RULE OF LAW PROJECT

a division of the

FREE MARKET FOUNDATION

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SUBMISSION TO THE

DEPARTMENT OF TELECOMMUNICATIONS AND POSTAL SERVICES

ON THE

ELECTRONIC COMMUNICATIONS AMENDMENT BILL, 2017

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Contents

1. Executive Summary

The proposed Electronic Communications Amendment Bill, 2017 gives legal expression to government's 2016 Information and Communication Technologies (ICT) Policy White Paper.

Because of the White Paper's inherent and unfixed flaws, the Amendment Bill, too, is highly flawed. Like the White Paper, it is based on a fallacious premise that originates from an incorrect reading of the Constitution. The Bill itself fails to accord with the Rule of Law commitment entrenched in section 1(c) of the Constitution as it is replete with ambiguous and imprecise language. The lack of criteria where discretionary powers are assigned to government is another cause for concern about the Bill's constitutionality.

The proposed Wireless Open Access Network (WOAN) is ill-fated and ill-considered. It has only been attempted in Rwanda (where it has yet to deliver the kind of success the South African government seeks), and is in the process of being implemented in Mexico. International practice, in contrast, is to empower private service providers instead of hoarding spectrum and infrastructure under a quasi-state monopoly.

The proposal to ban trade in high-demand spectrum is problematic as it inhibits market forces from determining the best allocation of spectrum. That trade in spectrum other than high-demand spectrum is also highly-regulated is also of concern. The fact that spectrum could not be freely traded, and was not assigned by government, is the core reason why data has been comparatively expensive in South Africa in recent years.

The banning and regulation of trade is anti-competitive and concentrates the most useful spectrum resource in the hands of only a few market players. Were free trade in all types of spectrum possible, network service providers would have more use for existing infrastructure. To get to a point where spectrum can be freely traded, auctioning off spectrum would be one possible option. This was government's intention prior to adopting the disastrous White Paper.

South Africans' property rights are not afforded adequate respect in the Bill. It empowers network service providers to enter onto private property without owner consent, to install network infrastructure and facilities. Owners' recourse for compensation is severely curtailed in the Bill. The proposed law thus falls foul of section 25(1) and (2) of the Constitution.

ICT is one of the greatest levellers of material prosperity the world has known. Few things have succeeded more in reducing inequality – virtually everyone can now afford benefits that did not exist a few decades ago, and which, at first, were accessible only to the rich. The world is headed for "the internet of things" – virtually everything will, to some extent, be data-driven and connected. It is crucial for South Africa to get it right; and the Electronic Communications Amendment Bill does not get it right.

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2. Free Market Foundation & Rule of Law Project

The Free Market Foundation (FMF)[1] is an independent public benefit organisation founded in 1975 to promote and foster an open society, the Rule of Law, personal liberty, and economic and press freedom as fundamental components of its advocacy of human rights and democracy based on classical liberal principles. It is financed by membership subscriptions, donations, and sponsorships.

Most of the work of the FMF is devoted to promoting economic freedom as the empirically best policy for bringing about economic growth, wealth creation, employment, poverty reduction, and greater human welfare.

The FMF's Rule of Law Project is dedicated to promoting a climate of appreciation throughout South Africa, among the public and government, for the Rule of Law; continually improving the quality of South African law; identifying problematic provisions in existing and proposed laws and, where feasible, advocating rectification.

3. Introduction

On 24 January 2014, the ICT Policy Green Paper was published, setting in motion the government's plans to introduce change in the information and communication technologies (ICT) industry in South Africa. On 3 October 2016, the ICT Policy White Paper[2] – the "final" version of the policy – was released to the public. On 17 November 2017, the Electronic Communications Amendment Bill,[3] which brings large swathes of the White Paper into law, was published for public comment.[4]

The White Paper, however, when released, had two lethal defects, neither connected to its content. The first defect was that the Department of Telecommunications and Postal Services (DTPS), the responsible government department, had not carried out a socio-economic impact assessment (SEIA)[5] as required by Cabinet-approved policy.[6] SEIAs are conducted to indicate to stakeholders and society what the likely outcome of the implementation of new legislation or policy will be. They force the public administration to think about the long-term effects of new interventions before implementation, and ensure the public have all the relevant facts at their disposal when determining whether to comment favourably or unfavourably on the proposal.

The second defect was that, in the formulation of the White Paper, the DTPS did not consult with industry role-players or the public in good faith. They did do so, however, during the formulation of the Green Paper, the Discussion Paper, and the Review Report, which makes this departure from established, constitutionally-required procedure bizarre. The White Paper includes several industry-altering (potentially industry-destroying) aspects added between the Review Report and the White

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1 www.freemarketfoundation.com

2 Department of Telecommunications and Postal Services. "National Integrated Information and Communication Technologies (ICT) Policy White Paper". (2016). Available online: https://www.dtps.gov.za/index.php?option=com_phocadownload&view=category&id=3&Itemid=133/. Accessed: 11 December 2017. Henceforth "the White Paper".

3 Department of Telecommunications and Postal Services. GG No. 41261. (2017).

4 There are serious objections to the timing of this call for public participation, overlapping with the start of the holiday period.

5 An inadequate SEIA was published more than three months after the publication of the White Paper.

6 See below.

Paper that the public was given no opportunity for participation. Most of these aspects have been incorporated into the Electronic Communications Amendment Bill.

The content of the White Paper is as questionable as the process used to bring it into being. The Electronic Communications Act (ECA)[7] that governs ICT in South Africa may be an imperfect statute, but it ushered in substantial change from the previous Telecommunications Act,[8] and, for the most part, is in line with international best practice. The White Paper not only adopted the bad aspects of the ECA – it exacerbated them – and then also introduced bad, and potentially bad, new policies.

Legislated outcomes are a rejection of market principles that work on private business satisfying the needs of customers. After a period of relative freedom following the enactment of the ECA, South Africa will have a rigid, government-decreed planning system. Subsequent to the White Paper's enactment into law through the Electronic Communications Amendment Bill, we will have the typical result of a government-planned system: poor, inadequate infrastructure that is expensive and ill-suited to serve South Africa's economy.

Telecommunications in South Africa has always been a highly-politicised industry and excess government interference will hurt the economy and society more broadly. The Internet, in particular, has caused historically unprecedented change during the previous two and a half decades. Whereas previously communication technologies used analogue methods, digitalisation means data can be generated in a private network, beamed across a roof via microwave, re-ordered on an ethernet backbone and then wander out over a public-switched line to be broadcast via satellite to an overseas receiver – all without corruption at the other end. The message becomes everything – the underlying network technology, irrelevant.

Many countries, South Africa included, have adapted their legal systems to reflect the convergence of different media. The Electronic Communications Amendment Bill, however, will have the effect of perverting incentives and causing unnecessary and potentially damaging market distortions. Specifically, the retention of this up-and-coming legal regime creates skewed incentives for other economic players who ignore customer demands and misallocate capital.

Without a flexible, market-oriented legal framework, South Africa runs the risk of under-developing new industries.

The Bill's stated purpose is, *inter alia*, to "address supply side challenges to transform South Africa into an inclusive, people-centred and developmental digital society".

This Bill, however, contains various problems. Indeed, the constitutionality of the Bill is in question. Most of these problems originated in the White Paper. In this submission, the FMF critically analyses some of the underlying premises and assumptions of the Bill and some specific provisions. How the Bill can be rectified is also explored.

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7 Electronic Communications Act (36 of 2005).

8 Telecommunications Act (103 of 1996).

4. The Bill and the Constitution[9]

The White Paper's introduction states that it – and by extension, the Electronic Communications Amendment Bill – is premised on the government's "constitutional objective" of improving the quality of life of all citizens and freeing the potential of each person. It references the Preamble to the Constitution.

The Preamble to the Constitution was formulated in the post-Apartheid context of national healing and reconstruction and was intended to orientate the reader who was gearing up to read the full text of the Constitution. It is like a preface (not an introduction) to a book: It stands on the outside looking in, and making comment. The Preamble is a poetic commentary on the provisions that exist within the text of the Constitution; it is not itself an enforceable or consequential part of the highest law.[10]

The government, by premising the White Paper on this line of the Preamble, makes a legal mistake that permeates the whole policy document. Government 'read in' new law into the Constitution, which it cannot do. It took a line intended to be a preface to what is textually provided for in the Constitution, and turned it into a provision in and of itself, which ostensibly places an obligation on the government.

But, for the sake of argument, let us consider the actual text of the Constitution to determine whether the White Paper, if it chooses to rely on the Constitution, may have a constitutional foundation.

The first provision of the Bill of Rights, section 7, provides that the State must "respect, protect, promote and fulfil the rights in the Bill of Rights". This is clear and not debatable: The government cannot create new fundamental rights from scratch, especially if they potentially conflict with existing rights in the Constitution. It has the constitutional obligation, instead, to protect and fulfil those rights which appear in the text of the Bill of Rights, which spans section 7 to section 39.

The White Paper also references section 9, which is the equality provision in the Bill of Rights. According to the policy document, section 9 says that there is a "right to 'full enjoyment' of all opportunities in South Africa". This, however, is not the case. Government, once again, has read something into the Constitution that is not actually there.

The real section 9, more particularly section 9(2), appears as follows:

> "Equality includes the full and equal enjoyment of all rights and freedoms. To promote the achievement of equality, legislative and other measures designed to protect or advance persons, or categories of persons, disadvantaged by unfair discrimination may be taken."

As we can see, the White Paper misquoted section 9 completely. The words "all opportunities in South Africa" do not appear anywhere in the section. The section, instead, provides that the government must ensure that there is full and equal enjoyment of all rights and freedoms. The "rights" and

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9 Constitution of the Republic of South Africa, 1996. Henceforth "the Constitution".

10 This is not to say the Preamble is irrelevant. The Constitutional Court held in *S v Mhlungu* 1995 (3) SA 867 (CC) that the Preamble "should not be dismissed as a mere aspirational throat-clearing exercise" (at para 112). Instead, the Preamble assists the reader with interpretation of what follows. Second only to the Founding Provisions and the Bill of Rights, the Preamble indicates the basic structure of the Constitution.

"freedoms" it refers to are those which already appear in the Constitution, as the discussion on section 7, above, indicates.

Crucially, therefore, we must note that the Constitution does not contain a right to data, a right to Internet access, a right to access broadcasting, or any similar provision, which is the core notion that underlies the government's ICT policy.

The only provisions in the Bill of Rights that come close to such a right, are section 16(1)(b), which provides that everyone has the right to freedom of expression, which includes freedom to receive or impart information or ideas; and section 32, which provides that everyone has the right to any information held by the State, and any information held by another that is required for the exercise or protection of rights contained in the Bill of Rights.

In the case of section 16, the provision is a 'right to freedom', meaning an individual must be unimpeded by the State in their receiving or imparting of information or ideas. It does not presuppose that the State must provide everyone with the ability to receive or impart information or ideas. This stands to reason. Surely, we do not require of the State to give us podiums and large audiences to 'impart' our ideas to. The same logic, of necessity, dictates that this right does not mean the government must provide, and, more importantly, control communications infrastructure.

In the case of section 32, which is the right to access to information, the provision is limited to two things: Information held by the government, and information held by anyone else, but which is crucial for the protection or enforcement of rights. As section 7 has shown, this would be limited to rights contained in the Bill of Rights, of which a right to data, internet access, or broadcasting infrastructure is not one.

Finally, section 25, the property rights provision, must be considered.

Section 25(1) provides that the government may not deprive anyone of property except by law, and no law may do so arbitrarily. Section 25(2)(a) says that if expropriation (the deprivation of someone's property by the government) is done in terms of the law, it must be "for a public purpose or in the public interest". These seemingly vague terms are not open-ended, and are defined in section 25(4), which says that public interest includes South Africa's commitment to land reform and other reforms aimed at bringing about equitable access to South Africa's natural resources. Section 25(5) says the government may take action to "foster conditions which enable citizens to gain access to land on an equitable basis".

Information and communication technologies and the infrastructure associated therewith, is not covered by these provisions in section 25, except for section 25(1), which secures the owners' property rights. Radio frequency spectrum, as well as the other transmission or broadcasting infrastructure mentioned in the White Paper, is not a natural resource.[11] It is a product of, and only available through, innovative technological developments, the vast majority of which take place in the private sector.

The notion that the government has the constitutional authority to, in many respects, essentially nationalise or centralise ICT infrastructure, is unfounded. The Constitution lays the proprietary framework for ingenuity, innovation, and unaccosted industrial development to take place.

[11] Despite popular sentiment to the contrary, often emphasised by government.

A final, important aspect of the Constitution relevant to the implementation of the White Paper is section 195, titled "Basic values and principles governing public administration."

This comprehensive section provides, among other things, that the public must be encouraged to participate in policy-making, and that the public must be provided with timely, accessible and accurate information. This applies to all organs of state as well as public enterprises. The DTPS, however, did not live up to these principles in its formulation of the White Paper.

Public participation was fostered in every leg of the policy adoption process, including the Green Paper, the Discussion Paper, and the Review Report. But when the White Paper was released, substantial additions and changes had been made without the industry or the public having been given an opportunity to consult. This, clearly, was a breach of the DTPS' constitutional duty.

