



**MTN'S RESPONSE IN RELATION TO THE NOTICE REGARDING INTENTION  
TO CONDUCT AN INQUIRY INTO  
THE LICENSING FRAMEWORK FOR SATELLITE SERVICES  
GOVERNMENT GAZETTE 51044 DATED 14 AUGUST 2024**

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**Contents**

- 1. INTRODUCTION ..... 2
- 2. GENERAL COMMENTS..... 3
- 3. SPECIFIC COMMENTS TO THE QUESTIONS POSED BY THE AUTHORITY ..... 4
  - 3.1. Policy principles derived from the ATU - Question 1 ..... 4
  - 3.2. Scope of the inquiry - Question 2 ..... 6
  - 3.3. Types of licences for satellite communications- Question 3..... 7
  - 3.4. Satellite gateway earth stations - Question 4 ..... 9
  - 3.5. Spectrum licence fees for gateway earth station - Question 5 ..... 10
  - 3.6. Satellite user terminals - Question 6 ..... 11
  - 3.7. Recognition of licences issued by other countries - Question 7 ..... 12
  - 3.8. Space segment authorisation - Question 8..... 13
  - 3.9. Satellite rollout obligations – Question 9..... 13
- 4. Conclusion..... 14

**1. INTRODUCTION**

Mobile Telephone Networks (Pty) Ltd (“MTN”) wishes to thank the Authority for the opportunity to comment on General Notice 2678 in terms of which the Authority invites comments on its intention to conduct an Inquiry into the licensing framework for Satellite Services. A licensing framework for Satellite services will ultimately provide the sector with greater regulatory certainty in an ever-growing competitive environment.

The aspect of satellite communication continues to become more mainstream, particularly as it relates to non-terrestrial 5G Networks, Satellite Connectivity and the potential to complement existing terrestrial networks.

Whilst the process of launching 5G NTN worldwide is still in its infancy, the technology is already becoming widely adopted to provide rural coverage. As the need for broadband, voice and data services continues to rise, MTN expects that more operators will expand into non-terrestrial 5G Networks and satellite-to cellphone technology in order to service people in rural areas and to provide redundancy in the event of natural disasters which has the potential to impact traditional terrestrial networks.

MTN's submission is set out as follows:

- Section 2, general comments;
- Section 3, specific comments and responses to the questions posed by the Authority; and
- Section 4, Conclusion.

## **2. GENERAL COMMENTS**

MTN is supportive of the introduction of a licensing framework on satellite services and the objectives of the Authority to provide a transparent and streamlined regulatory framework. The regulatory framework will deliver regulatory certainty, not only to potential satellite operators but existing licenced operators within South Africa.

When developing a satellite licensing framework, regulatory parity between traditional terrestrial mobile network operators (MNOs) and satellite providers is a crucial element that must be considered, but it also introduces potential complex trade-offs that need to be evaluated. Regulatory parity fosters a level playing field, ensuring that both terrestrial MNOs and satellite providers have similar regulatory obligations, reducing any unfair advantages and fostering healthy competition. While satellite networks operate differently from terrestrial networks, imposing the same regulations may increase operational complexity. On the other hand, a more relaxed framework for satellite services allows for disparity in consumer experience and consumer protection, which has the potential to skew market competition within the sector.

MTN is supportive of a legal and regulatory structure that allows for a fair, open and competitive national market that does not discriminate against existing service providers.

We submit that if the satellite operator wishes to provide services directly to the end-user and not partner with a local licensee, the satellite operator should be required to have ECNS and ECS licences and comply with any and all existing obligations that are imposed by ICASA on local ECS and ECNS licensees. Policy makers need to ensure that all other legislative requirements are enforced such as BEE, RICA and other applicable legislation.

Any exemption from such obligations would be discriminatory and create an unfair business and competitive environment.

However, it should not be a requirement that satellite operators be the holders of a local licence in circumstances where the satellite operators partner with local

licensees to provide connectivity to end-users, thus negating the need to have a juristic presence in South Africa.

