	57.5
	Okahao	8000	100	490	57.5
	Uutapi	8000	100	210	57.5
	Oranjemund	8000	100	234	57.5
	Otjimbingwe	8000	100	202	57.5
	Renosterkop	8000	100	234	57.5
	Rosh Pinah	8000	100	570	57.5
	Sesfontein	8000	100	178	57.5
	Shamvura	8000	100	786	57.5
	Tsandi	8000	100	522	57.5
	Terrace Bay	8000	100	210	57.5
	Uis	8000	100	186	57.5
	Ur	8000	1000	194	67.5

## Radio Spectrum

**Table 34: Radio spectrum**

Broadcaster	Site/Town	Frequency (MHz)	Power output/Watt	GG
ADRA	Gobabis	89.2	500	6514

Broadcaster	Site/Town	Frequency (MHz)	Power output/Watt	GG
ADRA	Andara	89.3	1000	7511
ADRA	Keetmanshoop	92.9	500	6514
ADRA	Eenhana	94.1	1000	7511
ADRA	Opuwo	99.3	500	7511
ADRA	Otjiwarongo	103.4	500	6514
ADRA	Outapi	104	250	7511
ADRA	Rundu	104.3	500	6514
Carol Ann	Swakopmund	91.5	250	4962
Cosmos Digital Namibia LTD	Whk, Gross Herzog-Satcom Site	94.1	500	5037
Cosmos Digital Namibia LTD	Keetmanshoop	95.9	1000	5017
Cosmos Digital Namibia LTD	Omaruru	98.3	1000	5017
Cosmos Digital Namibia LTD	Karibib/Usakos	101.4	1000	5017
Cosmos Digital Namibia LTD	Walvis Bay/Telecom Tower	101.9	100	5037
Cosmos Digital Namibia LTD	Swakopmund/Telecom Tower	103.8	100	5037
Cosmos Digital Namibia LTD	Tsumeb	104.5	1000	5017
Cosmos Digital Namibia LTD	Otjiwarongo	105.4	1000	5017
Cosmos Digital Namibia LTD	Gobabis	105.4	1000	5017
Cosmos Digital Namibia LTD	Rundu	105.6	1000	5017
Cosmos Digital Namibia LTD	Grootfontein	106.2	1000	5017
Cosmos Digital Namibia LTD	Oshakati/NBC Tower	107.7	500	5037
Cosmos Digital Namibia LTD	Mariental	107.7	1000	5017
Energy 100	Windhoek Grossherzog	100	500	5037
Energy 100	Kavango Arendnes	100.7	200	5037
Energy 100	Gobabis	107.4	200	5037
Energy 100	Keetmanshoop	98.9	200	5037
Energy 100	Luderitz	96.9	200	5037
Energy 100	Oranjemund	103.1	200	5037
Energy 100	Oshakati	100.9	1000	5037
Energy 100	Tsumeb	99.1	200	5037
Energy 100	Walvisbay	88.8	100	5037
Energy 100	Windhoek Grossherzog	854.1		5037
Focus Community Radio	Windhoek	89	500	7609
Fresh FM (PTY) LTD	Otjiwarongo	87.8	500	7960

Broadcaster	Site/Town	Frequency (MHz)	Power output/Watt	GG
Fresh FM (PTY) LTD	swakopmund	89.3	990	7960
Fresh FM (PTY) LTD	Walvis bay	89.3	100	7960
Fresh FM (PTY) LTD	Oshakati	90.1	990	7960
Fresh FM (PTY) LTD	Grootfontein	91.3	990	7960
Fresh FM (PTY) LTD	Tsumeb	91.4	500	7960
Fresh FM (PTY) LTD	Rundu	102.7	100	5980
Fresh FM (PTY) LTD	Whk, Gross Herzog-Satcom Site	102.9	1000	7960
Gospel Mission Kairos	Aroab	96.9	250	
Gospel Mission Kairos	Rehoboth	97.1	100	5179
Gospel Mission Kairos	Gobabis	99.4	250	7609
Gospel Mission Kairos	Koes	103.8	100	7659
Gospel Mission Kairos	Keetmanshoop	105	500	7558
Gospel Mission Kairos		449.3	15	7176
Hardap Radio Trust	Mariental	88.7	100	5595
HitRadio Namibia cc	Klein Waterberg	90	1000	5148
HitRadio Namibia cc	Signalberg	90.4	500	5148
HitRadio Namibia cc	Erongo Mnt	94.7	500	5148
HitRadio Namibia cc	Luderitz (Water tower)	97.5	100	5148
HitRadio Namibia cc	Rossing Mountain	97.5	1000	4962
HitRadio Namibia cc	Windhoek	99.5	1000	4962
HitRadio Namibia cc	Oshakati	101.1	1000	6215
Infinity Investment	Rehoboth	102.3	100	7677
Infinity Investment	Rehoboth		1000	
John Walenga	Rossing Mountain	88.3	2000	6798
John Walenga	Omuthiya	90.5	100	6798
John Walenga	Luderitz	91.2	100	6798
John Walenga	Katima Mulilo	93.1	1000	6798
John Walenga	Klein Waterberg	93.5	2000	6798
John Walenga	Outapi	93.6	100	6798
John Walenga	Oshakati	96.8	2000	6798
John Walenga	Eenhana	100.1	500	6798
John Walenga	Mariental	101.2	100	6798
John Walenga	Windhoek	104	500	7659