The White Paper, and as a direct consequence, the Electronic Communications Amendment Bill,[12] is based on a legal falsity. Everything that follows throughout the 166 pages of the government's ICT policy and its 73-page bill springs from this misperception, misinterpretation, or misunderstanding of the Constitution.

5. The Rule of Law

Section 1(c) of the Constitution provides that South Africa is founded upon the supremacy of the Constitution and the Rule of Law. Section 2 provides that any law or conduct that does not accord with this reality is invalid. This co-equal supremacy between the text of the Constitution and the doctrine of the Rule of Law remains underemphasised in South African jurisprudence, but it is important to note for the purposes of this submission.

One of the Constitutional Court's most comprehensive descriptions of what the Rule of Law means was in the case of *Van der Walt v Metcash Trading Ltd*.[13] In that case, Madala J said the following: [14]

> "[65] The doctrine of the rule of law is a fundamental postulate of our constitutional structure. This is not only explicitly stated in section 1 of the Constitution but it permeates the entire Constitution. The rule of law has as some of its basic tenets:
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> 1. the absence of arbitrary power – which encompasses the view that no person in authority enjoys wide unlimited discretionary or arbitrary powers;
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> 2. equality before the law – which means that every person, whatever his/her station in life is subject to the ordinary law and jurisdiction of the ordinary courts.
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> 3. the legal protection of certain basic human rights.
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> [66] The concept of the rule of law has no fixed connotation but its broad sweep and emphasis is on the absence of arbitrary power. In the Indian context Justice Bhagwati stated that:
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> 'the rule of law excludes arbitrariness and unreasonableness.'

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12 Henceforth "the Amendment Bill" or "the Bill".

13 *Van der Walt v Metcash Trading Ltd* 2002 (4) SA 317 (CC).

14 At paras 65-66. Citations omitted.

> I would also add that it excludes unpredictability. In the present case that unpredictability shows clearly in the fact that different outcomes resulted from an equal application of the law."

The Rule of Law thus:

- Permeates the entire Constitution.
- Prohibits unlimited arbitrary or discretionary powers.
- Requires equality before the law.
- Excludes arbitrariness and unreasonableness.
- Excludes unpredictability.

The Good Law Project's *Principles of Good Law* report largely echoed this, saying:[15]

> "The rule of law requires that laws should be certain, ascertainable in advance, predictable, unambiguous, not retrospective, not subject to constant change, and applied equally without unjustified differentiation."

The report also identifies four threats to the Rule of Law,[16] the most relevant of which, for purposes of this submission, is the following:

> "[The Rule of Law is threatened] when laws are such that it is impossible to comply with them, and so are applied by **arbitrary discretion** […]"

Friedrich August von Hayek wrote:[17]

> "The ultimate legislator can never limit his own powers by law, because he can always abrogate any law he has made. The rule of law is therefore not a rule of the law, but a rule concerning what the law ought to be, a meta-legal doctrine or a political ideal."

What is profound in Von Hayek's quote is that he points out that *the* Rule of Law is not the same as *a* rule of *the* law. Indeed, any new Act of Parliament or municipal by-law creates and repeals multiple 'rules of law' on a regular basis. The Rule of Law is a doctrine, which, as the Constitutional Court implied in *Van der Walt*, permeates all law, including the Constitution itself.

Albert Venn Dicey, known for his *Introduction to the Study of the Law of the Constitution*,[18] and considered a father of the concept of the Rule of Law, wrote that the Rule of Law is "the absolute supremacy or predominance of regular law as opposed to the influence of arbitrary power, and excludes the existence of arbitrariness, of prerogative, or even wide discretionary authority on the part of the government".[19]

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15 Good Law Project. *Principles of Good Law.* (2015). 14.
16 Good Law Project (footnote 15 above) 29.
17 Von Hayek, FA. *The Constitution of Liberty.* (1960). 206.
18 Dicey, AV. *Introduction to the Study of the Law of the Constitution.* (1959, 10th edition).
19 202-203.

Dicey writes "the rule of law is contrasted with every system of government based on the exercise by persons in authority of wide, arbitrary, or discretionary powers of constraint".[20] He continues, saying the Rule of Law means "the absolute supremacy of predominance of regular law as opposed to the influence of arbitrary power, and excludes the existence of arbitrariness, of prerogative, or even of wide discretionary authority on the part of the government".[21]

The opposition to arbitrary power should not be construed as opposition to discretion in and of itself. Officials use discretion to determine which rules to apply to which situation, and thus some discretionary power is a natural consequence of any system of legal rules. However, the discretion must be exercised per criteria which accord with the principles of the Rule of Law, and the decision itself must also accord with those principles.

A common example of arbitrary discretion is when a statute or regulation empowers an official to make a decision "in the public interest". What is and what is not "in the public interest" is a topic of much debate, and empowering officials to apply the force of law in such a manner bestows upon them near-absolute room for arbitrariness. The "public interest", however, can be one criterion among other, more specific and unambiguous criteria.

The fact that some discretion should be allowed is a truism; however, the principle that officials may not make decisions of a substantive nature still applies. Any decision by an official must be of an enforcement nature, i.e. they must do what the legislation *substantively* requires. For instance, an official cannot impose a sectoral minimum wage. The determination of a minimum wage is properly a legislative responsibility because it is of a substantive nature rather than mere enforcement. Unfortunately, the Basic Conditions of Employment Act[22] gives the Minister of Labour the authority to make "sectoral determinations" – which includes determining a minimum wage – which is a clear violation of the Rule of Law and the separation of powers.[23]

6. Unclear, ambiguous and imprecise language

6.1 Overview

One of the Bill's chief deficiencies are the many instances of unclear terms and phrases, many of which are highly ambiguous. This lack of precision in language falls foul of the Rule of Law notion that the law must be knowable and accessible. The Cato Institute's *Cato Handbook for Policymakers* states:

> "The rule of law is not satisfied by merely formal or ceremonial exercises, such as the publication of edicts in barely understandable form, whether in the archaic "Law French" of the king's courts or the pages of the *Federal Register*. The laws must be understandable and actually capable of being followed."[24]

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20 Dicey (footnote 18 above) 184.

21 Dicey (footnote 18 above) 198.

22 Basic Conditions of Employment Act (75 of 1997).

23 Section 51.

24 Cato Institute. *Cato Handbook for Policymakers*. (2017). 16.

6.2 Effectiveness, transparency and non-discrimination

At various junctures throughout the Bill, the phrase "effective, transparent and non-discriminatory" are used. Neither the phrase nor the terms included therein are defined.

For a dynamic and ever-changing sector like information and communication technologies, effectiveness and discrimination are highly-consequential terms, given that how 'good' a service might be often depends on geographical distance and network traffic rather than the conscious conduct of the service provider. Discrimination, too, takes place in ICT, in light of different packages having different allocated speeds and services.

If these terms are to inform the conduct of regulators, they need to be clearly defined.

6.3 Cost/service-based

"Cost-based" and "service-based" are terms used throughout the Bill without being defined. There is ambiguity in the field of economics about what exactly these notions comprehend, and it would therefore be useful to have them defined for purposes of the Bill.

6.4 Redress of market dominance

In the proposed amendment to section 2, the Bill provides that "redress market dominance and control" is to become an object of the Act. This phrase does not make sense.

"Redress" is defined in ordinary language as "To compensate or set a situation right", and in legal terms, as "To compensate someone monetarily for some damages that they experienced".[25] How is "market dominance" redressed?

The term, firstly, assumes that there is something inherently wrong about a situation of market dominance, even if the firms which dominate the market came to that position by being the most competitive and efficient. The term thus imputes a negative value to market dominance without further ado. Secondly, if the term is used in its legal sense,[26] what "damages" have been caused which need to be compensated? The Bill leaves this entirely unclear and open to interpretation.

6.5 Significance of interference

The notion of "significant interference" is found at various junctures throughout the Bill, entitling owners of property to object to regulatory expropriation[27] only if the expropriation causes "significant interference" with the property.

This highly-ambiguous term, especially because it relates to something as crucially important as property rights, is dangerous and might yield unjust results in practice.

Significant interference with the use and enjoyment of property is a subjective determination to make: Perhaps the owner was planning on building a chapel at the location which has been regulatorily expropriated; or perhaps the owner intended on building affordable housing at that location.

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25 http://www.businessdictionary.com/definition/redress.html

26 Considering that this is an Act of Parliament.

27 Discussed below.

Alternatively, perhaps the owner is just so emotionally invested and tied to the land that any interference will be significant to them.

To remedy this potential injustice, owners must be entitled to object to *any* interference with their property.

6.6 An expedited basis

In the proposed amendment creating a section 20C(2), the Bill provides that regulations must provide for disputes between service providers and landowners to be resolved "on an expedited basis", *inter alia* to "satisfy the public interest". Neither of these phrases are defined. Does the "expedited" timeframe need to be reasonable, or must it simply be quick? Where in the scheme of "public interest" does the public's interest in maintaining secure property rights fall? These questions would be resolved if the provision were framed more clearly.

6.7 Cooperation and collusion

In the proposed amendment creating a section 20C(3)(f), the Bill provides that service providers "co-ordinate activities wherever appropriate, avoiding anti-competitive behaviour".

This is not only an unclear provision, but it is also dangerous, by obligating that service providers "co-operate" but at the same time avoid "anti-competitive" conduct. Service providers will now be placed in the untenable position of having to "co-operate" but not "collude" – with the line separating these two concepts being infamously blurred. When does co-operation become collusion, and will service providers be able to use this new section as a defence against a charge of collusion?

Because this section seems entirely self-contradictory, it should ideally be removed from the final text of the Bill.

6.8 Distortion of competition

In the proposed amendment creating a section 31B(3)(a), the Bill provides that a criterion for spectrum trading must include that "Competition may not be distorted by any spectrum trade or by the accumulation and hoarding of spectrum rights of use".

The Bill does not explain how, conceivably, a mere trade could "distort" competition. Indeed, the Bill does not define what "distort" means in this context: Does it necessarily mean a distortion leading to less competition, or can it also mean a distortion leading to more competition?

Furthermore, what would count as "hoarding of spectrum rights of use"? Does this provision go wider than the "use it or lose it principle" established in the proposed amendment to section 31(8), or is it narrower? None of these questions are answered explicitly nor implicitly in the Bill.

6.9 Conclusion

With such ambiguity in the Bill, functionaries are made lawmakers unto themselves, as they will need to pick and choose between the various possible meanings of the provisions in question. This amounts to an unconstitutional level of discretionary power. More clarity should be added to these provisions.

7. Discretionary powers and criteria

7.1 Lack of criteria

Wherever the "public interest" is made a criterion, the Bill must be amended to include criteria and guidelines for what the public interest comprehends in that particular provision.

Discretionary powers without accompanying criteria are assigned *inter alia* in the proposed sections or amendments to sections 8(6), 19A(4), 20C(1), (2), and (3), 20D(2), 20I(1) and (2), 20O(3)(c), 20P(3) and (6), 31(8) 31A(1), 31B(2) and (5), 31C(1) and (3), 31E(1) and (4), 43(1B), 44(1), 67(4), and 69A. Appropriate criteria for the exercising of the assigned discretion must be added to the Bill, in the absence of which the aforementioned provisions must be removed.

7.2 Determination of 'high demand spectrum'

In the proposed amendment to section 1, 'high demand spectrum' is defined as spectrum for which demand exceeds supply or spectrum that is fully assigned "as determined by the Minister […] after consultation with the Authority". This definition is inappropriate, as it is not a definition at all.

The definition, properly, should have been limited to saying high demand spectrum is spectrum for which demand exceeds supply or spectrum that is fully assigned. To make it dependent upon a determination of the Minister defeats the purpose of a definition: certainty. In addition, the lack of criteria[28] in accordance with which the Minister is to make this determination points to this provision's incompatibility with the Rule of Law.

7.3 Determination of 'reasonable access fees'

In the proposed sections 20C(1)(h) and 20P(1), (2), and (3), the Bill refers to "reasonable access fees" that may in certain instances be charged by property owners to those who wish to access the property to deploy networks and facilities. In section 20P(3), the Bill provides that "the reasonableness of the access fees must be determined by the Authority on an expedited basis".

As pointed out above, this provision's terms are undefined. But, moreover, this crucial provision which determines fundamentally whether this proposed law is justifiable in an open and democratic society, amounts to assigning unlawfully wide discretionary powers. ICASA is placed in the position of a court of law to determine whether an access fee is "reasonable". ICASA is not the appropriate forum for such a determination, especially not without criteria circumscribing the determination.

The proposed section 20P(7) is problematic. The Bill provides that service providers "may continue to deploy electronic communications networks and facilities while awaiting the resolution of the dispute by the Authority". In ordinary court proceedings, the deployment would be stopped until the court pronounces judgment. It is a violation of the Rule of Law for ICASA to be given judicial powers but to not be constrained by judicial principles and practices. This proposed provision puts property owners at a disadvantage before it has even been decided whether they are in the legally correct position.

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[28] If the Minister is merely to determine whether the demand exceeds the supply or whether the spectrum is fully assigned, it should be stated more clearly.

