Association of
Comms & Technology

Spectrum Social Obligations:

South Africa Approach, Trends and Best Practice

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About ACT

The Association of Comms and Technology NPC (ACT) is a registered organisation with the Companies and Intellectual Property Commission in South Africa, bearing the registration number 2021/967827/08. At ACT, our primary focus revolves around ecosystem matters that are crucial for the broader Information, Communication, and Technology (ICT) sector. Through our efforts, we aim to provide a unified voice for this significant sector within the South African economy.

Our mission is to collaborate with stakeholders across the ICT ecosystem, advocating for a thriving communications and telecommunications sector in South Africa. To achieve this, we conduct leading practice research and analysis, which informs the development of a conducive strategic, policy, and regulatory environment within the country.

Key elements of our strategic objectives include actively advocating for an environment that encourages growth, innovation, and fair competition within the ICT sector. By working closely with policymakers and regulators, we strive to create a framework that fosters progress and investment in the industry. We are committed to contributing to the growth and socio-economic development of South Africa's telecommunication network ecosystem. By supporting sustainable practices and initiatives, we seek to enhance the sector's positive impact on the country's overall development.

ACT fosters a culture of collaboration, education, research, development, innovation, and technology advancement. We encourage stakeholders to work together, exchange knowledge, and promote innovation to drive progress and excellence within the ICT domain.

ACT plays a pivotal role in enabling the industry's transformation to be inclusive, diverse, and well-prepared for the challenges and opportunities of the 4IR.

ACT takes on a strategic leadership role in South Africa's telecommunication network ecosystem. By fostering cooperation and alignment among industry players, we aim to drive positive change and growth for the benefit of all stakeholders.

As the Association of Comms and Technology, we are dedicated to making a lasting impact on the ICT sector in South Africa. By working collaboratively and staying committed to our strategic objectives, we strive to create a flourishing and forward-looking communication and telecommunications industry that contributes significantly to the nation's prosperity.

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Abbreviations

ACT	Association of Comms and Technology
BDM	Broadcasting Digital Migration
CSR	Corporate Social Responsibility
DBE	Department of Basic Education
DCDT	Department of Communications and Digital Technologies
DGMT	DG Murray Trust
DTIC	Department of Trade, Industry & Competition
ECA	Electronic Communications Act, no 36 of 2005
EEIP	Equity Equivalent Programme
GCIG	Global Commission on Internet Governance
ICT	Information Communications Technology
IMT	International Mobile Telephone
MNO	Mobile Network Operator
PBO	Public Benefit Organisation
PSI	Public Services Institution
RIA	Regulatory Impact Assessment
RICA	Regulation of Interception of Communications and Provision of Communication-Related Information Act
SEIAS	Socio-Economic Impact Assessment System
USAASA	Universal Services and Access Agency of South Africa
USAF	Universal Service & Access Fund

Executive Summary

In 2022 the Independent Communications Authority of South Africa (the Authority) concluded its first-ever IMT Radio Frequency spectrum auction, almost a decade since IMT spectrum was last made available to the ICT sector. Now that the spectrum to introduce a greater range of services, at 5G speeds, is available, South Africa may invest and develop a more robust ICT ecosystem comparable to other leading nations of the world.

In developing this ecosystem, ensuring inclusive access to the Internet for All is a socio-economic imperative and provides the background for the social obligations imposed on those licensees who were awarded spectrum. The social obligations imposed by the Authority on six licensees are:

- Zero rating all mobile content provided by public benefit organisations including gov.za websites.
- Connect Public Services Institutions (PSI) as follows:
  - Public schools 16 139
  - Health facilities 4 232
  - Public libraries 570
  - Traditional Authorities 937

Whilst connecting of PSIs is a necessary goal to achieve the objectives of the National Infrastructure Plan 2050, the scale of social obligations imposed by the Authority appears to be one of the largest ever obligations programmes imposed on network operators without the provision of any financial support, for example from the Universal Service & Access Fund (USAF).

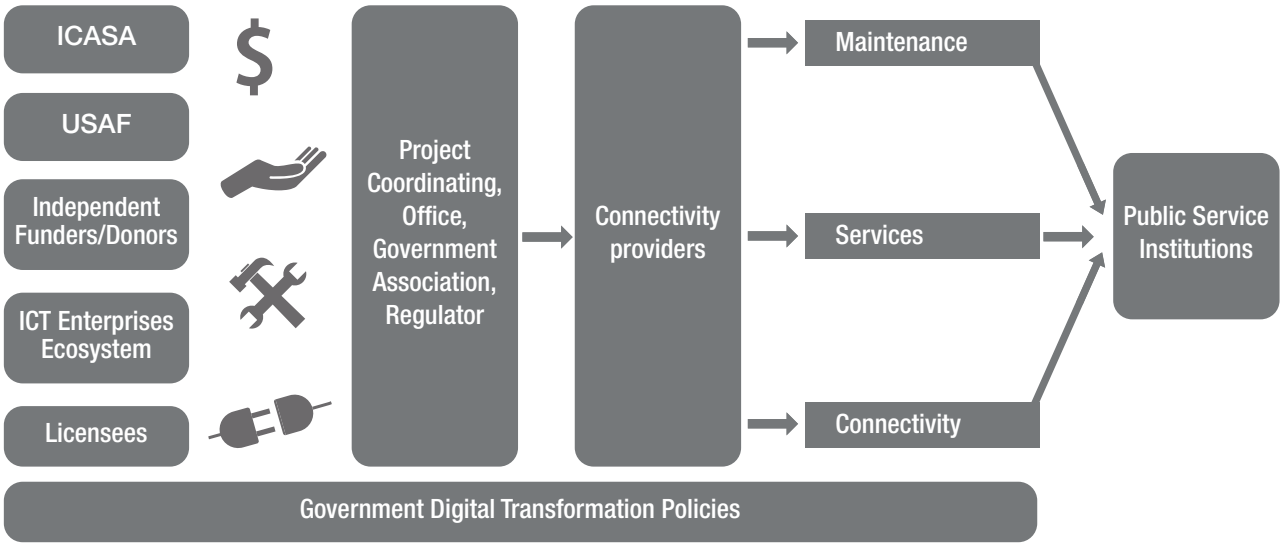
Further, it is our view as the Association of Communications & Technologies' (ACT) that the Authority failed to conduct any impact assessment of the social obligations imposed on six licensees and therefore the Authority is not in a position to evaluate whether the obligations imposed on six licensees are sustainable, and licensees are unable to fully estimate the economic value of the spectrum procured. Such an impact assessment would have at a minimum, considered the following aspects:

- The possible financial impact of the obligations on the licensees;
- Whether the costs per obligation per licensee are proportionate to the benefits related to the spectrum assigned and the value paid for the spectrum;

This report provides an analysis of the practical implementation aspects of the connectivity and zero-rating social obligations of the 2022 spectrum auction and finds that, whilst the Authority was dependent on information from other stakeholders (such as the Department of Basic Education), the reality is that the Authority should have been prepared for the implementation of the auction obligations. However still in 2024, licensees are still seeking final clarification on certain terms and conditions.

The current situation is not conducive to successful implementation of these obligations and therefore we propose an alternative multi-stakeholder approach that the Authority could adopt. This framework includes beneficiary departments, licensees, international partners such as UNICEF and the Giga global school connectivity project, as well as the Universal Service & Access Fund (USAF).

Figure 1: A proposed partnership framework to achieve Universal Service



Source: ACT, 2024.

Our proposed framework brings all stakeholders in the ICT ecosystem together to ensure that all PSIs are connected to the Internet as well as capacitated with the necessary skills and internal infrastructure to utilise Internet access in support for creating a Digital Society.[1]

South Africa does not have the luxury of another uncoordinated approach to achieving Universal Service and the ACT looks forward to a collaborative engagement with the Authority as well as all beneficiary PSIs, government departments and other related stakeholders to bridge the Digital Divide within society.

1 A Digital Society is one where "ICTs should be accessible to all, regardless of gender, age, ability and location" (ITU, 2022).

1 Introduction and Context

This research paper provides an overview of the Universal Service policy framework in South Africa with a specific focus on the social obligations imposed on those licensees that purchased the Radio Frequency Spectrum through the first IMT Radio Frequency Spectrum auction ever held in South Africa, in 2022.

This paper explores a new multi-stakeholder approach to designing and implementing social obligations. The multi-stakeholder approach includes the Independent Communications Authority of South Africa (the Authority), licensees, beneficiary government departments, PSIs, international partners and donors as well as coordinating office/s and other related stakeholders to ensure efficient and effective monitoring and evaluation.

This paper is structured as follows:

Section 2: The existing policy and regulatory framework for Universal Service in South Africa.

Section 3: A detailed assessment of the social obligations included in the 2022 spectrum auction.

Section 4: An approach to designing and implementing social obligations in future

Section 5: Conclusion.

2 Existing policy and regulatory framework for Universal Service in South Africa

According to the National Integrated ICT Policy White Paper 2016 ("White Paper") (DCDT, 2016a), *"There has never been a policy framework to govern the design of the obligations, and these obligations (such as the provision of SIM cards and handsets to the public sector, and providing 3G service to schools) have been fragmented and not based on consistent principles. As such they have not been designed to support other national initiatives, nor aimed at facilitating the achievement of South Africa's developmental agenda."*

The White Paper asserts that the absence of a policy resulted in the adoption of piecemeal approaches, which were not formulated inconsistent and sustainable policy principles.

The lack of clear policy direction is perhaps one of the main reason behind the failure of effective use of the Universal Services and Access Fund (USAF) and institutional failure of the

Universal Service Access Agency of South Africa (USAASA), identified as early as 2010 (Lewis, 2013). This institutional failure is also recognised in the White Paper issued in 2016 (DCDT, 2016a) and USAASA is expected to be closed, initially by 2023 (Mzekandava, 2021).

The White Paper recommended that the Department of Communications and Digital Technologies (DCDT) collaborate with the sector regularly to move towards a "pay or play" regime, in which licensees will either pay into a Digital-Development Fund (Fund), or participate in the rolling out universal service obligations. This Fund would be established based on explicit criteria for the translation of obligations into equivalent financial contributions. The objective is to incentivise licensees to contribute to the Fund over the medium term. This will allow for a more streamlined and coordinated delivery of nationwide universal service and access projects. Utilisation of the funds would be based on clear, objective and transparent criteria to ensure that any projects that receive funding will have a lasting impact on society.

The report of the Presidential Commission on the Fourth Industrial Revolution also recommended that the USAF should be evaluated and linked to an integrated approach to digital infrastructure development that is aligned with crucial digital and future skill development (PC4IR, 2020).