In addition, MTN submits that the Authority should make every effort, where possible to align definitions in the consultation paper to those that exist in legislation and/or regulation. For example, the consultation document creates a definition for "Terminal" as: *"the equipment used by customers to access the licensed service"* whereas the ECA provides a definition for subscriber equipment as: *"any device which is used by a subscriber to access, use or receive the services of a licensee referred to in Chapter 3 or the services of a person providing a service pursuant to a licence exemption, including without limitation, a telephone, regardless of technology such as IP (internet protocol) phones, mobile phones, publicly available phones; a handset, a computing device such as a personal digital assistant or a personal computer; a device for receiving a sound radio broadcasting service and a television; or other device or equipment, and any associated software"*.

As such, MTN suggests that the definition of terminal be replaced with the existing definition of subscriber equipment.

### **3. SPECIFIC COMMENTS TO THE QUESTIONS POSED BY THE AUTHORITY**

#### **3.1. Policy principles derived from the ATU - Question 1**

***These are the policy principles from the ATU that ICASA seeks to align with. Kindly provide comment(s) on the proposed policy principles and any further recommendations listed in the above section?***

The Authority seeks to align with seven policy principles derived from the ATU in the development of national satellite licensing frameworks, these include:

- a) harmonised framework;
- b) conformance with ITU instruments and regulatory procedures;
- c) transparent framework that is devoid of ambiguity and promotes sustainable investment;
- d) adoption of blanket licencing of domestic use terminals;
- e) clear identification of spectrum frequencies for use;
- f) a review of associated spectrum fee calculations to removal any barriers; and
- g) reasonable spectrum fees, taking also into account the increasing amount of bandwidth used by satellite systems operating in higher frequency bands.

MTN broadly supports the proposed policy principles which are dealt with in several parts of MTN's responses in this submission with the exception of the seventh policy principle (g) addressed below.

Adopting a harmonized satellite licensing framework across countries, particularly in developing markets, offers several benefits including the following:

- Facilitates cross-border connectivity and operations;
- Promotes Investment through regulatory certainty;
- Enhances affordability and accessibility by reducing the cost of compliance;
- Promotes capacity building allowing for shared expertise and knowledge sharing between regulators;
- Supports the adoption of international standards across countries; and
- Has the potential to improve spectrum management through effective coordination cross-borders to avoid interference.

While an adoption of a harmonized satellite licensing framework has benefits, the framework must consider the specific needs, priorities, and challenges of the South African telecom's environment, especially in relation to the existing licensing framework. The resulting framework should create an environment that promotes long-term sustainable growth in the satellite communications sector as well as the terrestrial network operators.

A clear and definitive regulatory framework provides industry players with regulatory certainty that supports ongoing investment within the sector. It would be a requirement that any licensing framework be compliant with the ITU regulatory procedures.

The framework should remain flexible to accommodate emerging satellite technologies such as low earth orbit (LEO) satellites, small satellite constellations, and space-based internet services. These advancements may require updates to existing regulations, particularly spectrum regulations. For example, with the advent of technologies such as direct to device (D2D) also referred to as direct to cellular, it is clear that the if existing Radio Frequency Spectrum Assignment Plans (RFSAP) and Radio Frequency Spectrum Regulations will require amendments to cater for non-terrestrial use. The latter regulation refers to definitions such as:

*"Land mobile service" means a mobile radio-communication service between fixed stations and mobile land stations, or between land mobile stations;*  
and

*“Base station” means a land radio station in the land mobile service for a service with land mobile stations;*

Additionally, such aspects have an impact on how spectrum is used. For example, in an environment where local licensees partner with a satellite provider for the provision of D2D services specifically in rural areas, a segment of the licenced IMT spectrum would have to be ring-fenced by the MNO in order not to cause undue interference to its existing terrestrial networks in that area. This ring-fenced spectrum would then be provided to the satellite operator for transmission by their satellite constellation on behalf of the licenced entity in order to provide supplementary coverage (via satellite) in a specified underserved area.