These provisions should either be amended to include substantial criteria circumscribing and guiding any decision as to what 'reasonableness' comprehends, or, more ideally, be removed and the courts left to decide. The most ideal outcome would be for the Bill to provide that owners may charge whatever access fee they wish, whether it is apparently 'reasonable' or not, in light of the fact that their use and enjoyment of their property is being interfered with without their voluntary co-operation.

7.4 No criteria for service providers entering private property

There are various provisions in the Bill proposing to allow network service providers access to private property without the consent of the owner. This will be discussed at length below, however, it suffices to note here that this ability is not reasonably constrained by criteria. Service providers are empowered to arbitrarily pick and choose which property to enter upon, and then to arbitrarily choose, within that property, where to install their infrastructure.

We strongly recommend that these provisions should not remain in the Bill, but if they do, criteria should be added to guide providers in how to choose the property they will utilise.

7.5 'Pro-competitive' conditions of licensing

In the proposed section 67(4), the Bill provides that ICASA must "impose appropriate pro-competitive license conditions on those licensees having significant market power to remedy the market failure". This provision is highly problematic.

The Bill does not explain what a pro-competitive condition is, or how ICASA must go about formulating these conditions. Would banning a service provider from a certain geographical area, thereby giving one of its competitors a geographical monopoly, be considered a pro-competitive condition? After all, this might give the smaller competitor a chance to grow its market share while the bigger, more successful competitor is kept out of the area. This example illustrates how ambiguous the notion of 'pro-competitive conditions' is. Criteria must be added to this provision to guide ICASA in this determination. The banning of a competitor must *ipso facto* be uncompetitive and not in the interests of consumers, which should be the sole criterion.

The term "the market failure" is used seemingly at random. What 'market failure' is the Bill referring to? Does the mere fact that certain licensees may have "significant market power" equate with market failure? It cannot be that a service provider that has been successful in satisfying the needs and desires of its clients, and grows significantly as a result, is deemed to be a 'failure' in the market in need of remedial action. The Bill is, in effect, telling providers that they must compete, but that they are not allowed to win the competition. This kind of doublespeak strikes at the heart of the Rule of Law and introduces uncertainty and arbitrariness into the law.

8. Property rights and regulatory expropriation

8.1 Overview of property rights

The Constitution, and the interim Constitution[29] before it, was a break from the previous constitutional dispensation wherein the legislature – Parliament – was sovereign and could pass whatever laws it

[29] Constitution of the Republic of South Africa Act (200 of 1993).

deemed appropriate.[30] Indeed, in the case of *Sachs v Minister of Justice,*[31] the Appellate Division of the Supreme Court said "Parliament may make any encroachment it chooses upon the life, liberty or property of any individual subject to its sway, and […] it is the function of courts of law to enforce its will".[32] This was the bedrock upon which the previous regime was able to construct Apartheid, as no court of law or civil rights association could challenge the rightfulness or legality of that system according to the set of principles which regulate governance.

The characterising feature of Apartheid was its denial of property rights to black South Africans. Property rights have been widely recognised as prerequisites for material prosperity. Without secure property rights, most people would not invest in, expand, or maintain the things they possess because at any time these things can be taken away from them without reason.

History has consistently shown this to be true. Monarchs lived in grand palaces and castles surrounded by walls and soldiers, whereas ordinary plebeians lived quite exposed to the realities of pre-property rights societies. The monarchs knew they could invest in, expand, and maintain their residences because they knew it was unlikely that they would be robbed of them. Ordinary people did not have this security and peace of mind. Only when property rights were conceived of and found expression in the Industrial Revolution, did the visible decline of poverty start to occur on a global scale, expanding to each new society which chose to recognise the value of protecting private property.

In South Africa, for the vast majority of the population, the necessity of protecting private property was not recognised during the colonial era or during Apartheid. The justly acquired property of black South Africans was never secure. To a lesser extent, the same was true for white South Africans who had to play along in the National Party's grand experiment of social engineering. Both the 1993 (interim) and 1996 (current) constitutions were a significant break from this era of tyranny, in that both recognised private property rights for all South Africans, regardless of their race. These constitutions brought an end to parliamentary sovereignty and introduced constitutional supremacy which requires that all law and legal conduct must accord with the text, spirit, and purport of the Constitution, and especially the Bill of Rights.[33]

8.2 Elementary principles of property rights

Much emphasis in constitutional discourse is placed on freedom of expression, so much so that it is often regarded as the *basic* right which makes all other rights possible. Property rights, on the other

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30 This is made clear by the remarks of Didcott J in *Nxasana v Minister of Justice and Another* 1976 3 All SA 57 (D), where the Court said that "under a constitution like ours, Parliament is sovereign, and the Courts can no more assume a power which it has decreed that they shall lack, or set its enactments at naught, than can anyone else."

31 *Sachs v Minister of Justice* 1934 AD 11.

32 At para 37.

33 Chapter 2 of the Constitution.

hand, are oftentimes seen as clinical or merely ancillary. Indeed, the property rights of individuals are arguably the most disregarded right,[34] as well as the right treated with the most scorn.[35]

Property rights are often misconstrued as the protection of 'white privilege'. They should rather be appreciated as one of the rights for which the struggle was fought, as something black people lived and died for, as a fundamental right *for black South Africans* that should never again be compromised. The FMF is proud that this has been our position for 45 years. We are surprised by how easily the legal means by which black land rights were violated can be forgotten and Apartheid-style legislation reconsidered.

The property rights of the individual are not merely a superficial medium by which the individual is able to exercise control over objects. Instead, the property right is a right foundational to various other rights, such as human dignity,[36] life,[37] trade,[38] and housing.[39]

The essence of 'property' lies in *ownership*. Ownership is what makes an 'object' or a 'thing' into property. When something is unowned or cannot be owned – like the Sun and Moon – we would have no reason to conceive of it as anything other than a thing or object. Therefore, in a world where only one person lives, without the possibility of there being others, the concept of 'property' will not exist, because there is nobody to challenge this person's exercising of the entitlements of ownership.

Various entitlements flow from ownership, some of which will be listed below. However, the essence of all of them, is that the owner has the right to decide what to do or not to do with his property. This is why deprivation of ownership is treated as a serious matter; indeed, the deprivation of black South Africans of their property by the Apartheid government was widely condemned and to this day is a painful reminder of an oppressive past. Some entitlements of ownership are:[40]

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34 For instance, when new taxes are levied to fulfil certain welfare obligations, ministers of finance make scant reference to the fact that increasing taxes takes more property away from ordinary citizens. Similarly, when civil society organisations campaign for government programmes, they often omit acknowledging that such programmes inevitably involve limiting the property rights of citizens. On the other hand, the same is not true for measures which violate, for example, the right to dignity or freedom of expression.

35 See variously: http://www.sabc.co.za/news/a/ca61e500402f4d068001ebf8e0b8bbd7/EFF-calls-for-amendment-to-Property-Clause-20172402/; https://www.pressreader.com/south-africa/business-day/20170306/281788513850731/. Accessed: 29 March 2017.

36 Section 10 of the Constitution. A dignified existence implies enjoying the fruits of one's labour and being able to leave a proprietary legacy for one's descendants without the state micromanaging one's affairs as if one were a perpetual child.

37 Section 11 of the Constitution. Life is a logical impossibility without accepting the premises of private property. See Hoppe, H-H. *The Economics and Ethics of Private Property*. (2006, 2nd edition). 339-346. Available online: https://mises.org/system/tdf/Economics%20and%20Ethics%20of%20Private%20Property%20Studies%20in%20Political%20Economy%20and%20Philosophy_3.pdf?file=1&type=document/. Accessed: 29 March 2017.

38 Section 22 of the Constitution. Freedom of trade necessitates the ability to trade in one's own property.

39 Section 26 of the Constitution. Section 26(3) mentions South Africa's "homes". Ownership of the property of the home establishes a connection necessary for dignified living between the resident and the physical home. Being 'housed' on public property cannot create the 'homey' condition and places the resident's security of tenure in permanent question.

40 Van Schalkwyk, LN & Van der Spuy, P. *General Principles of the Law of Things*. (2012, 8th edition). 96.

- The entitlement of control
- The entitlement of use
- The entitlement of enjoyment of the fruits of the property
- The entitlement of encumbrance[41]
- The entitlement of alienation[42]
- The entitlement of vindication[43]
- The entitlement of defence[44]

These entitlements are the vehicles by which property rights can emancipate the poor and give them dignity in their ownership.

8.3 Conflict avoidance

The most crucial function of property rights is to avoid conflict. Once a property right over a thing is established, there can be no question about that individual's rightful use, enjoyment, and alienation of the thing. In times past, this guarded against self-help whereby individuals would simply take what they want from each other and hurt one another if necessary. Property rights were an inevitable consequence of human nature.

The French assemblyman and political and economic philosopher Frederic Bastiat considered the nature of law and property in his 1850 text, *The Law*.[45] According to Bastiat, the law came about as a consequence of human nature. Writes Bastiat:[46]

> "Existence, faculties, assimilation — in other words, personality, liberty, property — this is man.
>
> It is of these three things that it may be said, apart from all demagogic subtlety, that they are anterior and superior to all human legislation.
>
> It is not because men have made laws, that personality, liberty, and property exist. On the contrary, it is because personality, liberty, and property exist beforehand, that men make laws. What, then, is law? As I have said elsewhere, it is the collective organization of the individual right to lawful defence."

41 I.e. to encumber the property with limited real or personality rights, such as a bond.
42 I.e. to sell, destroy, donate, or otherwise dispose of the property.
43 I.e. to have the property returned to the true owner if someone else unlawfully controls it.
44 I.e. to defend the property against unlawful infringement.
45 Bastiat, F-C. *The Law.* (1850). Available online: https://mises.org/system/tdf/thelaw.pdf?file=1&type=document/. Accessed: 29 March 2017.
46 Bastiat (footnote 45 above) 2.

In other words, positive law – what Bastiat calls "human legislation" – is a result of the pre-existing attributes of humanity, as a mechanism to protect those attributes and their exercise. Bastiat further discusses the origin of property rights:[47]

> "Man can only derive life and enjoyment from a perpetual search and appropriation; that is, from a perpetual application of his faculties to objects, or from labor. This is the origin of property.
>
> But also he may live and enjoy, by seizing and appropriating the productions of the faculties of his fellow men. This is the origin of plunder."

Individuals enter into an 'agreement' with the state to avoid this 'plunder'. In exchange for protection of their persons and property, individuals agree to adhere to the law which does the protecting, and, therefore, not resort to self-help. This agreement is known as the 'social contract', and the social contract is the framework within which governance must take place. Bastiat sets out this framework thus:[48]

> "When law and force keep a man within the bounds of justice, they impose nothing upon him but a mere negation. They only oblige him to abstain from doing harm. They violate neither his personality, his liberty, nor his property. They only guard the personality, the liberty, the property of others. They hold themselves on the defensive; they defend the equal right of all."

This social contract, however, has not been adhered to, according to Bastiat. He writes:[49]

> "[The law] has acted in direct opposition to its proper end; it has destroyed its own object; it has been employed in annihilating that justice which it ought to have established, in effacing amongst Rights, that limit which it was its true mission to respect; it has placed the collective force in the service of those who wish to traffic, without risk and without scruple, in the persons, the liberty, and the property of others; it has converted plunder into a right, that it may protect it, and lawful defense into a crime, that it may punish it."

What Bastiat is referring to here is the law being used as a tool for 'redistribution' of property, which evidently violates private property.

'Redistribution', in this context, is a rejection of the social contract. 'Restitution', however, is not. This submission should therefore not be construed as an argument against restitution. Where a true owner has had his property deprived from him by someone else, be it a criminal or government, he does not lose ownership.[50] Government must restore the property to its rightful owner. This principle applies to the descendants of true owners as well, which is a relevant consideration in post-colonial and post-Apartheid South Africa.

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47 Bastiat (footnote 45 above) 5.

48 Bastiat (footnote 45 above) 19.

49 Bastiat (footnote 45 above) 4.

50 This is true even for expropriation. The Apartheid government used its lawful expropriation powers liberally during the previous era and this is considered illegitimate, rightly, under our current constitutional dispensation. Expropriation must be just – not merely legal – to qualify as a valid transfer of property.

8.4 The constitutional right to property

In the case of *S v Makwanyane*,[51] Chaskalson J held[52] for a majority of the Constitutional Court, that a provision of the Constitution "must not be construed in isolation, but in its context, which includes the history and background to the adoption of the Constitution, other provisions of the Constitution itself and, in particular" other provisions in the chapter of which it is a part. This supports the construction that the Constitution must be read holistically, bearing in mind the values and purpose of the entire text as well as the particular provisions.

Section 25 – the property rights provision – must therefore be construed holistically. Section 25(1), which provides that no person's property will be unreasonably deprived without compensation, cannot therefore be disregarded or treated as an afterthought.

Section 25(1) provides:

> "No one may be deprived of property except in terms of law of general application, and no law may permit arbitrary deprivation of property."

This is a 'negative' right in that it protects individuals from government interference in their proprietary affairs. Sections 25(2) to 25(9) are mostly 'positive' in nature, meaning that they oblige the government to do something, rather than refrain from doing something. By these latter sections' nature, however, they depend upon section 25(1). Without the first subsection, none of the others would make sense or be enforceable. Thus, 25(1) cannot be extinguished by the application of 25(2) to 25(9).