Broadcaster	Site/Town	Frequency (MHz)	Power output/Watt	GG
John Walenga	Rehoboth	105.8	100	6798
John Walenga	Signalberg	105.9	2000	6798
John Walenga	Rundu	106.3	1000	6798
John Walenga	Ruacana	107.2	100	6798
John Walenga	Keetmanshoop	107.3	100	6798
John Walenga	Oranjemund	107.7	100	6798
Khorixas radio	Khorixas	105.8	600	5534
Kunene Community	Opuwo	94.3	500	6215
Kunene Community		449.2		6215
Media for Christ	Gamberg	88.1	500	5017
Media for Christ	TransKalahari Buitepost	88.1	250	5017
Media for Christ	Twee Riviere	88.1	500	5017
Media for Christ	Aminuis - Ootmoet Farm	89.1	250	5017
Media for Christ	Oshana/SATCOM Oshakati	90.9	250	5037
Media for Christ	Omaheke/NBC 1 Gobabis	92.4	1000	5037
Media for Christ	Kunene/Kamanjab	92.8	500	5037
Media for Christ	Outapi	94.3	500	5017
Media for Christ	Otjozondjupa/Otjiberg/Otjiwarongo	95.5	250	5037
Media for Christ	Otjozondjupa/Klien Waterberg(Okakarara-Otjiwarongo)	97.7	500	5037
Media for Christ	Erongo//Swakopmund/Tamariskia	98.4	250	5037
Media for Christ	Walvis Bay	98.4	500	5037
Media for Christ	Erongo/Usakos, Omaruru, Karibibi	98.7	250	5037
Media for Christ	Hardap/Telecom Roeland	99.3	1000	5037
Media for Christ	Karas/Keetmanshoop	100.7	250	5037
Media for Christ	Hardap/mariental Sat-Com Site	100.8	250	5037
Media for Christ	Maltahohe/Telecom Maltahohe	101.6	250	5037
Media for Christ	Suid Nossob - Soutblok	101.6	250	5037
Media for Christ	Okavango/Rundu	101.8	1000	5037
Media for Christ	Koes	101.9	500	5017
Media for Christ	Hardap/Arano NG Kerk	102	250	5037
Media for Christ	Karas/Karasburg Farmers Community	102	250	5037
Media for Christ	Duineveld	102.3	500	5017



Broadcaster	Site/Town	Frequency (MHz)	Power output/Watt	GG
Media for Christ	Karas/MTC Kranzberg(Koes-Aroab)	102.3	1000	5037
Media for Christ	Khomas/windhoek Hohe	102.3	250	5037
Media for Christ	Kunene/Telecom Outjo	102.3	250	5037
Media for Christ	Roshpinah	102.3	250	5148
Media for Christ	Uis	102.3	500	5017
Media for Christ	Caprivi/Katima Mulilo	102.6	250	5037
Media for Christ	Erongo/Swakopmund/Rossing	102.8	500	5037
Media for Christ	Hardap/Stampriet Telecom	102.8	1000	5037
Media for Christ	Karas/Luderitz Water Reservior	102.8	250	5037
Media for Christ	Oshikoto Region MTC/ Omuthiya	103	500	5017
Media for Christ	Omaheke/Leonardville	103.2	250	5037
Media for Christ	Tsumeb	103.6	500	5017
Media for Christ	karas/Orandjemund Mine Tower	104.4	250	5037
Media for Christ	Noordoewer	104.4	500	5017
Media for Christ	Khomas-(WHK-Rehoboth)-Gross Hertzog	104.5	1000	5037
Media for Christ	Otjozondjupa/Signalberg	107	1000	5037
Media for Christ	Brthanie/ NBC Tower	107.3	1000	6947
Media for Christ	Windhoek Hohe	854.3		5037
Media for Christ	Windhoek Hohe	855.75		5037
Multichoice	Arendsnes (Rundu)	474	1000	5282
Multichoice	Gross Hertzog (Windhoek)	498	4500	5411
Multichoice	Arendsnes (Rundu)	530	1000	5282
Multichoice	Gross Hertzog (Windhoek)	562	4500	5282
Multichoice	Rossing Mountain (Walvis Bay, Swakopmund)	594	2000	5411
Multichoice	Oshakati	618	2000	5282
Multichoice	Oshakati	682	1900	5411
Multichoice	Rossing Mountain (Walvis Bay, Swakopmund)	690	2000	5411
Namcol	Windhoek	91	500	7960
Namcol	Ongwediva	102.7	500	6743
Namibia TV & DVD	National			
Ninety Nine FM (Pty) Ltd	Rundu	96.9	100	7806
Ninety Nine FM (Pty) Ltd	Otjwarongo/Water Tower	98.8	100	5037/6588