This raises questions of whether section 31 (1) of the Electronic Communications Act (ECA) would apply. As per section 31 (1) no person may transmit any signal by radio or use radio apparatus to receive any signal by radio, except under and in accordance with a radio frequency spectrum licence granted by the Authority to such person in terms of the ECA. The Authority would also need to consider whether the current regulations would be a barrier to the adoption of such technologies as indicated above.

On point (g) of the principles: *“Reasonable spectrum fees, taking also into account the increasing amount of bandwidth used by satellite systems operating in higher frequency bands.”* This relates only when broadband services are provided, and many services utilising satellite systems are not dependant on high-speed or high traffic volumes. As such, MTN suggests that point (g) be revised to be more agnostic of the services that can be provided by satellite.

In summary, a harmonized satellite licensing framework across developing markets can expand access to communications, however, such harmonization must consider local conditions, and the need for flexibility in addressing emerging technologies and services.

### **3.2. Scope of the inquiry - Question 2**

***Do you agree with the exclusions of radio navigation satellite services, amateur satellite services, earth exploration, space research satellite services and radio astronomy services indicated above and others if applicable? If not, please explain your reasoning and propose an alternative to this proposal.***

The Authority suggests that radio navigation satellite services, amateur satellite services, earth exploration, space research satellite services and radio astronomy services be excluded from this licensing framework.

The Authority attempts to differentiate these satellite services primarily on whether the satellite services in question provide commercial or non-commercial services.

When developing a satellite licensing framework for commercial satellite services, it may seem logical to exclude non-commercial services such as radio navigation satellite services, amateur satellite services, earth exploration, space research satellite services, and radio astronomy services. These services typically have different objectives and user bases compared to commercial services. These services often operate under different regulatory regimes (e.g., ITU regulations). If the Authority were to exclude radio navigation satellite services, amateur satellite services, earth exploration, space research satellite services and radio astronomy services from the licensing framework, this may result in unforeseen consequences such as spectrum interference. Including all satellite services in the same framework enables effective coordination, ensuring that services can coexist without causing harmful interference.

The inclusion of non-commercial services, especially in fields like space research and radio astronomy, could have more flexible and supportive licensing terms, including reduced or waived licensing fees and spectrum protections for critical non-commercial services (e.g., protecting radio astronomy from interference in specific bands).

Finally, MTN notes that the frequency table provided is not complete and suggests the inclusion of additional frequency spectrum bands, for example, 3GPP's Release 17 identified two bands with existing MSS allocations for 5G NTN provision namely:

- band 255 (1525 MHz – 1559 MHz and 1626.5 MHz – 1660.5 MHz) and
- band 256 (1980 MHz – 2010 MHz and 2170 MHz – 2200 MHz)

### **3.3. Types of licences for satellite communications- Question 3**

***Do you agree with the proposed approach of having a separate licence/authorisation (where applicable) for each segment of the Satellite Communication value chain? Please elaborate.***

The Authority proposes a separate licensing/authorisation approach (where applicable) for each segment of the Satellite Communication value chain. A satellite licensing framework for commercial satellite telecommunication services should be structured to address the key segments of the satellite communication value chain.

By dividing the framework appropriately, regulators can ensure efficient management, compliance, and fair competition in each area.

MTNs view is that the satellite licensing framework be divided into the following segments to capture the various components of the value chain:

1. Frequency Spectrum Licensing, which focuses on the assignment and regulation of radio frequencies used by satellite operators e.g. Ku-band, Ka-band for transmitting and receiving signals is already in place through Chapter 5 of the ECA and the requisite service license as provided for under Chapter 3. However, unlike the assignment of IMT spectrum for terrestrial services, sharing of this spectrum between satellite providers is required. Consequently, aspects such as interference management and coordination become more important especially as it relates to cross-border interference and coordination.
2. Satellite gateway earth stations which are responsible for controlling satellites, communicating with satellites and facilitating the transmission of data between the satellite and users are important and are a key segment that require regulatory focus and requisite licencing. As such, MTN is in agreement that the licence for ground stations should incorporate specifics such as the location of the station, the authorised spectrum as well as any licence conditions that may be deemed appropriate, such as national and international obligations.