The 'general limitations' provision found in section 36 empowers the state to limit any right in the Bill of Rights if the limitation adheres to the criteria set out in that section. Section 36 provides as follows:

> "36. (1) The rights in the Bill of Rights may be limited only in terms of law of general application to the extent that the limitation is reasonable and justifiable in an open and democratic society based on human dignity, equality and freedom, taking into account all relevant factors, including —
>
> (a) the nature of the right;
>
> (b) the importance of the purpose of the limitation;
>
> (c) the nature and extent of the limitation;
>
> (d) the relation between the limitation and its purpose; and
>
> (e) less restrictive means to achieve the purpose.
>
> (2) Except as provided in subsection (1) or in any other provision of the Constitution, no law may limit any right entrenched in the Bill of Rights."

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51 *S v Makwanyane* 1995 (3) SA 391 (CC).

52 At para 10.

While the courts may take into account factors other than those listed in section 36(1)(a) to 36(1)(e), it has been customary for the courts to limit themselves to these five factors which appear in the text.

Laws which limit rights must be "reasonable and justifiable in an open and democratic society".

The FMF was instrumental in having this portion of section 36 added to the Constitution, and thus we write with confidence when we say that the 'open society' is a concept developed by Karl Popper in his work *The Open Society and Its Enemies*.[53] Michael O'Dowd wrote that the essence of the open society concept "is that each individual should to the greatest extent possible be free to make his or her own decision on the basis of his or her own judgement".[54]

The Constitution's provision could have stopped here, but it goes further to say, "an open and democratic society based on human dignity, equality and freedom". These values of dignity, equality, and freedom also appear in section 1 of the Constitution, meaning these are founding values for South Africa and not simply filler text. These values also complement one another in that no individual's dignity is truly being respected if he has no substantive freedom. A dignified existence implies enjoying the fruits of one's labour and being able to leave a proprietary legacy for one's descendants without the state micromanaging one's affairs as if one were a perpetual child.

The factors listed in section 36(1)(a) to 36(1)(e) further narrow the scope of the limitation of rights and allow the courts to take other unlisted factors into account to decide whether or not the limitation is justifiable in an open and democratic society that is committed to the values of human dignity, equality, and freedom.

We will briefly discuss this right in relation to each of the factors listed in section 36(1)(a) to 36(1)(e):

(a) The nature of right.

The various elements of property rights constitute its nature. These elements were briefly considered above. Ownership and conflict avoidance form the basis of property rights, but these have various implications. One of these implications is that property rights are *exclusionary*, i.e. in its effort to avoid conflict between individuals and groups, it must, of necessity, exclude non-owners from the use, enjoyment, and alienation of the property without the voluntary co-operation of the owner.

(b) The importance of the purpose of the limitation.

This question relates directly to the notion of a *legitimate government purpose*. This means "that there must be a rational relationship between the scheme [government] adopts and the achievement of a legitimate governmental purpose" and that schemes cannot be "capriciously or arbitrarily".[55] Legitimate government purposes are determined by the mandate of government as specified within the various provisions of the Constitution, especially those of the Bill of Rights.

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53 Popper, K. *The Open Society and Its Enemies*. (1945).

54 O'Dowd, MC. *South Africa as an "Open Society"?* (1998). Available online: https://www.freemarketfoundation.com/publications-view/south-africa-as-an-open-society/. Accessed: 25 August 2017.

55 *New National Party v Government of the Republic of South Africa and Others* 1999 (3) SA 191 (CC) at para 19.

The limitation of a right in the Bill of Rights must thus be justified by some other thing that government is obliged to do in the Constitution. The courts will then consider the *importance* of that particular government purpose as compared to the importance of the right to be limited. Where there is no discernible constitutional basis for the government purpose being exercised, or if the government conduct in question is too far removed from the legitimate government purpose found in the Constitution, this leg of the test would be failed and the limitation of the right would not be justified.

(c) The nature and extent of the limitation.

The extent of the limitation has an undeniable effect on its justifiability. Limitations that, in reality, completely extinguish, rather than limit, the right, are never justified. The more severe the nature and extent of the limitation, the greater the chances of it being unjustifiable.

(d) The relation between the limitation and its purpose.[56]

This is simply the requirement of rationality restated in constitutional terms.

Rationality is one of the two legs of reasonableness. Reasonableness, in this context, means that a reasonable person will conclude that the limitation will achieve its purpose. As we already know, a limitation must be "reasonable and justifiable" to persist in terms of the Constitution.

For the limitation to be justifiable, it must be rational, meaning the limitation must be objectively capable of achieving the purpose. In other words, evidence must support the notion that the limitation will effectively combat the problem identified. The limitation cannot be a 'shot in the dark' or capricious.

(e) Less restrictive means to achieve the purpose.

This is the second leg of reasonableness and is a constitutional restatement of the requirement of proportionality. In *S v Manamela*[57] the Constitutional Court described proportionality as the notion that one ought not to use a sledgehammer to crack a nut.

If less restrictive means are available to the government to achieve the purpose, then it must exhaust those means before resorting to harsh action. In other words, the government intervention (i.e. the limitation of the right) must only solve the problem government has identified – it must do no more.

8.4 Unrestricted entry by service providers

The proposed sections 20G to 20L are concerning, to greater and lesser extents, in light of the section 25 right to private property found in the Constitution.

Section 20G(1) empowers service providers to "enter upon and use public and private land for the deployment of" infrastructure. They may, according to section 20G(2), "select appropriate land and gain access to such land", and, according to section 20G(3), "retain ownership" of the infrastructure.

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56 We rely in large part on the following book for the following two sections:
Hoexter, C. *Administrative Law in South Africa.* (2012, 2nd edition). 340.

57 *S v Manamela* 2000 (3) SA 1 (CC).

Section 20G(5) provides some criteria, including in subsection (c), that service providers must "exercise due care and diligence to minimise damage".

The same is repeated in essence for high sites in section 20H, buildings in section 20K, and new property developments in section 20L.

The criteria in section 20G(5), however, does not save the section from unconstitutionality. Section 25(1) of the Constitution requires that deprivations of property not be arbitrary. The opposite of arbitrariness, as we have seen, is reasonableness, which comprehends rationality, proportionality, and effectiveness.

The criteria in the proposed section 20G(5) has no bearing on the decision to enter onto the private property as it merely states what the service provider must do after the decision has already been made. In other words, that decisions will be made to enter onto private property is guaranteed, and there is no legislative constraint imposed on the taking of that decision; only what must be done after the decision is made. The decision, i.e. the deprivation, is thus arbitrary.

That landowners may only object if the deprivation of their property causes "significant interference" has already been discussed above. It is worth repeating that section 20G(6) should be changed to allow landowners to object to *any* interference given that a constitutional right is at play here, and not mere inconvenience.

8.5 Infrastructure sharing

The Bill provides in the proposed section 20C(3)(c) that ICASA must "ensure" that service providers "seek out alternatives to new deployment of [infrastructure], notably through the sharing or leasing of existing facilities". In the proposed section 20G(5)(h) service providers will be compelled to "uphold" "infrastructure sharing".

The proposed section 43(1) provides similarly that service providers must *inter alia* "provide wholesale open access to their electronic communications networks and facilities, upon request, to any other person licensed in terms of this Act". The proposed section 43(1B)(a)-(c) empowers ICASA to force service providers to engage in "active infrastructure sharing", "cost-based pricing", and "access to its electronic communications network or electronic communications facilities as prescribed by" ICASA.

These provisions are blatant instances of regulatory expropriation of property whereby the owner of the property is robbed of some of the crucial entitlements of ownership, including control and defence. It is contrary to section 25(1) and (2) of the Constitution and should be removed from the Bill. Moreover, while existing infrastructure might now be shared between network service providers, it stands to reason that no new infrastructure will be subsequently built as the incentive to do so will be completely removed by this bill.

8.6 'Quality of service' regulation

The proposed section 69A will introduce 'quality of service' regulations into the ICT sector. ICASA must make continuously-updated regulations that prescribe "quality of service standards" for the licence categories. One of these standards is "broadband download and upload speeds and latency".

The speed of download and upload, and especially latency, cannot be regulated, regardless of legislative or political will to the contrary. Latency is almost exclusively dependent on physical

distances, which is why South Africans generally experience high latency when communicating with North America and Europe from the southernmost tip of Africa. Download and upload speeds also depend heavily on other traffic on the network, outside of the control of service providers.

These proposed regulations would deprive service providers of their property rights and unduly interfere in the voluntary agreements between them and their clients, when in fact they cannot reasonably do anything to live up to the hypothetical 'standards' to be set by government.

9. Spectrum

9.1 Spectrum as an asset

It needs to be emphasised that spectrum, and its inherent value, is a product of invention and innovation largely by industry. It is not a 'natural' resource over which government must exercise tight control lest it be 'used up', as both the White Paper and the Bill imply. Spectrum, unlike water or air, has not always been around. Before Marconi (more than a century ago), the concept of radio frequency spectrum did not exist, and, consequently, had no value. Arguments that radio frequency spectrum is a natural resource requiring allocation by government, therefore, look specious.

When an innovative individual or group of individuals, even if they are part of the government when doing so, invent something new, or discover something new, it is preposterous to assert that it can somehow follow that government, as an institution, will forever be the owner (or the 'custodian' – an *de facto* if not *de jure* owner) of that thing. The South African government did not contribute in any way to the invention or discovery of radio frequency spectrum, making this notion even more bizarre.

Spectrum is a technological asset and should be treated as private property, with trade moving the asset to the owner who values it most. Such a system is infinitely more effective at allocation than government discretionary practice and creates better incentives for its efficient use and development. If owners do not use it efficiently in the minds of other investors, then those investors will attempt to buy the asset and redeploy its potential.

9.2 Spectrum trading

Freely tradable spectrum would lead to a more efficient allocation of the asset than central planning by government. This is as true for spectrum as it is for steel, water, or clothing. The White Paper admits this, as does the National Development Plan and the Electronic Communications Act.

The White Paper and the Bill, in the proposed section 31B, however, bizarrely limits the trading of spectrum to a draconian extent. "High demand spectrum" may not be traded and ICASA "may" take applications for trading in "non-high demand spectrum". The amendment to section 31(8), further, empowers ICASA to "withdraw" spectrum from licensees if they have failed "to utilise" the spectrum "in accordance with" those conditions determined[58] by ICASA, or have failed "to use the assigned radio frequency spectrum for a period of one year".[59] The White Paper and the Bill have ventured down this

[58] Arbitrarily determined. No substantive criteria exist to guide ICASA in framing and enforcing its "licence conditions".

[59] The so-called 'use it or lose it' principle.

route simply because the ICT Advisory Panel believes "while licensed entities may realise economic value from trading, the trading of a public resource does not necessarily result in public value".[60]

This is, of course, a fallacy rooted deep in modern economic discourse.

It is thought that the contribution, or 'fair share', enterprises make to society, is limited to employment and taxes. The rest is profit they make for themselves. It is not readily realised that when companies profit, especially when they make massive profits, they provide something to consumers (the public) that consumers value.

For example, the Coca-Cola Company employs a lot of people and pays a lot of tax to government, but the real contribution this company makes to society is that it puts a smile on billions of faces every day by providing billions of people with a much-desired refreshment. In exchange for this unquantifiable value Coca-Cola is providing to the people of the world, it makes loads of money. And the money Coca-Cola makes can justifiably be seen as the quantification of the value it has created for society.

The ICT Advisory Panel, then, is clearly wrong when it asserts that public value does not necessarily result from free trade in radio frequency spectrum. The companies that provide the most value and best service to consumers will make the most money, and will consequently be able to buy more spectrum. If those same companies slip up and their customers are no longer happy, they will lose money, and if they lose a lot of money, they will be forced, by the market, to sell some or most of their spectrum to someone else.

The phantom 'bogeyman' company that just hangs on to assets, come hell or high-water, with no regard to its own solvency, does not exist in the real world. The government department that 'forgets' about some of its assets or allocates them inefficiently due to political considerations rather than market forces, however, is very much part and parcel of daily experience.

If the government is truly and irrationally concerned about spectrum hoarding, it should simply apply its 'use it or lose it' policy more strictly. Curiously, the White Paper says that this policy will now be applied in ICT. In our view, this policy should be all that is necessary (even though we would disagree with its necessity) if the government does have this concern. The problem with the government's current view is that, even if the spectrum is being used, the regulator can still intervene.

9.3 Commons or private property

Two models dominate current thinking on the efficient allocation of the frequency spectrum. The first is a fully-fledged system of private ownership where all rights to the spectrum are vested in the owner. The second is the idea of a 'commons' where the resource can be publicly used when interference is not an issue. The ideal solution may be a mixture of the two.

The arguments for either relate to the degree of scarcity present in a market. When a resource is plentiful, then many participants can share it at the same time, using as much of it as they need at zero cost. However, when competition for that resource intensifies, a private property system creates more efficient allocations. The costs of organising, administering and maintaining a market system are offset by the gains from competitive valuation of the asset in question.