Broadcaster	Site/Town	Frequency (MHz)	Power output/Watt	GG
Ninety Nine FM (Pty) Ltd	Windhoek	99.1	1000	5037
Ninety Nine FM (Pty) Ltd	Swakopmund/Henties Bay Namwater Tower	99.8	250	5037/6588
Ninety Nine FM (Pty) Ltd	Walvisbay/Telcom tower	99.8	250	5037/6588
Ninety Nine FM (Pty) Ltd	Tsumeb/Tsumeb Mine Tower	101.7	20	5037/6588
Ninety Nine FM (Pty) Ltd	Oshakati/Telecom Tower	104.5	500	5037/6588
Ninety Nine FM (Pty) Ltd	Khomas Windhoek	850		5037
Ninety Nine FM (Pty) Ltd	Khomas Windhoek	854.9		5037
Omaheke Community	Gobabis	96.1	250	6141
Omulunga Radio (Pty) Ltd	Uutapi Telecom Tower	88	100	5037
Omulunga Radio (Pty) Ltd	Ruacana	88	100	5037
Omulunga Radio (Pty) Ltd	Otjiwarongo Water Tower	89.2	500	7960
Omulunga Radio (Pty) Ltd	Tsumeb Mine Tower	89.5	500	7960
Omulunga Radio (Pty) Ltd	Grootfontein Water Tower	92	990	7960
Omulunga Radio (Pty) Ltd	Omuthiya	92	990	7960
Omulunga Radio (Pty) Ltd	Gobabis Water Tower	92.1	990	7960
Omulunga Radio (Pty) Ltd	Mariental Satcom site	95	990	7960
Omulunga Radio (Pty) Ltd	Oranjemund Mine Tower	96.3	100	5037
Omulunga Radio (Pty) Ltd	Rundu Nordens Skool	99.2	100	5037
Omulunga Radio (Pty) Ltd	Gross Herzog- Satcom site	100.9	1000	7960
Omulunga Radio (Pty) Ltd	Oshakati	102.3	990	7960
Omulunga Radio (Pty) Ltd	Swakopmund Tamariskia Telecom Tower	105.5	990	7960
Omulunga Radio (Pty) Ltd	Walvis Bay Telecom Tower	105.5	100	5037
Omulunga Radio (Pty) Ltd	Keetmanshoop Municipality Tower	106	990	7960
Omulunga Radio (Pty) Ltd	Luderitz Water Reservior	106	100	5037
One Africa	National			5037
Oranjemund Com Radio	Oranjemundu	91	100	5092
Otji FM	Rundu	93.7	500	7426
Otji FM	Keetmanshoop	94.6	500	7426
Otji FM	Gam	97.8	100	7426
Otji FM	Otjinene	102.2	500	7426
Otji FM	Otjiwarongo	107.6	500	7609
Paratus Broadcasting	National			6883