To date, no progress or clarity has been provided as to whether USAASA will actually be closed, nor has there been any information on progress towards the creation of the Fund. This lack of clarity is exacerbated by the lack of transparency of effective use of the USAF funds for the Broadcasting Digital Migration project.

3 The Universal Service obligations of the 2022 auction

This section of the report introduces the social obligations of the 2022 spectrum auction as well as particular challenges to achieving these goals.

3.1 Outlining the obligations

The social obligations, as finalised in 2024 after closing the consultation process and amended licenses, consist of two characteristics:

- Providing connectivity to Public Services Institutions (PSIs).
  - Public schools 16 139
  - Health facilities 4 232
  - Public libraries 570
  - Traditional Authorities 937
- Providing access to defined online content free of charge, or zero-rated.

The connectivity obligation represents a traditional supply-side approach to the design of social obligations. The provision of zero-rated online content represents a demand- side approach, where the Authority has assumed that the provision of free access to online content will drive uptake and use of the connectivity being provided. The zero- rating of online content is a globally accepted method to stimulate end-users to adopt the use of the Internet in their every-day lives. South Africa has first-hand experience on how the zero-rating of educational content during the COVID-19 pandemic provided necessary relief to all school-goers.

The initial allocation of the connectivity obligations per licensee (in 2022) are shown in Table 3.1 below:

Table 3.1: Allocation of PSIs per licensee

Bidder	Public Schools (18 520)	Government clinics (3967)	Government Hospitals (1764)	Unconnected police stations (567)	Traditional authority offices (8241)	% share of total PSIs
Telkom	2 542	544	242	78	1 131	13.73%
Liquid Telecom	242	52	23	7	108	1.31%
Cell C	605	130	58	19	269	3.27%
Rain	2 421	519	231	74	1 077	13.07%
MTN	6 052	1 296	576	185	2 693	32.68%
Vodacom	6 658	1 426	634	204	2 962	35.85%
Total	**18 520**	**3 967**	**1 764**	**567**	**8 241**	**100%**

Source: ICASA, 2022b

When issuing the spectrum licenses, in May 2022, the Authority obliged licensees to achieve all connectivity obligations within five years. This requirement ignored the fact that the 700-800 MHz frequency bands were unavailable because of delays in the implementation of the Broadcasting Digital Migration (BDM) project. ICASA appears not to recognise that these frequency bands are crucial for achieving universal service because of their innate spectrum propagation characteristics,[2] implying that ICASA has not determined the effective economic value of spectrum in the design of the auction. This failure may have significant consequences on the feasibility of achievement of social obligations as well as the success of any future auction processes.

Regarding the zero-rate obligation, the Authority has recently published the process by which Public Benefit Organisations (PBO) may apply to have their online content declared to be treated as zero-rate content. Licensees are obliged to zero-rate any online content within two days of receiving notice of approval from the Authority (ICASA, 2024).

3.2 Challenges with the current social obligations

3.2.1 Connectivity obligations

The connection of all PSIs to the Internet is a necessity for South Africa to adopt the opportunities of the Digital Age. However, the sheer scale of obligations imposed on licensees is, to our knowledge, the single largest known social obligations imposed on licensees.

The scale of these obligations is particularly glaring, given that the private sector Mobile Network Operators (MNOs) have achieved a 4G population coverage rate of over 99%. This achievement is greater than any other country in Africa and South America, except for island states.

There are two critical aspects about these obligations:

1. The data of how many PSIs to be connected must be accurate and correct.
2. The preparedness for the PSIs to utilise the new connection needs to be both confirmed and budgeted for.

2 The 700-800 MHz bands are more effective in achieving universal service because, when deployed, their larger coverage area means that more end-users receive access.

3.2.1.1 Is the number of PSIs to be connected accurate?

The ACT has very real concerns that the data provided is not accurate, which could delay actual implementation of the obligations. For example, the number of schools to be connected does not match the information available from other public sources. Table 3.2 below provides a detailed look at progress towards connecting schools to the Internet over the last decade.

Table 3.2: Progress towards connecting schools to the Internet, 2014-2024

Year	No. of Public schools	Connectivity for		Share of schools	
		Teaching and learning	Administrative purposes	Teaching and learning	Administrative purposes
2014	23 740	4 589	5 800	19%	24%
2015					
2016	23 577	4 646	6 041	20%	26%
2017					
2018	23 471	4 675	6 574	20%	28%
2019	23 258	4 695	6 770	20%	29%
2020					
2021	23 276	4 738	6 938	20%	30%
2022					
2023	22 597	4 856	7 593	21%	34%
2024	22 511	4 911	7 740	22%	34%
Changes 2014 to 2024	-1 229	322	1 940		
	-5%	7%	33%	2%	10%

Source: Department of Basic Education

The information available from the Department of Basic Education indicates that there has been no real change in the number of schools connected to the Internet for the decade 2014 to 2024. Deploringly, the share of schools connected for Teaching and Learning has remained static since 2014, when accounting for the 5% reduction in the number of schools between 2014 and 2024. Given the practice of licensees frequently giving schools free connectivity during the roll-out of mobile, Fixed Wireless Access and fibre connectivity over the last ten years, the ACT does not believe that these statistics are accurate, which calls into question the accuracy of the number of schools included in the social obligations.

Furthermore, the Authority's statistics as illustrated in Table 3.3 below, over-count the number of schools to be connected when compared to statistics available from other public sources (Table 3.2). Table 3.3 below shows that the Authority has overcounted the number of schools to be connected by a range of between 1 368 and 7 039.