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60 DTPS (footnote 2 above) 83.

Consider some examples of 'commons' use where interference is unlikely: the buzzer for a garage door, cordless phones or the mounting of a microwave beam across two office parks. Allocation of ownership of this spectrum becomes problematic if individual users must be registered for such use. In this case, it is probably better for the government to establish the radio frequency equivalent of a 'public park' where users are completely free to use the spectrum without permission, provided they follow the rules of the park.

This concept of a 'frequency commons' would foster development in the use of radio generally, especially as it relates to the development of 'mesh networks'. These are networks of small transceivers set up between houses or buildings. The devices use low power emissions to connect each user via a small hop. This virtual community may then connect to a base station on a public-switched network. Such wireless networks have the potential to liberate communication from cable infrastructure, eliminating registration requirements and lowering transaction costs.

Where competition for the spectrum frequency is fiercer, a system of private property rights becomes more efficient. Potential owners would be invited to bid for spectrum bands with no restriction on their use or subdivision. Commercial frequencies commonly used for cell phones or television broadcasting would be obvious candidates.

A mixture of the two systems argues for private property ownership across the entire radio frequency spectrum, with certain easement rights for devices or areas where the chance of interference is limited.

The advantage of this system is that as congestion becomes an issue, the private property framework is already in place. The owner can then begin to apply charges for use, ensuring maximum efficiency.

9.4 Where is spectrum privately owned?

To completely privatise the ownership of spectrum, unfortunately, is not international practice. In ICT terminology, however, it has become common to refer to leasehold of spectrum as 'ownership', albeit this a technically-incorrect designation.

There are, however, several examples where countries have moved from a system of government licences to one where spectrum frequencies are traded as assets.

In 1989, a new Radiocommunications Act in New Zealand established a market-centred system for allocating available spectrum. The UK also allows licences to move between operators, treating the licence more as a tradable right. Guatemala has gone the furthest in granting private property rights to frequency spectrum. In their 2002 telecommunications statute, they conceded in their opening preamble:

> "That, within our legal body, legislation related to telecommunications and radio communications has not allowed an efficient use and allocation of the radio electrical spectrum."

Their comment, in addressing this, states:

> "That it is necessary to create a new regulatory framework which contains general application norms, which gives an agile procedure to allow an efficient use of the radio electrical spectrum and which helps to avoid any type of discretional use and allocation."

They moved from a framework of licences into a system of tradable, permanent rights with the following simple clause in their telecommunications statute:

> "Article 54. Usufruct Title. The use of the regulated frequency bands will be granted by the Superintendency through titles that represent usufruct rights."

Various policy experiments around the world are looking at different ways to move spectrum assets into the private sector in an equitable way, but what is clear is the opportunity for government to derive a truly 'free lunch.' There are estimates that a 1Mhz frequency over the United States of America (US) is now worth as much as $1 billion. With over 3000 Mhz of prime US spectrum property possible, this puts the total value at $3 trillion, more valuable than all the gold and silver ever dug out of the Earth.

9.5 Auctioning of spectrum rights

From the above examples, it is evident that owning a spectrum right above a given territory is a valuable asset. The South African government could raise significant money from the sale of certain frequencies, most notably those used in commercial applications such as cell phones, television and radio. The large amount of money raised from such an exercise could be channelled back into the general fiscus for assisting in other prioritised areas, or to the Universal Service Fund (set up in the Telecommunications Act of 1996) to assist with specific ICT policy issues.

The incumbents with their current allocation of frequencies for cell phone or radio broadcasts should argue the case for a simple conversion of their licence to one granting them permanent, tradable rights. Other routes include having all frequencies entered into an auction pot with incumbent licensees retaining the right to hold on to their current frequencies. Should they enter their frequencies into the auction and acceptable bids are made, then current licensees would receive the full bid payment. After this 'big bang' auction, all frequencies would be traded with no restrictions on use or sale.

For the auction system to have any consequential significance, spectrum should be auctioned only on fixed-term contracts for periods long enough to reward investment. This can be determined by looking around the world at countries, such as Iceland, where the auction-long term lease system has been implemented, and how the industry reacted. The period of the lease should allow for the holder of the lease, the so-called 'owner', to make substantial investments in spectrum, for instance, by building towers and thus developing spectrum capacity. This is estimated to be a period of between 15 to 25 years, but could be longer. The period must be long enough to encourage investment and reward investors.

The rationale for the auction system is simple: The successful buyer is the one who is, evidentially, the most willing to invest and believes they will make a profit. In other words, they believe they will be efficient and are able to finance that belief with funds previously accumulated through other business. It is crucial, however, that even auctioned spectrum must be tradable (in other words, the lease must be tradable) by the successful bidders and any consequent holders. This ensures that the spectrum will always gravitate toward the firms where it will be made the most efficient use of.

10. Wireless Open Access Network

The White Paper proposed the establishment of a Wireless Open Access Network (WOAN) which "will be a public-private sector-owned and managed consortium" responsible for the allocation of radio frequency spectrum.[61] According to the White Paper, the WOAN will control the physical ICT infrastructure as well as the spectrum, and allocate it. The Amendment Bill proposes to insert a chapter 3A into the ECA to implement the WOAN.

Prior to the WOAN being implemented, South Africa's four major vertically integrated telecommunications operators were empowered to make their own spectrum deals. Spectrum was allocated to them on a contract of lease basis, which they could, in effect, do with as they please.

Crucially, the White Paper states that it is committed to the "voluntary participation by interested stakeholders". The veracity of this stated policy is in doubt, as radio frequency spectrum is not always an optional asset in the ICT industry. Indeed, stakeholders will have no choice, if they wish to be competitive, but to "voluntarily" participate in the WOAN, whether they truly want to or not.

It is unfortunate that the DTPS has chosen to take a monopolistic route in an industry which cannot effectively function in the presence of a monopoly. While the WOAN will not be a retail provider, i.e. it will not engage with customers, it will centralise the control of radio frequency spectrum and have the discretion to revoke spectrum use based on the government's policy criteria.

11. Socio-Economic Impact Assessments

11.1 Overview

The most important tenet of the Rule of Law is its prohibition on arbitrariness. Arbitrariness is not only a symptom of unfair and bad governance, but is also harmful to the economy as it leads to uncertainty and means people and businesses cannot plan their affairs ahead of time.

The opposite of arbitrariness is reasonableness. Reasonableness consists of two elements, namely, rationality and proportionality. Proportionality means that there must not be an imbalance between the adverse consequences of a policy and the beneficial consequences.[62] Rationality means that evidence must support the policy. Stated differently, there must be a rational connection between the purpose of the policy and the solutions proposed.[63] It has also been said that a third element, effectiveness, is a part of reasonableness.

It stands to reason that the requirement of rationality, read together with section 195(1)(g) of the Constitution, which states the principles according to which the public administration must function, provides that transparency "must be fostered by providing the public with timely, accessible and accurate information", necessitates that policy or legislative interventions must be supported by demonstrable evidence.

To determine whether a policy will have the consequence intended by the enacting authority, a study must be done as a matter of course, and must be publicly available to satisfy the principle of transparency. If a study is not conducted, it means the intervention is not supported by evidence, and

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61 DTPS (footnote 2 above) 71.

62 Hoexter (footnote 56 above) 344.

63 Hoexter (footnote 56 above) 340.

is therefore irrational and unconstitutional. If a study is not released to the public, government is failing to comply with section 195(1)(g), and thus, the process is unconstitutional. These studies are known as socio-economic impact assessments (SEIAs).

Without published SEIAs, government is called upon to *judge for itself* whether its *own* policies are reasonable, and this state of affairs would make the Rule of Law a redundant concept.

Thus, for the people to have a say in the decisions that affect their lives, they must know how the decision was arrived at, and on what basis, and their participation must be meaningful (in other words, government must engage in good faith) and not merely a façade. Without a SEIA, the public cannot participate in the policy-making and law-making process as mandated by the Constitution.

In *Principles of Good Law*, the Good Law Project writes:[64]

> "Although widely divergent, all the international assessment models amount ultimately to institutionalised procedures for determining the need for a law and its expected benefits. They are also concerned with the cost to government of implementation, as well as the capacity of government to police and enforce the law and the cost to the public of compliance. Other aspects considered are the economic and other likely impacts, the prospect of unexpected or unintended consequences; and the behaviour modifications likely to be promoted by the law and distortions that might flow from them."

It goes on to describe what a SEIA would encompass:[65]

> "2. Socio Economic Impact Assessment (SEIA). Multi-faceted analysis *and quantification* of:
>
> 2.1 The purposes of laws – precisely what "mischief" they are addressing;
>
> 2.2 Desired consequences;
>
> 2.3 Estimated secondary and unintended effects, including impacts on the economy or society in general;
>
> 2.4 Feasibility and efficacy – prospects in practice of the law being observed, and if not, enforced by officialdom, police and the courts;
>
> 2.5 Costs and benefits – accurate and comprehensive estimates of costs of administration and implementation, enforcement and policing, compliance and avoidance/evasion/resistance;
>
> 2.6 Inter-departmental considerations – the extent to which other departments are implicated;
>
> 2.7 Administration and budget – advance provision for all budgetary, staffing, training and related needs; diversion or dilution of resources and capacity."

The Department of Planning, Monitoring and Evaluations' (DPME) SEIA System (SEIAS) guidelines describe the purpose of SEIA as follows:[66]

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64 Good Law Project (footnote 15 above) 34.

65 Good Law Project (footnote 15 above) 35.

66 Department of Planning, Monitoring and Evaluation. "Socio-Economic Impact Assessment System (SEIAS): Guidelines." (2015). 4.

"3. The role of SEIAS

SEIAS aims:

- To minimise unintended consequences from policy initiatives, regulations and legislation, including unnecessary costs from implementation and compliance as well as from unanticipated outcomes.
- To anticipate implementation risks and encourage measures to mitigate them."

The DPME regards a SEIA as more than a mere cost-benefit analysis. SEIAs, instead, must contribute to improving policy rather than measuring their net value. It must, furthermore, "help decision makers to understand and balance" the impact of policy on different groups within society.[67]

That regulations or legislation can lead to unintended consequences is acknowledged by government. It may happen as a result of inefficiency, excessive compliance costs, overestimation of the benefits associated with the regulation, or an underestimation of the risks involved with following through with the regulation.[68]

The SEIA System applies to legislation and regulations, as well as policy proposals.[69]

The FMF has raised various concerns about the DTPS' good faith public consultation as regards the White Paper. It is doubtful whether the rules and principles of public participation have been adhered to. Government alleges that its conduct accorded with these principles and that it conducted a SEIA on time – the FMF and various industry stakeholders believe it did not.

The Green Paper was published in January 2014, the Policy Discussion Paper was published in November 2014, and the Policy Review Report in March 2015. Between the publication of the Policy Review and the White Paper, however, "three critical policies were inserted into the final WP and no public or industry consultation that insiders are aware of" took place. These three policies are that of the WOAN, that access must be offered at "cost-based" pricing, and that government might take back radio frequency spectrum which it had already allocated to operators who had invested heavily in spectrum infrastructure.

On 12 October 2016, the Shadow Minister of Telecommunications and Postal Services, Marian Shinn, "lodged an application for the impact assessment or any other documentation that informed the planned establishment of this network as set out in the [White Paper] gazetted on [3 October]. There has been no response from DTPS which means, in terms of the [Promotion of Access to Information Act], that as 30 days have passed since it was lodged, the application has been denied".[70]

On 25 January 2017, Leon Louw, Executive Director of the Free Market Foundation, said that the White Paper is unconstitutional, in part because "no socioeconomic impact assessment – a requirement of

67 DPME (footnote 66 above) 7.

68 DPME (footnote 66 above) 4.

69 DPME (footnote 66 above) 8.

70 Democratic Alliance. "Cwele ducks accountability on radical network." Available online: https://www.da.org.za/2016/12/cwele-ducks-accountability-radical-network/. Accessed: 2 March 2017.

cabinet – was done". Louw went on to say, "There must be public participation, which must inform policy". However, the aforementioned three policies were apparently never subject to consultation.[71]

On 28 February 2017, the Department of Telecommunications and Postal Services denied[72] the allegations that no proper consultation took place. "[The Minister] has held five engagements with role players in [the] ICT sector on the implementation of the policy since the cabinet approved it back in September 2016," wrote departmental spokesperson, Siya Qoza. Qoza who went on to allege that a SEIA was, in fact, conducted in line with the DPME directive. "The SEIAS report on the ICT white paper," writes Qoza, "[…] is available on the department's website, was approved by the [DPME] and accordingly submitted with the policy document before it was approved by cabinet."

11.2 Has there been adequate public participation?

The DTPS claims that there has been thorough public consultation and participation in the formulation of the White Paper, from its inception in the Green Paper.

While the FMF does not dispute that there was participation in drawing up the Green Paper, the Discussion Paper, and the Review Report, there are serious concerns about the White Paper. As already mentioned – and confirmed by industry stakeholders – there was no public participation on the WOAN, cost-based pricing, or the expropriation (or non-renewal) of radio frequency spectrum, which are items the industry became aware of only after the policy was said to be final.