MTN is aligned with the Authority in that the entity licensed for a Gateway Earth Station may not necessarily be the same entity providing a service to the end-user. MTN submits that it should be clearly indicated that to provide services to the end user an ECS licence is required as stipulated in chapter 3 of the ECA. MTN submits that the licencing of a "User-Terminal network licence" is appropriate. However, the definition of a terminal needs to be clarified (and aligned with the definition of subscriber equipment in the ECA) as the different equipment which includes VSAT, ESIM, IoT all serve different purposes and may have different impacts to existing terrestrial infrastructure, thus differentiating on how it should be licenced.

Additionally, it is suggested that the Authority clarify whether this is a certification of subscriber equipment and/or the licencing of each user-terminal. It should be a requirement that the Authority, through the framework, take into account the purpose of the terminals and whether through their nature it can cause interference with other services. Consequently, individual licencing should be the preferred option taken by the Authority in instances where such equipment has the potential to cause interference to existing terrestrial infrastructure.



Each segment of the value chain must be carefully regulated to ensure efficient operations, promote competition, protect consumers, and comply with international standards.

#### **3.4. Satellite gateway earth stations - Question 4**

***Please provide your comments on the proposals in the preceding paragraph and the duration of the Gateway Earth Station licences.***

MTN agrees that any satellite licencing framework should not confer any permission to provide any telecommunication service or broadcasting service directly to the end-users and that in order to provide such services a separate licence as defined in Chapter 3 of the ECA is required from the Authority.

Licensing the deployment of Gateway Earth Stations (GES) is a crucial component of the satellite communication value chain, as these stations serve as the interface between satellites and terrestrial networks, facilitating the uplink and downlink of data. Given the potential role that satellite services have to offer in satellite-based broadband, IoT, and communication services in general, it is essential to create an optimal licensing framework that encourages efficient deployment while ensuring compliance with regulatory and technical standards.

As Gateway stations often use high-frequency bands, which are in high demand between satellite providers, MTN suggests the implementation of non-exclusive licensing with effective interference management mechanisms to allow multiple satellite operators to use the same frequencies, provided they comply with interference limits.

It may be a consideration that the Authority implement a simplified licensing procedure for low-power or small Gateway Earth Stations, such as those used in Low Earth Orbit (LEO) satellite constellations, such as Starlink and OneWeb which could include introducing a batch licensing mechanism where operators of large constellations can obtain licenses for multiple gateways in one application.

The Authority should ensure that the licensing framework for gateway earth stations aligns with the ITU's rules for satellite coordination and spectrum management to prevent interference with other countries' satellite services.

Additionally, the Authority must coordinate the spectrum use with neighbouring countries, taking into account their regulations, to avoid cross-border interference and ensure that the gateway earth stations operators follow ITU regulations for satellite frequency coordination.

While MTN is not opposed to the use of a Private Electronic Communications Network (PECN) as a mechanism for the deployment of gateway earth stations. MTN highlights that this mechanism may have limitations that need to be addressed.

The Authority states that: *"...applicants or holders of the Gateway Earth Station licence are legible to be treated under the Private Electronic Communication Network (PECN) licence regime. Only when they provide additional services to the end-user directly will they need to possess an I-ECNS licence."* MTN submits that a PECN, ought to be licence exempt if and when used principally for or integrally related to the internal operations of an entity. Where the PECN sells additional capacity, the Authority may prescribe terms and conditions for such resale. MTN understand this "additional capacity" is interpreted as the wholesale access to satellite capacity provided to local licensees by the satellite provider. Therefore, in order to utilise the PECN regime, the Authority would need to clearly specify the terms and conditions if the PECN sells extra capacity e.g. limited to the wholesale sale to local licensees.