Table 3.3: Does the Authority over-count the number of schools to be connected?

Year	Connected schools	Total number of schools	Schools to be connected	Difference between Authority and other statistics
The Authority's obligation			16 139	
Schools connected for Administrative purposes	7 740	22 511	14 771	1 368
Schools connected for administration & Teaching and Learning	12 651	22 511	9 860	6 279
Giga Project	15 700	24 800	9 100	7 039

Source: Department of Basic Education, the Giga Project

The Authority ought to recognise these discrepancies and accordingly, acknowledge that there may be a public interest need to review the connectivity obligations that are currently included in the new spectrum licences.

The impact of this difference has a significant impact on:

- The timelines to deploy the necessary network infrastructure.
- The cost to deploy.
- The allocation of schools per licensee.

3.2.1.2 Do PSIs have sufficient infrastructure on site?

According to past experience, if PSIs do not adhere to certain minimum standards, the switches and routers inside the building of the PSI is vulnerable to theft and damage. Should these standards not be met, the licensees will meet their obligations but no-one will actually benefit, resulting in waste of resources, time and funds. The relevant PSI must confirm, in advance, that the minimum items are in place: availability of electricity; a solid building structure (brick and mortar); and suitable security, where doors and windows can be locked and are secured with burglar bars and security gate.

Currently, based on engagement with the Department of Basic Education in the Social Obligations Project Management Office, it is clear that the matter of minimum infrastructure for schools was not considered in the development of the connectivity obligations, that there

was no effective engagement between the Authority and relevant stakeholders and that there is a significant lack of coordination between providing connectivity and ensuring the ability for schools to fully leverage services.

This significant concern should be addressed before connectivity is provided to any PSI so that the costs of providing connectivity are not wasted due to a lack of use. The ACT does not suggest any reduction of obligations, but rather a staggering of obligations in line with the recipient PSI being sufficiently resourced to actually utilise the new service.

3.2.1.3 Are the relevant resources available on the ground?

Ensuring long-term effective and efficient use of connectivity requires stakeholder coordination, the appointment and training of the necessary human resources as well as engagement with, for example, school governing bodies and potentially the wider community.

To illustrate the importance of stakeholder engagement, we list below the minimum human resources required at the point of handover of the connection:

- IT Support personnel from PSIs to be trained to maintain and troubleshoot the system.
- An official must be identified and designated (by the recipient PSI) as the relevant official to sign-off and accept handover (the handover process has yet to be defined by the Authority and could lead to significant delays in practical completion).
- The designated official who is responsible for information governance and control of use of the internet access point must be available to sign the relevant paperwork in order to comply with the Regulation of Interception and Communications and Provision of Communication-related information Act (RICA).

The Authority must acknowledge that licensees cannot activate a network access point until the RICA registration and compliance documentation has been completed. We recommend that licensees do not deploy any network infrastructure to a PSI until the relevant representative has been identified/appointed. Further the Authority should engage with the Department of Basic Education regarding implementation of the National Digital and Future Skills Strategy Development Strategy to identify the additional training requirements that teachers and learners (and other PSIs) may require. The training of teachers and learners is a critical step to generate social value from the connectivity obligations that the licensees are to meet.

3.2.1.4 Recognising the cost of providing connectivity

Whilst the ACT acknowledges the Authority's requirement for connectivity to be provided free of charge, the design of any social obligation should recognise the long-term costs associated with network investment. As access to the Internet is increasingly viewed as a utility, the ACT is of the view that utility-type pricing models should be included in the design of social obligations. For example, the provision of a free basic volume of water and electricity is provided to indigent households in South Africa, where end-users are required to pay for any additional or further use. In the same vein, end-users who benefit from social obligations should be expected to pay for the consumption of data above a pre-set limit.

The Authority must recognise that the cost of providing services under the connectivity and zero-rating obligations are not going to reduce over time. Again, like water and electricity, the cost to provide such services is likely to increase. The cost of these obligations represents a cost driver to the provision of retail services and licensees, over time, may be forced to raise prices.

In the long term, these obligations represent a significant risk to the financial sustainability of licensees, particularly where large volumes of traffic may be offloaded to Wi-Fi networks and the introduction of Over The Top services creates both retail price pressure and increased costs to manage increased network usage. The key principle to follow is that connectivity provided under a social obligation by licensees cannot be without limit, and public institutions must be held responsible to pay for services.

3.2.2 Zero-rating of services

Connections provided to schools have been abused in the past. For example, during implementation of the E-rate obligation, e-rated SIM cards were being removed from the school premises, placed in private devices unrelated to the school, or these devices were simply removed from the school for personal use. This is but one example indicating that the zero-rating obligation must be carefully managed to avoid resource abuse,[3] lowering of quality of service, and prevent the potential for arbitrage (reselling connectivity to a third party for commercial gain).

There are three principle concerns regarding the zero-rating of services. The first is to define what and how should content be zero-rated, the second is identifying the management

3 For example, during the COVID pandemic, videos on Youtube appeared that showed end-users how to "tunnel" through the different MNO's zero rated sites to access commercial content for free.

mechanism for the use of this data and the third is identifying just how much data may be consumed by end-users under this obligation.

3.2.2.1 What and how should content be zero-rated?

The recent notification by the Authority (ICASA, 2024) outlines what content may be considered for zero-rating:

1. The website holder must be a registered Public Benefit Organisation.
2. Rich media picture quality must be restricted to 480 pixel quality, or Standard Definition.
3. Content must be hosted locally (on a static IP address).