Broadcaster	Site/Town	Frequency (MHz)	Power output/Watt	GG
Radio Kudu	Otiwarongo Water Tower	90.9	500	5037
Radio Kudu	Grootfontein, Water Tower	92	990	7960
Radio Kudu	Tsumeb, Tsumeb Mine Tower	92.6	500	7960
Radio Kudu	Rundu , Rundu Nordg- rens Skool	92.7	100	7960
Radio Kudu	Lüderitz, Water Reser- voir	93.7	100	7960
Radio Kudu	Karibib, MTC Site - Af- fenberg	94.6	990	7960
Radio Kudu	Omaruru, Namwater Tower	94.6	500	7960
Radio Kudu	Henties Bay, Namwater Tower	95.1	100	5037
Radio Kudu	Swakopmund, Tamariskia Telecom Tower	95.1	500	7960
Radio Kudu	Walvis Bay, Telecom Tower	95.1	100	5037
Radio Kudu	Oshakati,	95.5	990	7960
Radio Kudu	Gobabis, Gobabis Water Tower	95.6	1000	7960
Radio Kudu	Keetmanshoop, Municipality Tower	95.6	990	7960
Radio Kudu	Mariental Sat- Com Tower	97.3	990	7960
Radio Kudu	Noordoewer, Oranjemund Mine Tower	97.3	100	5037
Radio Kudu	Rosh Pinah, Rsoh Pinah Mine Tower	103.4	100	5037
Radio Kudu	Whk, Gross Herzog Sat-Com Site	103.5	1000	7960
Radio Kudu	Katima Mulilo,	107.4	500	7960
Radio Kudu	Whk, 158 Jan Jonker, Gross Herzog	240.3		5037
Radio Kudu	GAP Filler WALVIS BAY			5037
Radio Wave	Whk, Gross Herzog Sat-Com Site	87.8	1000	7960
Radio Wave	Grootfontein, Water Tower	88.9	990	7960
Radio Wave	Lüderitz, Water Reservoir	90.6	100	5037
Radio Wave	Swakopmund, Rossing Mountain	91.1	990	7960
Radio Wave	Mariental, Mariental Sat- Com Site	91.8	990	7960
Radio Wave	Walvis Bay, Telecom Tower	91.9	100	5037
Radio Wave	Usakos MTC Tower	92.2	250	7960
Radio Wave	Karibib, Erongo Mountain	92.2	990	7960
Radio Wave	Karibib, MTC Site Affenberg	92.2	300	5037
Radio Wave	Keetmanshoop, Municipality Tower	92.4	990	7960
Radio Wave	Windhoek, Ice Cream Cone	96.7	990	7960
Radio Wave	Otiwarongo Berg Telecom Tower	100.9	500	5037

Broadcaster	Site/Town	Frequency (MHz)	Power output/Watt	GG
Radio Wave	Katima Mulilo,	104.5	500	7960
Radio Wave	Rundu,	105.4	100	7960
Radio Wave	Gobabis, Water Tower	106	990	7960
Radio Wave	Oshakati,	106.8	990	7960
Radio Wave	Whk, 30 Sipson Str, Gross Herzog	242.1		5037
Radio Wave	Namibia, Namibia	242.5		5037
Rapids FM	Katima Mulilo	98.2	1000	5980
Rapids FM	Rundu	107.7	1000	5980
Rapids FM	Studio Link	460.05		6514
Satelio TV	National			6321
Satelio TV	National			6474
Shalom M Ministry	Omindamba	100.6	500	7426
Shalom M Ministry	Oshakati	106.3	500	5659
Shipi FM	Omuthiya	88.3	1000	7511
Shipi FM	Opuwo	88.8	1000	7511
Shipi FM	Rehoboth	90.3	100	7511
Shipi FM	Amwaanda	91.1	100	7511
Shipi FM	Signal Berg	96.3	2000	6743
Shipi FM	Swakopmund	96.5	500	6743
Shipi FM	Eenhana	99.2	500	7511
Shipi FM	Otjiwarongo Berg	99.6	1000	6743
Shipi FM	Windhoek	100.4	500	7609
Shipi FM	Ondangwa	103.6	1000	6474
Shipi FM	Walvis Bay	104	500	6743
Shipi FM	Klein Waterberg	104	1000	7511
Shipi FM	Okongo	104.1	1000	7511
Shipi FM	Otjinene	105.8	100	7511
Shipi FM	Ondangwa	450.025/ 460.025		5776
Southern Sun Karas FM	Aroab	100.4	250	7960
Southern Sun Karas FM	Luderitz	103.3	250	6474
Southern Sun Karas FM	Keetmanshoop	103.5	500	7426
Southern Sun Karas FM	Karasburg	104.3	250	6474
Southern Sun Karas FM	Keetmanshoop	453.035		6092

Broadcaster	Site/Town	Frequency (MHz)	Power output/Watt	GG
Supreme Voice	Eenhana	92.7	500	7730
Supreme Voice	Omuthiya	105	500	7730
The Free Press	Onesi	88.3	1000	7931
The Free Press	eenhana	89.6	500	7931
The Free Press	Windhoek	95.3	500	7609
The Free Press	Opuwo	96	1000	7931
The Free Press	gobabis	98.7	1000	7931
The Free Press	Omuthiya	101.4	1000	7931
Trustco	Keetmanshoop	88.2	100	5980
Trustco	Roosing Mnt	103.3	1000	6543
Trustco	Mariental	104.9	100	5980
Trustco	Oshakati	105.6	1000	5980
Trustco	Otjiwarongo	105.9	100	5980
Trustco	Rundu	107.2	1000	6543/6743
Trustco		451.525/ 461.525		6215
Unam Radio	Windhoek/Unam Main Campus	97.4	100	5037
Universal Media	Okahandja	105.5	20	6883
Urban Cafe	Windhoek	106.6	500	7609
Voice of Kingdom	Ondangwa	95.9	500	5659
West Coast FM	Walvis Bay	106.9	100	5402
West Coast FM	Swakopmund	107.7	100	5037
West Coast FM	Swakopmund	850	1000	5037/6713