11.3 Has the SEIA been available to the public?

The DTPS implicitly alleges that its SEIA report has been widely available on its website. The SEIA report itself says it was done on 26 February 2016, whereas the White Paper was published sometime between September and October 2016. According to the Internet Archive Wayback Machine, no SEIA report was published as of 14 June 2016.[73] The DTPS website states in an information box that the document was uploaded on 12 January 2016. However, almost a month earlier, on 14 December 2016, Minister Cwele was already telling the public that the new ICT policy "is final".[74]

In other words, the DTPS has kept the SEIA confidential for almost a year, and, even before publishing it to the public, declared that the policy is final.

This is certainly inappropriate from a public participation perspective. Neither the public nor the ICT industry was allowed to view and comment on the SEIA until after it was decided that the policy is "final", meaning the SEIA is redundant. Even though the DTPS claims to have consulted the public

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71 McLeod, D. "ICT white paper 'not constitutional'." (2017). *Tech Central.* Available online: https://www.techcentral.co.za/ict-white-paper-unconstitutional/71367/. Accessed: 2 March 2017.

72 Qoza, S. "Louw 'wrong' on ICT white paper: ministry." (2017). *Tech Central.* Available online: https://www.techcentral.co.za/louw-wrong-on-ict-white-paper-ministry/72154/. Accessed: 2 March 2017.

73 Internet Archive Wayback Machine. Available online: http://web.archive.org/web/20160714065817/http://www.dtps.gov.za/documents-publications/policies.html/. Accessed: 6 March 2017.

74 Department of Telecommunications and Postal Services. "Telecommunications and Postal Services on implementation of National ICT Policy White Paper." (2016). *South African Government*. Available online: http://www.gov.za/speeches/national-ict-policy-white-paper-14-dec-2016-0000/. Accessed: 6 March 2017.

thoroughly on the White Paper, the SEIA was not revealed during any of the public engagements that took place after the policy was declared final.

Section 32(1)(a) of the Constitution, as well as the provisions of the Promotion of Access to Information Act, is clear – anyone has the right to access to any information held by the State. The DTPS' refusal to publish the SEIA during the period of its alleged completion, February 2016, and December 2016, when the policy was declared final, is a violation of government's constitutional obligation to maintain transparency.

11.4 Is the SEIA sufficient?

The SEIA conducted by the DTPS[75] will be briefly considered in light of the principles discussed above.

As mentioned above, the three most-contentious elements of the White Paper – which were arguably not subject to appropriate public or stakeholder consultation – are the introduction of a WOAN, cost-based pricing, and government's intention to potentially take back spectrum at its discretion for use by the WOAN. The WOAN is a proposed addition not supported by evidence,[76] which makes its appearance in the artificial SEIA a cause for greater concern.

At no point does the SEIA acknowledge the risks that the FMF, in association with organisations such as Africa Analysis, have identified. Superficial 'risks' and 'concerns' from the industry are honed in on, with the SEIA claiming that there will be 'mitigation' of those risks. For instance, the controversial 'taking back' of spectrum is not mentioned, the apparent WOAN monopoly is not mentioned, and cost-based pricing is not mentioned. These, the FMF understands from the industry, are the biggest concerns.

The SEIA mentions that current exclusive right holders of radio frequency spectrum will lose their exclusive use rights. The DTPS does not acknowledge one basic element, i.e. that consumers will lose if investment in the ICT industry decreases as a direct result of the uncertainty created surrounding spectrum allocation.[77] In the table where the SEIA is supposed to weigh up the benefits *as well as the costs* for different stakeholders, which includes the ICT sector, small and medium enterprises, and consumers, only the benefits are listed.[78]

The SEIA, therefore, is inadequate. It was prepared by the same department that intends to introduce the policy under examination, and, therefore, predictably, its findings are in favour of the policy and its presumed benefits, and rather non-committal on potential and likely costs. The DPME guidelines allow proposing departments to conduct their own SEIAs, but it follows logically that a degree of impartiality and objectivity should guide the individuals within a department who are involved in conducting the study.

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75 Department of Planning, Monitoring and Evaluation. "Socio-Economic Impact Assessment System (SEIAS) for the Draft National Integrated ICT Policy White Paper." (2016). Available online: https://www.dtps.gov.za/index.php?option=com_phocadownload&view=category&id=3&Itemid=133/. Accessed: 3 March 2017.

76 Free Market Foundation. "Media Release: We cannot afford to experiment with our future." (2017). Available online: http://www.freemarketfoundation.com/Article-View/media-release-we-cannot-afford-to-experiment-with-our-future/. Accessed: 7 March 2017.

77 DPME (footnote 75 above) 5.

78 DPME (footnote 75 above) 32.

12. Conclusion

Public institutions are the slowest to respond to change. Those that exert a heavy hand on their industry are responsible for slowing the delivery of information to the people, and the poorest are hit the hardest. Delays caused by excessive political haggling, regulation, bureaucracy and licensing impose higher prices and lower service levels on communities willing and able to buy reasonably priced communication products.

In respect of our coverage, South Africa has a great success story to tell, especially in light of our geography and demography. It would be irresponsible for government to bring about substantial change in an industry that can be proud of coverage statistics that are unrivalled anywhere else in Africa. We have the correct formula to tweak to ensure isolated rural communities are also covered (for instance, satellite coverage might prove cheaper), but we should not throw away the entire formula.

Empirical evidence of liberalisation in the telecommunications industries around the world has shown that when competition is introduced, prices of services fall sharply, the quality of the infrastructure rises, and customer service becomes a priority. Any restriction on access to markets, to assist a company while prescribed obligations are met, results in higher prices elsewhere in the economy as one group of customers subsidises another. While arguing that redistributing from Peter to Paul is socially equitable, cross-subsidising markets makes South Africa, as a whole, the loser. The better solution is an openly competitive market where prices for all users are lower.

South Africa's information and communication technologies journey, so far, is a success story. The country is a notable player in the ICT industry and has the potential to leapfrog the industrial development undertaken by developed nations. In order to do that, we need to remove all the legislation and policy that prohibits businesses from experimenting with products and services in a competitive market. This includes flawed proposed legislation like the Electronic Communications Amendment Bill.

With around 98% broadband coverage for South African households and more than one mobile phone per person in the country, the destitute have been empowered in a way not possible at any other time throughout history. We stand to roll back this success story, however, if we submit ourselves to overregulation.

While not perfect, the current legal regime governing ICT in South Africa, has been more than adequate and has allowed ISPs, very recently, to start rolling out high-speed fibre Internet connections. Under the White Paper's proposed regime, ICT firms will not be able to innovate because they will be dependent upon government and its policy goals.

Policy-makers need to understand how the information economy works and set their priorities accordingly. The days of heavy-handed legislation and regulation are over. They are no longer acceptable in a globally connected world. South Africa can choose to opt out of this exciting process, but then it foregoes all the benefits of belonging to the global market.

Central planning has been rejected by human experience, with over 200 million people having died in the last century because bureaucrats and politicians believed they knew better than the market. While nobody likely will die as a result of the ICT policy, it does have the potential to further retard South Africa's economic growth by making it a less appealing destination for investment. An open environment, on the other hand, will encourage entrepreneurs to set about building infrastructure critical to South Africa's development.

Relaxation of control is going to be difficult for a government accustomed to heavy political intervention. However, the state should have confidence in the talents of free people to generate large amounts of new wealth for which government-run industries rarely show much ability. This country's road to prosperity will be determined by economic growth, and to achieve that growth, South Africa will require an open communications market.

Case studies

Attached to the FMF's submission are case studies conducted on the four countries (Kenya, Mexico, Russia, Rwanda) which have attempted to introduce wireless open-access networks (WOANs) similar to what is proposed in the Electronic Communications Amendment Bill. The WOAN model has not proven successful in any one of them, being mired in the kind of controversy that could only be produced by the fact that governments do not have the same incentives as private providers. With these case studies in mind, it remains clear that a WOAN will not be beneficial to South Africa; instead, the market must be left alone to expand – as it has done exemplarily over the last years – South Africa's telecommunications infrastructure.

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CASE STUDY Kenya

The Kenyan government had launched an initiative to roll out a wireless network that would have functioned as a single national open access LTE[1] network.

The network would be funded and used by a single "consortium," that would include the main telecommunication operators. The ownership structure would be based on a public and private partnership (PPP), where the government and telecommunication operators would own stakes equivalent to the capital they would invest in this joint venture.

The government planned to issue an invitation to tender for a new company to build and operate the wholesale network, as opposed to auctioning the spectrum and awarding mobile licences to individual operators.[2]

Kenya's national broadband policy contained details of the wholesale open-access wireless broadband network to be built via this public-and-private-partnership approach. The arguments for the proposal suggested that it would avoid duplication of infrastructure and would use spectrum efficiently. The Government and private partners would build, own and operate the networks which would offer wholesale capacity to new and existing service providers.

It was suggested that the network might use 700 and 800 MHz spectrum bands.

The proposed objectives of the policy were countrywide broadband connectivity, high quality, affordable services throughout the country, economic growth as a result of increased penetration and improved "general social well-being."

Reports suggested that, from 2011, the Government had been proposing a 'fast track' rollout of 4G LTE, implemented through the public-private partnership framework. Under this framework, the Government would provide spectrum frequencies whilst mobile network operators would provide the capital investment. The LTE consortium would cover 98 percent of the country.

There were however difficulties with cooperation of the mobile providers.

In 2012, reports suggested that Kenya's largest operator Safaricom objected to the decision to roll out the network in the 2.6 GHz band. Safaricom felt that starting with the 700 MHz band would have been more efficient. This suggested that agreement between the Government and multiple providers had not been smooth.

In 2013 Safaricom pulled out of the deal, suggesting that it was taking too long.

Subsequent reports confirmed that the Government was still committed to going ahead with the LTE roll out, with more details to be released.[3]

By 2014 observers noted that Uganda and Tanzania had newly-established 4G LTE networks,[4] yet Kenya still had only 3G networks.

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1 "Long Term Evolution." LTE is a 4G wireless communications standard developed by the 3rd Generation Partnership Project (3GPP) designed to provide up to 10x the speeds of 3G networks for mobile devices. *https://www.webopedia.com/TERM/4/4G_LTE.html* .

2 OECD Digital Economy Papers, No. 218, 4 Mar 2013. "Broadband Networks and Open Access: The evolving role of satellite networks in rural and remote broadband access," p 32. A. Diaz-Pines, K. Ido.

3 Frontier Economics Ltd, London. Sep 2014. Assessing the case for Single Wholesale Networks in mobile communications. A report prepared for the GSMA. Annex 2. Summary of existing SWN proposals. Kenya, pp 140–141.

4 As had Nigeria and Ghana.

GSMA's sub-Saharan Africa spectrum and public policy director Mortimer Hope said that this was due to a number of factors: Kenyan IT policy was unusually consultative and getting feedback from all relevant stakeholders took time. Another factor was that, with so many mobile subscribers and pressure on spectrum, making enough spectrum available for operators planning to build an LTE network had not been easy.

Kenyan private operators had become impatient with the consultative process for the government's proposed wholesale open-access network (WOAN). Safaricom had pulled out of talks in order to build its own LTE network, because the public project's glacial pace was holding it back. Safaricom's CEO Bob Collymore told shareholders that Safaricom had successfully tested LTE after its acquisition of yuMobile and the spectrum that came with it, and planned to launch 4G services in the next financial year.

The telecoms authority insisted that its WOAN was on track despite Safaricom's departure, and would result cheaper internet for operators and end-users. "Some companies want to have their own infrastructure, but they stand to reap more from shared access in terms of their capex," the authority's project manager Andrew Lewela told reporters in January 2014. "We prefer a market approach in having them invest in shared infrastructure."

Hope said that single networks' main problem was that they operate as monopolies and were thus less motivated to stay on the cutting edge. "There isn't the incentive for them to invest and upgrade technology as quickly as a private enterprise would. So as with all monopolies they would keep their prices high and their service levels would usually be quite bad." This lack of technological agility, combined with political squabbles about who would benefit first from network rollout, was bound to make such a project cumbersome and slow. This would not inspire confidence in investors, so raising new capital will be difficult when the government eventually finds its WOAN too costly to maintain.

That wasn't to say that governments shouldn't be addressing poor network coverage in hard-to-reach areas, said Hope. Public funds could be used to encourage private operators to expand their services into less profitable parts of the country. Existing operators could bid for subsidies on condition that the network built would need to be open-access.

Instead, Kenya's planned WOAN would be competing with Safaricom's network. If public contracts are channelled toward the government-run network, as was possible, the country's ICT Authority could end up defending itself in court on charges of anti-competitive practices. That was not a battle the government would necessarily win, said Hope.

Despite the rocky road ahead, Kenya's WOAN would most likely be rolled out within the next few years. But its long-term viability was questionable," Hope said. The world had moved away from monopolies, and it was a step backward to implement one now.[5]

The WOAN idea was described in 2015 as seeming to be "dead in the water" in Kenya, given that the dominant operator Safaricom (40 percent owned by Vodafone, which has management responsibility) had negotiated an arrangement so that in effect it was to go its own way to exploit the digital dividend band and would not be part of the PPP (public private partnership) envisaged to operate an eventual WOAN.