MTN supports the proposed duration of a 5-year term with the right to renew.

### **3.5. Spectrum licence fees for gateway earth station - Question 5**

***Please comment on the above-mentioned alternative proposals to levy the spectrum fees for Gateway Earth Stations and indicate your preferred option. The Authority understands that there are other spectrum fee calculation methodologies used elsewhere in the world. Please give details of the methodologies which you believe would be most suitable for South Africa.***

While Section 8 of the consultation document addresses national and international coordination, the Authority seeks views on the proposals in relation to spectrum fees for Gateway Earth Stations.

MTN addresses the spectrum fee proposals but also provide commentary on the critical aspect of co-ordination to mitigate interference.

Appendix 7 of the ITU Radio Regulations describes the methodology to establish coordination areas for cross-border coordination which regulators may utilise with to mitigate cross-border interference with neighbouring countries. Co-ordination should be extended within the country between satellite gateway earth stations and other licenced entities. In this regard, ITU Recommendation SF.1006 provides a methodology that may be used to assist in the determination of the interference potential between earth stations of the fixed-satellite service and stations in the fixed service.

Spectrum fee calculation methodologies for Gateway Earth Stations (GES) play a crucial role in managing the efficient use of radio frequencies and ensuring equitable access to the limited spectrum resources. Different methodologies can vary based on factors such as spectrum band usage, station location, bandwidth requirements, and the economic environment. The key challenge for the Authority is balancing fair spectrum pricing with promoting investment in infrastructure, particularly in developing countries like South Africa, where extending connectivity to underserved areas is a priority.

While an introduction of a high throughput system factor (HTS) for frequency bands above 17.3GHz may have the advantage of being simple to administer and transparent, it does not take into consideration existing factors such as the sterilisation of an area, the aspect of sharing or the frequency bands below 17.3GHz. Neither does it address spectrum fees for entities other than satellite providers that make use of higher radio frequencies for other services such as IMT services in mmWave spectrum bands like 26GHz and 38GHz.

Consequently, MTN would be supportive of a more flexible spectrum fee model that takes into account factors beyond the frequency spectrum band and incorporates the bandwidth, geographic coverage area, opportunity cost of the spectrum in relation to sharing or not. Therefore, the costs associated with the use of radio frequency spectrum should be applied uniformly regardless of technology or service.

### **3.6. Satellite user terminals - Question 6**

***Kindly comment on the section above and on the proposal for blanket licensing with a fee for a set number of terminals under a new proposed licence regime to be referred to as "Satellite User Station Network Licence". If possible, please provide a breakdown of the number of terminals with the corresponding spectrum fee values in South African Rands.***

Adopting a blanket licensing approach for a set number of satellite terminals could be advantageous in promoting satellite communication services, particularly in developing countries where increasing connectivity and expanding access to underserved regions are key priorities. Blanket licensing with a fee for a set number of satellite user terminals or Very Small Aperture Terminals (VSAT) reduces administrative burdens on both the operators and regulators by streamlining the licensing process for satellite broadband services, Internet of Things (IoT) devices, and mobile satellite services.

Several jurisdictions have adopted a blanket licensing for satellite user terminals including the Federal Communications Commission (FCC) in the United States, the European Conference of Postal and Telecommunications Administrations (CEPT), the Australian Communications and Media Authority (ACMA) and the Innovation, Science and Economic Development (ISED) in Canada.

Both Canada and Australia have seen this approach as being successful in helping accelerate the deployment of broadband services to vast rural and remote regions, where terrestrial networks are not feasible.

However, the adoption of blanket licensing of satellite user terminals has not been without challenges. As more operators deploy these terminals, it has resulted in spectrum interference requiring greater interference management and regulatory intervention.

Given the specific needs of South Africa, MTN supports the adoption of a blanket licensing framework for satellite user terminals, with a focus on promoting rural connectivity, however safeguards should be incorporated to mitigate against spectrum interference.