As the ACT, we wish to inform the Authority of the potential risk of a zero-rating regime creating a "walled garden" where end-users never explore and experience content beyond that which is available from a PBO.

As highlighted by Galpaya (2017) in a study conducted by the Global Commission on Internet Governance (GCIG) there are numerous models available for zero-rating of data/sites. These include:

1. **Pre-approved site (zero-rating specific content):** the purpose of this model is to prevent abuse and fraud and is the approach put forward by the Authority in ICASA (2024), where licensees will monitor conditions of use and have the ability to suspend access independently if abuse is identified.
2. **Time limit zero-rating offers:** this model is where licensees are able to independently verify the actual time consumed per end-user rather than the time consumed per sim card. This model aims to limit the impact of individual users utilising multiple sim cards in a single day and therefore consuming significantly more data than planned. However, this type of solution is reliant on robust SIM registration processes where an licensee could identify unique users and all their SIM cards independently. This solution may not be suitable at this time, given the current challenges regarding implementation of RICA.
3. **Zero-rate low bit rate:** The purpose of this model is where zero-rated websites and content load and refresh at a slower rate than paid-for content. Those who wish to experience a higher bit rate (i.e. increased speed) are still able to pay for the service.
4. **One-click-away zero-rating:** This model counters the risk that end-users might stay inside the walled garden of only ever accessing free websites. In this model, an end-user obtains free access to the first URL "clicked," but is subsequently charged for accessing further URLs.

5. **Equal rating:** This model gives users a certain amount of data to use (without limiting the type of data or websites the free content could count toward) in exchange for something, like watching a certain number of minutes of ads on their phone.

Whilst zero-weighting was a successful intervention during the COVID-19 pandemic to address the impact of limited freedom of movement, a zero-weighting policy may not be the only solution suitable for today's world.

3.2.2.2 A management mechanism to govern the number of zero-rated websites

The Authority has already identified certain management processes regarding the identification of websites that qualify to be zero-weighted as well as the reactive mechanism that licensees may follow when identifying any form of abuse of such websites. These are specified in Government Gazette No. 50612 (ICASA, 2024).

South Africa experienced the impact of providing zero-rated websites during the COVID-19 pandemic. Similar, to the Authority's proposed registration process, the DG Murray Trust (DGMT), a philanthropic organisation, who established a system to prevent the misuse of zero-rated services during the pandemic recommends that a Social Innovation Register (SIR) be established that lists approved zero-rated websites for use by network operators, content providers, registered public benefit organisations (PBOs) and government entities promoting socio-economic development. A further recommendation is that any zero-rating of access to approved content should apply to all nationwide licensees rather than the six licensees under the current social obligation framework.

3.2.2.3 Just how much data consumption should be zero-rated

The Authority (ICASA, 2024) recently prescribed mechanisms to curb abuse and to limit the amount of data any single end user may consume, as follows:

- End-users will be limited to 300 MB of daily data and a monthly cap of 2 GB per user.
- Licensees are entitled to block or remove individual users/domains suspected of abusing the zero-rated sites.

The Authority has also stated that licensees are authorised to suspend free access to zero-rated sites and charge the end-user its normal tariff plan until any identified abuse has halted. (ICASA, 2024).

Although the ACT recognises the Authority's intention, no analysis of the impact of the zero-rating obligation has been provided. The Authority must recognise that more time viewing free content potentially means less time spent viewing commercial content, resulting in a decline in overall revenues. To provide some context: the 2GB monthly cap is equal to over 60% of the average monthly volume of data consumed per user in one network (in the 2024 year), whilst 300 MB per day is equivalent to one hour of YouTube videos.

The design of this social obligation under the spectrum auction as well as the recent rules for zero-rating sites have not been preceded by any assessment of the displacement effect may have on operator revenues. The Authority should take cognisance of the potential for the zero-rating obligation to increase operational costs in providing such data and the possible knock-on effects this may have on the trajectory for retail prices.

The ACT is of the view that a clear balance can be struck between the ability for a school pupil to watch one hour of educational content versus the necessity for licensees to generate revenue. The one-click-away or equal-rating models to ensure free access to approved content may prove to be more sustainable models in the long term.

3.3 Concluding remarks on the 2022 spectrum auction social obligations

The social obligations included in the 2022 spectrum auction are well-intentioned and aim to support the national government's drive towards a Digital Society. However, as the above discussion indicates, the design of these obligations appears not to have followed any clear process or procedure, with gaps in the information utilised to design the connectivity obligations as well as no evidence of any assessment of the cost of connectivity or zero-rating obligations.

Given that the financial impact of the obligations is uncertain, licensees were, in 2022, and remain in a position where it is not possible to effectively determine the value of spectrum acquired during the auction. This lack of transparency, before licensees can even commence utilising the spectrum, reduces the economic value of the spectrum and consequently any future value of spectrum (or its desirability) should additional spectrum be made available.

Table 3-4 below reflects our viewpoint as to whether the social obligations included in the 2022 spectrum auction were based on a clear and identifiable impact assessment framework (Yes = ✓ and No = **X**):

Table 3.4: Were the social obligations designed according to a clear set of principles?