[5] ZDNet, 9 Oct 2014. "Stuck in the slow lane: Why Kenya's public 4G network isn't up to speed. Many of its African neighbours already have LTE networks—so what's the hold up in Kenya?" Hilary Heuler.

In the absence of Safaricom's participation, it was hard to see how an WOAN in Kenya could attract enough traffic to be economically viable. Hence the possibility of a viable OAWN in Kenya had been overtaken by events, so it was said.[6]

The WOAN push in Kenya stalled due to a complicated negotiation process with a number of stakeholders, and that those struggles highlighted how complicated the WOAN model was.

Originally, a network had been proposed through a public-private partnership in order to 'fast track' rollout of LTE services. Under this framework the government would have provided spectrum and private companies would have rolled out and operated the wholesale network. The initial plans had suggested that an LTE consortium should cover 98 percent of the population.

That never happened. Although no official announcement was made, the plan seemed to have since been abandoned. This was evidenced both by the lack of mention of the network in recently published draft ICT policy and framework documents, and by the recent assignment of 800MHz spectrum to existing mobile operators who had since commenced the deployment of broadband services using the spectrum.[7]

In December 2016, it was observed that Kenya had abandoned its WOAN plans.[8]

The 2016 communications regulations[9] had further sought to restrict the deployment of passive infrastructure unless there was no feasible option of co-location or where there was no option of infrastructure sharing with an existing infrastructure provider.

In terms of the model, providers seeking to venture into frontier markets in the country would have had to invest jointly in laying infrastructure such as telecommunication masts, ducts and physical sites, among other things.

However, this had also appeared to have fallen through.[10]

Also in 2016, the Communications Authority (CA), arguing that sharing of facilities would eliminate duplication, had published guidelines that would have seen telcos compelled to share up to 30 per cent of new ICT infrastructure.[11]

It has however not been determined whether the CA will continue pursuing those guidelines.[12]

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6 *BMI-T Technowledge White Paper*, Oct 2015. "Can open access wholesale-only wireless networks be viable?" Dr Martyn Roetter.
(And see TechCentral, 15 Oct 2015. "Open-access wireless network: be careful, SA." Martyn Roetter.

7 GSMA. Aug 2017. Wholesale Open Access Networks: "Kenya: The push seems to have been abandoned."

8 ITWeb, Dec 2016. "Cwele in Mexico to talk Internet governance."

9 Kenya Information and Communications Regulations 2016.

10 *Daily Nation*, 14 Aug 2017. "Telco infrastructure sharing not feasible, says association." B Ngugi.

11 *Daily Nation*, 14 Aug 2017. "Telco infrastructure sharing not feasible, says association." B Ngugi.

12 Techwheez, 15 Aug 2017, Kenn Abuya. "GSM Association Discredits Sharing of Telecoms Infrastructure, Cites Feasibility Issues"

CASE STUDY Mexico

The Government in Mexico made constitutional changes to try to foster competition in the telecommunications and broadcasting markets. As part of this, they proposed the deployment of a shared public network for broadband access and mobile telecommunication services. The construction of this single wholesale network (SWN) was intended to begin before the end of 2014 and the network was intended to be operational by 2018.

The SWN would rely on 90 MHz of the 700 MHz band. The regulatory reform bill stated that it would consider both public and private investment. In either case, providers of telecommunication services would not be allowed to own a share or influence the operation of the shared network. The SWN would have access to the CFE[1]'s fibre backbone network, as well as any other Government-owned utilities that were required for the purposes of installing and operating the SWN.

The SWN would provide only wholesale services in unbundled form. If an existing operator were to buy wholesale services from the SWN, that operator would only be allowed to resell these services to third parties under the same conditions it enjoyed from the SWN.

The network would be operated with nondiscriminatory access and competitive pricing.[2] The exception to this was the preponderant player, who would only gain access to the shared network with prior approval of the IFT,[3] who would also determine the terms and conditions of any such agreement. It appeared from interviews that there would be an obligation imposed on the SWN to reach 98% of population coverage. A Cofetel study[4] suggested that this could be achieved with around 8,200 cell sites.

It was understood that the main rationale for introducing an SWN in Mexico was to promote competition and increase investment. The Congressional declaration of purpose of the Constitutional changes in June 2013 stated the necessity of making the Mexican telecommunications sector more competitive. It mentioned the construction of the SWN as one of the measures to achieve this objective. According to interviews with the regulatory stakeholders, there was also a concern that continuing with the status quo would not provide Mexicans with universal connectivity, as envisaged in the constitutional reform.

It was forecast that the demand for 4G services would increase substantially in the future, and the concern of public authorities was that, without more investment, there would soon be a "capacity crunch." The authorities believed that the SWN was a reliable way to provide the much-needed 4G capacity.

The creation of the SWN (which would exist alongside private networks) would also kick-start a wholesale market, The SWN was expected to decrease the risks and costs for new operators to enter the market. As a result, there would be a dramatic increase in the

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1 Comisión Federal de Electricidad.

2 What is meant by competitive pricing is not explained fully, although the provisional article 16 of the constitutional reform states "It will work to ensure that the pricing policy of the shared network boosts competition and ensures reinvestment of profits for the modernisation, growth and universal coverage."

3 Instituto Federal de Telecomunicaciones.

4 The Federal Commission of Telecommunications (former regulator prior to the setting up of the IFT) published a report with the title "Opciones regulatorias para el uso óptimo de la banda de 700 MHz en México" in May 2013.

number of MVNOs,[5] which in turn would make the Mexican retail market more competitive and lead to lower prices for consumers.

The decision was based on the Cofetel study, which estimated significant benefits in terms of GDP, consumer surplus and fiscal surplus from the construction and implementation of a single wholesale network. The study suggested that the wholesale model would allow more efficient access to rural areas, as a single network would achieve lower costs.

Wholesale operators would be able to reduce their costs and pass this on to consumers and act as low-cost platforms to new participants. The study valued this impact as having a 12 to 16 percent reduction in retail prices in the Mexican market.[6]

Mexico announced its intention to allocate 700 MHz spectrum to the SWN, for launch in 2018.[7]

The proposed open-access, wholesale-only wireless network (OAWN) was one element in the government's basic reform of the country's telecommunications sector to introduce more competition[8] into a market that has been dominated by one operator (America Movil) in both the fixed and mobile segments. As a result of this quasi-monopoly, Mexico has suffered from high prices and poor service for many years even by comparison with countries at comparable levels of economic and social development, let alone world leaders.[9]

Mexico intended to launch a public competition in 2016 for a licence for 90 MHz of frequencies in the 700 MHz band,[10] in which the network was to be deployed. The regulator Ifetel[11] and the Ministry SCT were steps, which still had to be finally established, to maximise the chances of success, including:

- The competition would be as open as possible to attract interest and investment from as wide a variety of sources as possible:
  - It was open to 100% foreign ownership, with the requirement that a domestic Mexican company be established;
  - Existing Mexican operators could participate if they showed that they would not have a significant influence over its operation.
- Some OAWN's capacity would be reserved for MVNOs to stimulate retail competition.
- The costs of the spectrum to the winner of the competition would be reduced well below what was customary in Mexico, recognising that the ultimate goal and value of the venture would be to provide affordable broadband to as many users as possible with as wide a geographic coverage as possible.

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5 Mobile virtual network operators.

6 Frontier Economics Ltd, London. Sep 2014. "Assessing the case for Single Wholesale Networks in mobile communications. A report prepared for the GSMA," Annex 2: Summary of existing SWN proposals: Mexico, pp 137–139.

7 Webb Henderson, 7 Sep 2015. "Rural solution options for governments in emerging markets to increase broadband coverage in unserved and underserved rural areas." Malcolm Webb.

8 Secretaria de Comunicaciones y Transportes.

9 TechCentral, 15 Oct 2015. "Open-access wireless network: be careful, SA." Dr. Martyn Roetter.

10 Using the Asian band plan not the less efficient US one.

11 The IFT (Instituto Federal de Telecomunicaciones).

- The OAWN would have wholesale access to the national fibre-optic network of the state-owned electric utility (CFE[12]). That network would be transferred to Telecomm[13] (an autonomous state-owned agency responsible for supplying communications and financial services throughout the country). Telecomm would provide wholesale services to the OAWN, as well as to other customers including CFE to support its electricity generation, transmission and distribution activities.
- A new agency would be established, to run the competition to operate the OAWN, establish the PPP contract with the winner, and then monitor and enforce fulfilment of the contract, which would endure for 20 years with provision for renewal. The agency would have a governing board of four government appointees and three independent directors.

The decision to reduce substantially the spectrum costs incurred by the OAWN operator was a rejection of the common idea (notably in national treasuries trying to reduce next year's national budget shortfall) that the main goal of an auction was to maximise its revenues.

(The consequence of such a goal was that the financial resources of the auction winner may be so depleted as to hobble its ability to deploy networks as rapidly or widely as would be desirable, thereby reducing its positive economic impact in future years, most likely by a greater amount than the one-time boost from maximised auction revenues.)

Mexico's specific way of reducing spectrum costs for the OAWN operator was based on the unusual structure of the spectrum fees it charges. The winner of a spectrum licence in an auction pays an initial fee (the amount of its winning bid), but is then also required to pay annual fees (determined as a function of the frequency-band involved and the zones covered by the licence, but independently of the amount of the winning bid) for the period of the licence, which is typically 20 years. The net present value of these annual fees can exceed substantially the amount of the winning bid to acquire the licence.

The proposal was to reduce specifically the amounts of the OAWN licensee's annual fees by up to 90 percent.

The role and power of Ifetel were said to be critical for the programme of launching an OAWN in Mexico.[14] Ifetel is an autonomous agency created in 2013 that is independent from the executive and legislative branches.

Ifetel's controlling body is appointed through a three-step process designed to be more stringent than the criteria for appointing Supreme Court justices.[15] Candidate selection involves an open, competitive process that is subject to a technical-evaluations committee, which, together with higher education institutions, submits to the president three to five candidates, from whom one is proposed to the Senate for confirmation.

Ifetel was established to make the sectors of the economy which it regulates more competitive and effective. It is roughly equivalent to[16] the Federal Communications Commission (FCC) in the U.S. Ifetel is responsible for regulating, promoting, supervising and overseeing competition in the telecommunications and broadcasting sectors.

Ifetel also has powers in these sectors similar to the Antitrust Division of the U.S. Department of Justice, including the power to order divestitures to correct anti-competitive

[12] Comisión Federal de Electricidad.

[13] Telecomunicaciones de México.

[14] Ifetel is said to operate under a very different set of circumstances from those applying to Icasa in South Africa.

[15] Which involves only the Executive and the Senate.

[16] But in some respects more powerful than.

circumstances. Thus Ifetel plays a complex dual role as regulator and competition authority.[17]

Ifetel includes among its key staff persons with considerable international experience and contacts in professional technology and engineering communities and other expertise.

A commentator noted in 2015 that there could be no guarantee that the OAWN initiative would come to fruition or would prove to be viable or successful if implemented. Apart from any other stumbling block, the goals of an OAWN can be frustrated if it falls victim to corruption or to incompetence in its leadership and governance, or is plagued by political interference driven by short-term or selfish motivations and interests.[18]

The final Mexican request for proposals ("RfP")was published in late January 2016. Public consultations were foreseen for the period from 26 February until 18 March. The bidders were requested to apply for the Anti-Trust opinion at the IFT on 3 May.

Even though the SCT promoted the project at different events and during dedicated roadshows in the US, Europe and Asia, only a limited number of consortia was interested. Of the original 21 qualified bidders, most struggled with the business case.

The final bids were due by 8 August. The selection of the winning bidder was set for end of August.[19]

Multiple delays forced the regulator to lower its ambitions on funding. The roll-out was intended to begin in 2014.[20] In May 2015, the government announced that the investment target had been reduced from $10 billion to $7 billion.[21]

In November 2016 it was announced that the successful bidder was the Altán Redes multinational consortium.

Its promised population coverage of 92.2 percent by the seventh year will exceed the 85 percent minimum stipulated in the request for proposals.[22] The network must begin commercial operations by March 2018. At launch it will cover 30 percent of the population.

The only other bidder was disqualified for allegedly failing to provide necessary financial guarantees.[23]

In March 2017 Nokia announced that Altán Redes had awarded it a turnkey contract to design, build and operate the network.[24]

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[17] Ifetel's authority is described as much more extensive than that of Icasa in South Africa.

[18] "Can open access wholesale-only wireless networks be viable?" *BMI-T Technowledge White Paper*. Dr Martyn Roetter, Oct 2015.

[19] Detecon Consulting, March 2016. "Open Access with a Mobile Wholesale NetCo: Red Compartida in Mexico." A Heuermann, U Eberhard.

[20] And be operational by 2018.

[21] GSMA. Jul 2017. Wholesale Open Access Networks. Mexico: The roll-out has been delayed several times.

[22] *Financial Times*, 18 Nov 2016. "Mexico selects winning tender for national wholesale mobile network."

[23] *The Register*, 2 Feb 2017. "MNOs will lose 5G rewards to new entrants if they will not share networks. Even in rural Australia, sharing is resisted."