### **3.7. Recognition of licences issued by other countries - Question 7**

***The Authority seeks views on the appropriateness of using regulation 37 of the ICASA radio regulations (“Recognition of licences issued by other countries”) to recognize ESIM licences issued by other countries.***

The explanation provided by the Authority it specifies that the ESIM on aircraft already licensed in another country, **temporarily** [our emphasis] visiting South Africa, should be exempted from licensing.

MTNs view is that the provisions of section 37 of the Radio Frequency Spectrum Regulations, 2015 are an appropriate mechanism in enabling the free circulation of ESIM devices as envisaged by Communications Regulatory Association of Southern Africa (CRASA) provided that it is limited to where an ESIM on an aircraft (or maritime vessels) that have already been licensed in another country and are temporarily within the borders of South Africa. However, section 37 cannot be utilised as a mechanism to bypass the need for the relevant service licence envisioned in Chapter 3 of the ECA in order to provide satellite services within South Africa. The recognition of ESIM licences issued by other countries has to be based on a limited time period and only applicable if fitted to aircraft or ships that is transiting through South Africa.

### 3.8. Space segment authorisation - Question 8

***Please provide your comments and details of the best practices in other jurisdictions to fulfill the intentions of the Authority as indicated in the above section. Furthermore, considering the provision set out in the Astronomy Geographic Advantage (AGA) Act of 2007, and the requirements of the Radio Quiet Zone, what measures and techniques do you propose to be employed in mitigating the possible interference that may be caused by the satellites within the Astronomy radio frequency bands in South Africa?***

MTN is supportive of a registration-only approach in relation to the space segment instead of a licensing or authorisation approach. This is because registration does not grant rights for satellite operators to offer services directly to the public in South Africa. This approach is similar to that of countries like Australia and the United Kingdom, where the registration approach allows satellite operators to maintain a presence without being non-compliant with local regulatory requirements. This ensures satellite operators are compliant with local regulatory frameworks but don't inherently have the right to provide services directly to end users.

Additionally, to avoid any confusion, it should be stated that the registration requirement is distinct from a full authorization process. The consultation paper currently indicates that such registered satellite providers would be included in an "Authorised List of Space Stations", thereby alluding that some sort of approval has been granted.

### 3.9. Satellite rollout obligations – Question 9

***Please provide proposals on the role the Satellite operators can play in ensuring that broadband connectivity reaches the areas of the country in terms of community networks with Satellite connectivity as a backhaul.***

***Kindly provide a regulatory solution that can be applied by Satellite operators to address the shortcomings of terrestrial networks in providing to unserved and underserved areas of the country. This may include collaboration with government programs to reach out to those unserved and underserved areas of the country.***

Throughout the consultation document the Authority has indicated that the proposed framework is not to enable satellite providers to directly provide services to end-users without the relevant licence as such the aspect of the Authority mandating rollout obligations to these satellite providers should not be applicable.

However, where a satellite provider does choose to provide their services directly to the end-user, such entity must adhere to the same regulatory requirements as other licensees including possible roll-out and social obligations. A satellite provider opting for this route would be a direct competitor of current licensees and it would be an expectation that the “playing field” be as level as possible.

Nevertheless, if a satellite provider were to voluntarily commit to meet certain objectives or provides proposals that cater to the broader objectives of the DCDDT or the Authority, it should not confer any right to provide services within the border of South Africa, unless duly licensed.

#### **4. CONCLUSION**

In summary, MTN is supportive of the introduction of a licensing framework and the objectives of the Authority to provide a transparent and streamlined regulatory framework.

MTN submits that the requirement for regulatory parity is paramount when similar services are to be provided directly to end-users. This consideration of fair practice is extended to aspects such as the cost of radio frequency spectrum that should be applied uniformly regardless of technology or service.

Finally, co-ordination both within the borders of South Africa and cross border is a key element that requires careful management in order to mitigate against frequency interference.