Principle	Was the principle followed?	Observation/rationale
Design social obligations that are specific, measurable, achievable, relevant, and time-bound.	✖	• Definitions in the obligations are not clear and open to interpretation. • The obligations have not been tested through an impact assessment to assess the risk of duplication by other initiatives. • The timeline to achieve the obligations does not consider time-bound matters related to wayleave approval as well as other infrastructure deployment barriers. • The data provided to support the social obligations has not been tested for accuracy.
Establish clear monitoring and enforcement mechanisms.	✖	• No measurement system or criteria has been provided. • Further, the proposed obligations have not been canvassed with other stakeholders indicating that the obligations may not achieve expected "socio-economic" outcomes.

Table 3.4: Were the social obligations designed according to a clear set of principles cont?

Principle	Was the principle followed?	Observation/rationale
Balance social obligations with other objectives, such as competition and innovation.	✖	• The design of the social obligations appears to be a linear relationship between the spectrum awarded and government goals as per the SA Connect Policy. • Such linearity does not consider the impact this may have on both infrastructure and service based competition. • The design of the obligations also fails to account for efficient infrastructure use, for example, the ability for licensees (with regulatory approval) to swap obligations due to the proximity of network infrastructure to PSIs.
Provide financial and technical assistance to licensees to help them meet their social obligations.	✖	• Although the obligations were specified in the spectrum auction Invitation to Apply (ITA), there is no linkage with the existing funds in the USAF. • This represents the risk of double-dipping and amounts to double-taxation. • The social obligations have not been designed in line with a network ecosystem approach, which would account for backhaul, metro connectivity as well as front-haul infrastructure. • It is also important for the Authority to recognise that backhaul challenges may prevent the achievement of many social obligations. • The USAF funds could be best utilised to address backhaul and metro connectivity constraints, which ultimately impact on the quality of service and experience of end-users.
Partner with other stakeholders, such as civil society organisations and academia, to monitor and evaluate the impact of social obligations.	✖	• The Authority has not notified the licensees of any form of stakeholder forum that has been consulted on the identification and design of the social obligations. • Further, the Authority has also not informed the licensees of what these stakeholders' actual needs are, relevant to existing government policies. • There is a potential risk that the proposed social obligations do not resolve the actual challenges experienced on the ground. For example, some schools still do not have electricity, a precondition for the use of an Internet connection. There is also no evidence that the target schools have end user devices to benefit from connectivity.

Source: ACT, 2024.

In conclusion, there is a need to quantify the monetary value of implementing the obligations in their envisaged form, to determine whether they are financially viable for the industry to implement.

4 An approach to designing and implementing social obligations in future

Designing social obligations requires diligence, a detailed understanding of the costs and benefits associated with different goals, mechanisms for monitoring and evaluation, and most critically, the ability to be flexible within any specific time period. This flexibility allows for both the national regulatory authority and the regulated entities to adapt existing social obligations as and when economic, social or technological changes occur.

A key example of where South Africa "got it wrong" in the past was in the imposition of obligations on Telkom South Africa (Telkom) during the monopoly licence period of the Telecommunications Act. The Authority imposed an obligation on Telkom to roll out close to three million fixed lines, without considering the ability for targeted beneficiaries to be able to pay for the service, and the reality that the same or similar end-user experience could be achieved through the use of multiple technologies (Telkom, 2010).

Various industry and academic studies have also raised the issue of poor monitoring and evaluation of universal service obligations as well as the failure of institutions to change their approach when initiatives fail (Attwood, et al, 2013). As discussed in Section 3, it appears that the design of the 2022 social obligations has not studied any of the lessons learnt locally or globally.

The current social obligations do not recognise the potential for negative consequences. Strictly enforced obligations may force operators to deploy networks and services faster than is economically or commercially viable. This can be especially problematic when the technology is still immature or when equipment prices are high. Additionally, regulatory obligations can force operators to incur losses, particularly if they are required to deploy networks in areas where there is not sufficient demand for the services. This can create financial difficulties, especially for smaller operators without established cash flows (GSMA, 2022a).

The key question, then, is: how best can the Authority and all related stakeholders develop a framework to achieve Universal Service that achieves inclusive access to the Internet in the most optimal fashion?

In this section of the report we recommend numerous steps that the Authority may consider in the development of a coherent and measurable Universal Service regime designed to ensure long- term impact.

4.1 Conduct a Regulatory Impact Assessment

Regulatory Impact Assessments (RIA) are powerful tools for regulators and legislators to determine the optimal implementation strategy for any programme. Conducting a RIA would inform the Authority of the positive and negative effects of proposed social obligations and related regulations (GSMA, 2022b). Our critique of the social obligations in the 2022 spectrum auctions clearly indicates just how important these exercises are. An one example, the lack of data regarding the location of PSIs prevented (and continues to prevent) licensees from being able to assess the true cost of acquiring spectrum. The likely outcome of poorly coordinated information[4] is that future auctions are less likely to generate significant funds or garner high levels of interest from multiple bidders.

RIAs are not new to the Authority, who has conducted numerous RIA assessments over the years. Should an RIA have been conducted,[5] it is likely that the costs associated with the connectivity obligations would have been estimated, the necessary data on the number of PSIs that actually need connections would have been acquired and ultimately, the Authority would have been able to administer a much smoother auction process with fewer legislative challenges. The Authority and all related stakeholders including the PSIs themselves would also have been more prepared for any consultation on the allocation of social obligations between licensees.