[24] Nokia Oyj, press release, 30 Mar 2017: "Nokia selected by ALTÁN Redes to build and manage nationwide LTE wholesale network in Mexico."

CASE STUDY Russia

The Ministry of Communications decided to withdraw previously-allocated spectrum from telecommunications companies, and transfer them to a state-affiliated company for a new national Long Term Evolution (LTE) network. The network would include frequencies in the 700 and 800 MHz bands. The Ministry said it would invest in rolling out 30,000 base stations and the state-owned network would be available to all operators at government-regulated tariffs.

This change was prompted by concerns that operators had taken a "formalistic" approach to rolling out new LTE infrastructure, by concentrating only on the most profitable areas. Over the first year since the auction, operators had built fewer than 1,000 base stations, which was far less than the proposed 30,000 the Ministry proposed to roll out through the new national LTE network.

The Ministry had been concerned that the companies who had won the spectrum auction had been focusing on coverage in larger cities, resulting in multiple overlaps, and without regard for the quality of service. The Ministry believed that spectrum has not been distributed efficiently.[1]

Mobile operator Yota (WiMAX operator Scartel, in which the state held an interest[2]) was allocated 40 MHz of spectrum in the 2.6 GHz band, and given the first licence to offer LTE services, with conditions that wholesale access had to be provided to other mobile operators.[3]

Thus in March 2010, Scartel (under the Yota brand) reached an agreement with four mobile operators in the country, to roll out one single wholesale LTE network that would be utilised by the four operators on a wholesale basis.

By 2014, the network was expected to cover 180 cities with more than 70 million inhabitants.

The four operators also had the option of a future stake of 20 percent in Yota.

The agreement indicated an arrangement for the separation of network ownership and service provision. The stated aims were to avoid the cost of duplication of infrastructure investment, and to provide users with faster mobile access at lower prices.[4]

Yota received regulatory approval from the telecoms regulator[5] to abandon WiMAX for LTE in July 2010.

Yota had previously trialled its emergent LTE network in Novosibirsk in December 2011, but had been expected to postpone the Moscow launch until September 2012 after

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1 Frontier Economics. Sep 2014. "Assessing the case for Single Wholesale Networks in mobile communications. A report prepared for the GSMA." Annex 2: Summary of existing SWN proposals. Russia, pp 141–142.

2 Government-owned industrial giant Russian Technologies held a 25-percent-plus-one-share blocking stake in Yota. See PRI (Public Radio International), 1 Mar 2011, "Yota, a new kind of Russian company," Miriam Elder.

3 GSMA. "Wholesale Open Access Networks" (July 2017). "Russia: The initiative failed as carriers couldn't reach an agreement."

4 OECD Digital Economy Papers, No. 218, 4 Mar 2013. "Broadband Networks and Open Access: The evolving role of satellite networks in rural and remote broadband access," p 32. A. Diaz-Pines, K. Ido.

5 Roskomnadzor.

struggling with network upgrades, yet it then appeared that the launch would proceed before that, as planned.

Yota was optimistic. It planned to initiate its new network in Moscow in April 2012. General director Denis Sverdlov said: "There will be no test regime, it will be turned online on the night of 14–15 April. By September 2012 Yota will connect LTE in all of Russia's cities, as required by the government radio frequencies commission."

Mobile giant MegaFon had reportedly confirmed its intention to "piggyback" as a mobile virtual network operator (MVNO) on Yota's network, to launch LTE services in Moscow in the first half of 2012. The reports followed MegaFon's announcement in November 2011 that it had signed an agreement with Yota to utilise each other's network infrastructure as they built out their respective 4G networks.[6]

But this single wholesale wireless network operator model has apparently not yet been implemented in Russia.[7]

Indeed, even Russia is said now to have abandoned its WOAN plans.[8]

The initiative failed because carriers were not able to reach an agreement and went their own way on LTE, after reportedly insisting on choosing their own vendors.

The main issue was that the government allowed Yota to act as both a wholesaler and retailer, thus limiting Yota's incentives to offer wholesale terms attractive to other operators with which it would compete at the retail level.

It also appeared that a revived plan for a SWN, similar to Rwanda's or Mexico's, has been rejected in Russia, following the roll-out of LTE services by the country's mobile operators.[9]

Some supporters of establishing a single wholesale network (SWN) or a wholesale open access network (WOAN) to deliver mobile broadband services claim that these networks will deliver greater coverage than competing mobile networks can.

However (the GSMA[10] point out), government-mandated wholesale networks have been much slower to expand coverage, perform upgrades and to embrace new technologies such as 3G and 4G, and can be expected to prompt less innovation than network competition.

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6 TeleGeography CommsUpdate. 22 Feb 2012. "Yota targets Moscow LTE launch in April; MegaFon to piggyback as MVNO."

7 Webb Henderson, 7 Sep 2015. "Rural solution options for governments in emerging markets to increase broadband coverage in unserved and underserved rural areas." Malcolm Webb.

8 ITWeb, Dec 2016. "Cwele in Mexico to talk Internet governance."

9 GSMA. "Wholesale Open Access Networks" (July 2017). "Russia: The initiative failed as carriers couldn't reach an agreement."

10 The GSM Association (formerly the GSM MoU Association, and formerly Groupe Speciale Mobile (GSM)). (The GSMA describes itself as representing the interests of mobile operators worldwide, uniting nearly 800 operators with more than 300 companies in the broader mobile "ecosystem," including handset and device makers, software companies, equipment providers and internet companies, as well as organisations in adjacent industry sectors: *https://www.gsma.com/aboutus/* .)
Its eight Russian full members include the so-called 'big four' Mobile TeleSystems (MTS), OJSC VimpelCom (Beeline), MegaFon, and Tele2 (former state fixed-line monopoly Rostelecom).
See GSMA *https://www.gsma.com/membership/who-are-our-gsma-members/full-membership/* .
(See also Wikipedia, "Mobile phone industry in Russia.")

This is despite the fact that, in order to be built, the SWN or WOAN require forms of support which are typically not available to competing network operators.[11]

Russia's proposal to introduce a single wholesale network operator has been said to be inapplicable to South Africa:

In Russia, the government or even one individual was able to take and enforce decisions and oblige existing operators to go along, in a top-down autocratic way that was inconceivable in South Africa, given the latter country's legal and other institutions and the influence there of the major operators.[12]

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[11] GSMA. "Wholesale Open Access Networks" (July 2017).

[12] "Can open access wholesale-only wireless networks be viable?" *BMI-T Technowledge White Paper*. Dr Martyn Roetter, Oct 2015.

CASE STUDY Rwanda

The Rwandan government, in a joint venture with the South Korean operator Korea Telecom (KT), has been building a new LTE network, which will be allocated 800 MHz and 1800 MHz spectrum and will be available for access by retail providers of LTE-based services.

KT will control the management of the firm with an exclusive licence for 25 years and the government would provide administrative support.

Under the terms of the contract, KT Corp would invest USD140 million, while the government's 25-year-term equity investment will comprise the provision of access to its national fibre-optic networks and spectrum.

Construction of the network would begin by the end of 2014 and targets for the network included access by 95% of the population by 2017 (with broadband penetration rate of at least 40%) and universal access by 2020.

The rationale for a national wholesale network was that it should enhance broadband coverage and speed. The Government seemed to believe a national network would allow Rwanda to achieve affordability and adoption of broadband by reducing costs to end users and supporting innovative forces that drive increased usage through better content and applications. It was also suggested that a national network promote availability of broadband services especially in the rural and remote areas.

Suk-Chae Lee, former CEO and Chairman of KT, pointed out that developing countries should take advantage of broadband because they were not impeded by legacy industries and suggested that the way to finance this is through a public-private partnership model as they are doing in Rwanda.[1]

A wholesale wireless network operator model has been considered in several countries. However, to date, only been in Rwanda has there been any actual implementation of the model of which one was aware.

Rwanda is a very small country and it is relatively early days in the development and operation of this single network model.[2]

The example of Rwanda in which an OAWN has been launched as a joint venture between the government and a foreign operator, Korea Telecom, has been said to be inapplicable to South Africa.

In Rwanda, government or even one individual is able to take and enforce decisions and oblige existing operators to go along in a top down, autocratic way that was "inconceivable in South Africa" given its legal and other institutions and the influence of major operators.[3]

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1 Frontier Economics Ltd, London. Sep 2014. Assessing the case for Single Wholesale Networks in mobile communications. A report prepared for the GSMA. See par 2.3.1 (p 21), and Annex 2 (Summary of existing SWN proposals) Rwanda, pp 139–140.

2 Webb Henderson, 7 Sep 2015. "Rural solution options for governments in emerging markets to increase broadband coverage in unserved and underserved rural areas." Malcolm Webb.

3 "Can open access wholesale-only wireless networks be viable?" *BMI-T Technowledge White Paper*. Dr Martyn Roetter, Oct 2015.

The joint-venture company, initially named Olleh Rwanda Networks, changed its name to KT Rwanda Networks in 2016.[4]

The low adoption of the 4G LTE high speed network in Rwanda has persuaded KT Rwanda Networks to look outside the borders of the country.

Reportedly, KT has had a difficult time selling its flagship product 4G LTE to Rwandans, with many apparently preferring to stick with 3G Internet despite the speed edge 4G has over other products.

The low adoption of 4G LTE was largely attributed to the fact that the product entered the Rwandan market at a high price, which quickly drew a market line, showing that consumers preferred affordable Internet to high speed, a factor which has come to shape people's perception of 4G as an expensive option, a reputation KT still struggles to change.

By February 2015, 4G LTE had only 1,000 subscribers, according to data from the Rwanda Utilities Regulatory Authority.

At the height of its frustrations with the slow adoption, the company has faulted government, which is a partner in KT after the two signed a 25-year agreement.

Although the 4G product was received with a lot of pomp and glamour, 3G still dominated the market, three years down the road.

KT banked on the three telecoms operating in the market to drive 4G.

The market leader in Rwanda[5] has its own 3G product to sell to its customers. Although 4G is one of the data options on its bundles, when customers opt for it, the signal keeps fluctuating back to 3G, which the company attributed to the fact that 3G signal is still stronger than KT's 4G.

No other player is allowed to invest in 4G-enabled technologies apart from KT, which has in the past caused unease among some players who even called for policy review.

Retailers have said they earn almost nothing from some 4G packages. Others said what they charge is not very high, and that the package price reflects the price at which the wholesaler sells the product to them.

In 2016, the wholesaler initiated a 30 per cent reduction. But 4G was still seen as expensive compared with other options like 3G, which was also competitive in speed.[6]

The GSMA[7] has stated that the goals are often ambitious when governments propose establishing a single wholesale network (SWN) or a wholesale open access network (WOAN) instead of relying upon competing mobile networks to deliver mobile broadband services in their country.[8]

Rwanda's LTE-based network was launched as planned in late 2014 in the capital Kigali.

The GSMA states, however, that launching a network is a mere first step, and that the government is still unlikely to achieve coverage, price and competition goals:

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4 *The New Times*, 22 Jul 2016. "Why Olleh Rwanda Networks rebranded to KT Rwanda Networks." A Tashobya.

5 MTN.

6 *The EastAfrican*, 10 Sep 2016. "Korea Telecom to spread 4G brand beyond Rwanda border." Moses K Gahigi.

7 GSM Association, the international association which represents the interests of mobile operators worldwide.

8 GSMA. "Wholesale Open Access Networks" (July 2017).

As of July 2016, the network was available in 25 districts (out of 30), but with population coverage estimated at only around 30 percent. The coverage progress in mid-2017 suggested that it was unlikely that the original coverage target of 95 percent would be achieved by the end of 2017.

The take-up appears to be limited so far, a failure attributed to the cost of the services.

There was reportedly no sign mobile broadband services have become more affordable because of the government intervention, according to data from the regulator's website. This contrasts with the cost of voice services, which has fallen over the same period.

Commercial negotiations set the wholesale prices. They are reviewed twice a year. Over the lifetime of the network there have been several significant reductions in wholesale prices. But they have not translated into lower retail prices on a consistent basis.

In order to retail the wholesale services they buy from KT, the MNOs[9] are commercially inclined (but not obliged) to promote 4G services, but, because no 4G spectrum will be allocated to the MNOs if they wish to provide 4G, it must be provided through KT's network.

Although KT's 4G services are promoted via MNOs' retail activities, the perception in the market is that MNOs themselves will be responsible in the eyes of consumers for any issues with coverage and quality of 4G services.[10]

Few benefits have flowed to consumers in Rwanda, at least not yet. Since the open access 4G network was launched late in 2014, the price of mobile broadband service has stayed flat, the three major mobile operators all charging a similar price.

That is not surprising. To the extent the three companies re-sell service on the open access 4G network, they all have the same wholesale cost. With only three players, the mobile market is very concentrated, which means it's unlikely that they will engage in a profit-killing, price-led race to the bottom.[11]

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[9] Mobile network operators.

[10] GSMA. Wholesale Open Access Networks (July 2017). "Rwanda: The network is live, but can't live up to expectations."

[11] Steve Blum's blog, Tellus Venture Associates (Management, planning and business development consulting for community broadband). 2 Sep 2017. "Open access does not guarantee open broadband competition."