4.2 Recognise that multiple stakeholders have an interest in closing the Digital Divide

Multiple stakeholders within the ICT ecosystem as well as other social partners and philanthropic organisations have a strategic interest in closing the Digital Divide in South Africa. To bring these interests together, it is our view that a multi-stakeholder framework should be established before any specific social obligation framework is considered. This multi-stakeholder framework should consist of the Authority, licensees, large ICT enterprises, end-users, donors, shared interest social partners (e.g. Giga[6]), the Universal Service Access Fund as well as any other party who is likely to benefit from the deployment of new network infrastructure.

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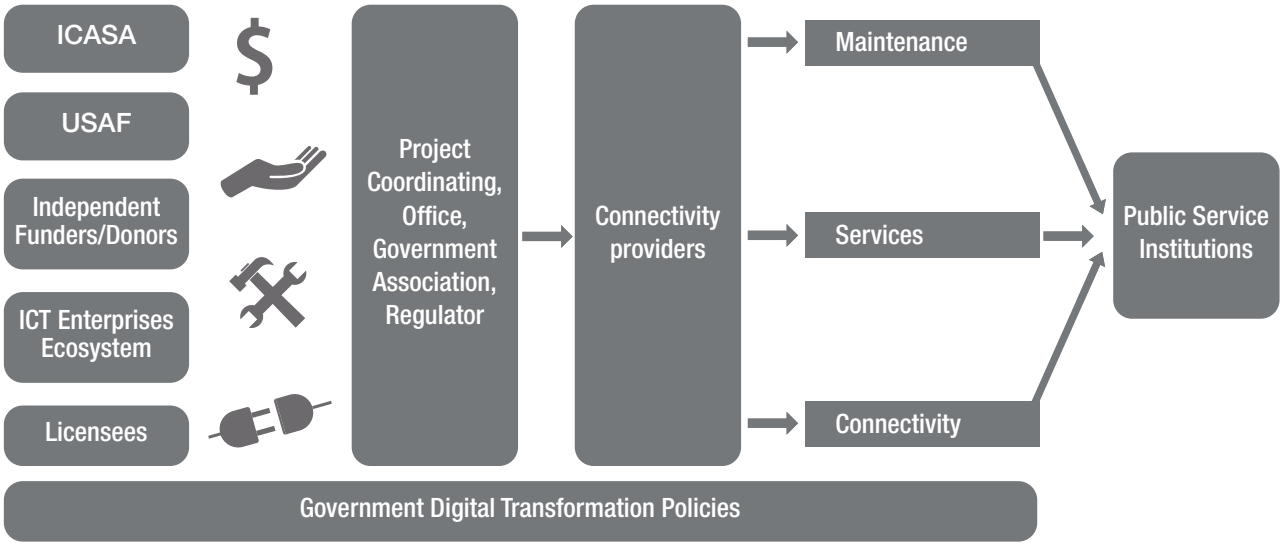
4 Licensees continue to report that contact details of identified PSIs are not accurate, preventing licensees from developing network deployment plans.

5 The Socio-Economic Impact Assessment System (SEIAS) (DPME, 2015), developed by the Department of Planning, Monitoring and Evaluation is a uniquely tailored tool that the Authority could use here in South Africa.

6 Giga is UNICEF's and the International Telecommunication Union (ITU) partnership to connect every school to the Internet by 2030.

This multi-stakeholder approach is in line with the goals of the NIP 2050, which recognises that South Africa requires novel approaches to partnering and cooperating with the private sector in order to capacitate a public sector broadband and service delivery model.

Figure 4.1: A multi-stakeholder approach to designing social obligations



Source: ACT, 2024.

In the text that follows we provide three recommendations in line with the multi-stakeholder approach.

4.2.1 Recommendation 1: Utilise the funds in the Universal Service and Access Fund

The legislative mandate of the USAF is to fund "projects and programmes that strive to achieve universal service and access to ICTs for all South African citizens," where capital is injected into the fund via specified contributions from all licensees under the ECA. The monies in the fund are to be utilised exclusively for payment of subsidies for financing the construction or extension of electronic communications networks in under-serviced areas, the procurement of electronic communications services and access to electronic communication networks for schools and further education and training institutions. In other words, the social obligations in the 2022 spectrum auction are a repeat of what the USAF was established to achieve.

The fact that the USAF has not been part of the design of the social obligations effectively represents double-taxation: the social obligations require licensees to cover the capital and operational costs to connect schools to the Internet, yet these same licensees are obligated by law to contribute to the USAF.

4.2.2 Recommendation 2: Collaborate with enterprises in the ICT ecosystem

The ICT ecosystem is changing and now includes multinationals who are not licensees under the ECA, not many have launched Corporate Social Responsibility (CSR) programs that include connectivity of schools and other public institutions. A multi-stakeholder approach would incorporate these initiatives into the design of social obligations, at a minimum to reduce any duplication of effort.

4.2.2.1 Explore the contributions and obligations of multinationals

Many firms have incurred obligations as part of the Equity Equivalent Programme (EEIP) for Multinationals that is managed by the Department of Trade, Industry & Competition (DTIC). Qualifying firms are obliged to make financial commitments to core areas, being technology, ICT and skills development. One of the major criticism of the EEIP, is the lack of coordination between different government departments and inclusion of the EEIP under our proposed muti-stakeholder framework could address this coordination problem and unlock skills, capacity and financial contributions that current mechanisms cannot meet. One example of how to ensure lasting socio-economic impact of the connectivity obligations is to link the training needs of the PSIs to the EEIP obligations (see Section 3.2.1).

Table 4.1: The DTIC Approved EEIP Initiatives

Multinational	Investment amount ZAR millions	Approval date	Investment Period	Sector	EEIP Focus Area
Hewlett Packard (USA)	98.3	2007	6.7 years	ICT	Critical Skills Development.
Microsoft (USA)	500 & 208	2011 & 2020	6 & 3 years	ICT	Enterprise Development, 400 APP Factory beneficiaries, 3 BIs.
IBMSA (USA)	700	2015	10 years	ICT	Enterprise & Supplier Development, Critical Skills & Research & Development.
DELL SA (USA)	121	2015	10 years	ICT	Enterprise Development and Critical Skills Development (technology for innovation).
SAMSUNG (S Korea)	280	2019	10 years	ICT	Enterprise development, Black industrialist development as well as Research and Development.
Amazon (USA)	365	2019	10 years	ICT	Development of 100% black-owned South African small businesses.

Source: ACT, 2024.

Still many other multinational companies are not participating in the EEIP programme but have initiated their own CSR programmes linked to connecting public institutions such as schools and clinics. Examples include the programmes run by mining houses to provide connectivity to schools, healthcare and housing facilities in the communities where mining takes place.

4.2.2.2 Find out what the licensees are already doing

Many of the Authority's licensees have their own, well established CSR (CSR is defined in Section 4.2.2) initiatives that include sophisticated partnership networks as well as stringent governance mechanisms to ensure that the benefits of CSR funds flow directly to communities and end-users. The Vodacom Foundation supports multiple schools, not only with connectivity but also with basic school infrastructure such as security upgrades and the removal of pit toilets. The foundation also provides training to teachers and other users on how to utilise the Internet for teaching and learning. The MTN South Africa Foundation, amongst others, already operates a zero-rated digital education content programme through the MTN Online School.

These two examples are merely an indication of what licensees are already contributing to resolve digital connectivity and digital readiness in South Africa. Direct inputs from CSR teams into the design of social obligations would provide the Authority with ground-level insight on how to design universal service initiatives and social obligations for a long-lasting impact.

4.2.2.3 Engage with independent partners and donors

Multiple PBOs in South Africa, international organisations and non-government organisations run programmes directed at uplifting under-privileged areas in their commitment to achieving the UN Strategic Development Goals. All of these programmes have a common thread: the importance of access to the Internet.

One example of a world-wide programme that aligns with the current social obligations is the Giga initiative launched by the UNICEF Office for Innovation and the International Telecommunications Union (ITU). Giga has the goal of connecting all schools to the Internet by 2030 and has already developed a global map[7] of the status of school connectivity (including South Africa). Another component of Giga's work has been to develop innovative funding mechanisms so that schools can afford Internet connectivity.

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7 Please explore the following link: https://maps.giga.global/map

One such mechanism is the introduction of connectivity credits, which function in the same manner in which carbon credits may be earned. Schools earn these credits based on the difficulty and cost of installing and maintaining connectivity (WEF, 2021).

The ACT has developed a relationship with Giga based on an engagement on 6 December 2022 and we recommend that Giga be invited to participate in any Universal Service programme, including the monitoring and evaluation of the 2022 spectrum social obligations.

4.2.3 Recommendation 3: Establish a Project Coordinating Office

Successful implementation of these and other social obligations requires planned coordination with licensees, beneficiary government departments as well as many other stakeholders. With the Authority at its core, a Project Coordinating Office can overcome common collective decision complexities that coordinating entities in government face.

We propose the following guiding principles for the establishment of this office:

1. Adopt a "whole-of-government" approach to ensure that all relevant government entities (e.g. Department of Basic Education) are accountable for decision-making in their respective mandates and the execution of the work program needed to realize the national imperative of digital empowerment. Most importantly, respective government department must present their requirements for connectivity and other ICT related matters, rather than a top-down imposition from any specific department.
2. Prevent and avoid duplication of efforts by maintaining a clear record of goals, existing initiatives as well as pathways for similar existing initiatives and goals to be coordinated into collective rather than disparate efforts.
3. Improve efficiency and stakeholder representation by providing a single platform for the public, private, and non-profit sectors, as well as donors, civil society, and others.

These three guiding principles represent the three most important aspects of achieving universal service, and if implemented correctly, will lead to a far more effective programme that can provide up to date progress monitoring information and respond and adapt swiftly to specific challenges experienced on a local level.

5 Conclusion

This report has pointed out numerous technical weaknesses in the way the social obligations of the 2022 spectrum auction were first posited as well as weaknesses in their practical implementation.

To overcome these weaknesses, we have proposed an alternative framework where the Authority, licensees, other players in the ICT ecosystem, donors and government departments can all play a role through collaboration and partnership. Our proposed approach aims to remove previous coordination failures, ensure that the needs of recipient PSIs are addressed as well as ensure that these obligations are implemented in a clear and practical manner so as to ensure long term benefit for intended recipients.

South Africa does not have the luxury of another uncoordinated approach to achieving Universal Service and the ACT looks forward to engagement with the Authority and all beneficiary PSIs and government departments to ensure that the Digital Divide no longer separates members of society.

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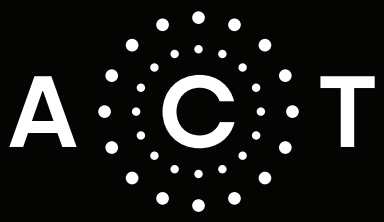

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