BROADBAND INDIA FORUM
"Think Tank for Digital Transformation"

Suites- 401 & 410, Avanta Business Centre,
4th Floor, Statesman House, Barakhamba Road,
Connaught place, New Delhi-110001

27 May 2026
Ref. No.TVR/BIF/134/2026

Shri Akhilesh Kumar Trivedi,
Advisor (Networks, Spectrum and Licensing),
Telecom Regulatory Authority of India,
4th, 5th, 6th & 7th Floor, Tower-F,
World Trade Centre, Nauroji Nagar,
New Delhi – 110 029.

Sub : BIF's Counter-Comments to TRAI CP on the Framework for Satellite Communication Network Authorisation, and Assignment of Spectrum to Satellite Communication Network Providers

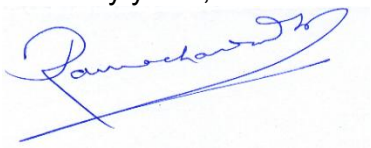
Dear Sir,

Please find enclosed herewith Broadband India Forum's (BIF) Counter-Comments to the TRAI Consultation Paper on the "Framework for Satellite Communication Network Authorisation, and Assignment of Spectrum to Satellite Communication Network Providers" for your kind consideration.

We trust the enclosed submissions will receive favourable consideration.

With regards,

Sincerely yours,



T V Ramachandran,
President,
Broadband India Forum

BIF's Counter-Comments to TRAI CP on the Framework for Satellite Communication Network Authorisation, and Assignment of Spectrum to Satellite Communication Network Providers

We submit that this Consultation Paper is of critical importance, and several stakeholder comments risk diverting attention from the core policy issue and also, from the broader national priorities such as the need for a standalone separate distinct service authorisation from other authorised entities holding Access Service Authorisation u/S 3 (1) (a) of the Telecommunications Act 2023 , spectrum assignment to Satcom Service Providers as well as Satcom Network Providers through administrative assignment instead of market based auctions, at par with those providing terrestrial services, among others.

As the country builds the foundational infrastructure for Next Generation Satellite Communications including the framework for delivering the state of the art Direct to Device services from Satellite to normal handset, with a view to bridge the digital divide and with an aim to ensure widespread digital inclusion, such decisions must be firmly rooted in statutory mandates, global evidence, and long-term national priorities.

In this context, several submissions made by certain stakeholders diverge significantly from the technical realities, global ecosystem developments, and the legislative framework governing service authorization and mode of spectrum assignment. Such submissions, if left unaddressed, risk distracting from the central policy question before the Authority. We submit that TRAI's recommendations must focus on how India can unlock maximum consumer welfare and economic value in a technologically feasible and neutral manner.

BIF therefore considers it essential to place on record a clear and factual context before responding to individual claims. Specifically, these counter-comments aim to clarify misconceptions, correct factual inaccuracies, and present evidence-backed reasoning in support of

(i) Why Satcom deserves a dedicated service authorisation category distinct from the authorisation for Access Services u/S 3 (1) (a) of the Telecommunications Act 2023

(ii) Why Satcom Network Authorisation (SCN) deserves to be also a distinct ` light touch' authorisation u/S 3 (1) (b) and not at par with that of an Access Service Authorisation u/S 3 (1) (a)

(iii) Why Spectrum for both the Feeder and the User Link must be made available to the SCN provider and why SCN provider must be permitted to provide both B2C services u/S 3(1) (a) and B2B services u/S 3(1) (b)

We wish to submit that the above recommendations are aligned to present-day technology and ecosystem readiness, consumer needs, and regulatory best practices across the globe.

We urge TRAI to provide its recommendations such that they directly advance India's broader national objectives of universal broadband access, affordable connectivity, rural digitalisation while ensuring consumer choice, affordability service reliability while encouraging sufficient competition in the market.

COMMENT #1

(i) Why Satcom deserves a dedicated service authorisation category distinct from the authorisation for Access Services u/S 3 (1) (a) of the Telecommunications Act 2023

BIF's Counter Comments:

1. BIF is of the clear view that **Satellite Service Licenses or Authorisations are clearly distinct from Terrestrial Service Licenses or Authorisations for the following reasons:**
   1.1: Satellite Services are delivered using different technologies,
   1.2 Satellite Services are delivered to the end user in different ways than terrestrial services,
   1.3 Satellite Services use CPEs or terminals which are distinct from those used by terrestrial means

2. We wish to respectfully seek consideration for a distinct and standalone Satellite-based Telecommunication Service Authorisation under Section 3(1)(a) of the Telecommunications Act, 2023, in order to support the balanced and long-term development of India's satellite communications ecosystem in alignment with national connectivity, and space-sector objectives.

3. In its Recommendations dated 18.09.2024 on the "Framework for Service Authorisations to be Granted Under the Telecommunications Act, 2023", TRAI had recommended a standalone "Satellite-based Telecommunication Service Authorisation" under Section 3(1)(a) of the Act. The recommendation envisaged bringing existing satellite-based services such as GMPCS, VSAT-based Fixed Satellite Services (FSS), Satellite IoT and similar services within a unified and specialised satellite service authorisation framework.

4. Subsequently, while examining the different authorisation architecture, DoT explored a different approach whereby satellite systems could be permitted under broader Main Service Authorisation categories. In its back-reference dated 14.01.2025, DoT observed that other niche authorisations under the Main Service Authorisations category are generally based on distinct telecommunication services, whereas satellite-based authorisation may also be viewed from the perspective of a technology or transmission medium.

5. TRAI, in its response dated 28.02.2025, reiterated its earlier recommendation for a distinct Satellite-based Telecommunication Service Authorisation, while emphasising the specialised characteristics of satellite communications services.

6. Similarly, in its Recommendations dated 17.02.2025 on the "Terms and Conditions of Network Authorisations to be Granted Under the Telecommunications Act, 2023", TRAI proposed a Satellite Earth Station Gateway (SESG) Provider Authorisation under Section 3(1)(b). While doing so, TRAI indicated that a separate Satellite Communication Network (SCN) Authorisation may not be necessary. They also mentioned that since spectrum assignment has historically been linked to service-authorised entities, the authorised network entities may be unable to get their rightful spectrum assignment.

7. Thereafter, DoT wrote to TRAI to initiate a Consultation process on Satellite Communication Network (SCN) Authorisation under Section 3(1)(b), enabling provision of SCN-as-a-Service to entities holding authorisations under Section 3(1)(a).

8. Accordingly, the Draft Rules presently provide for services using satellite systems under Universal, Access and Internet Service Authorisations. As per DoT's request, TRAI has come out with a Consultation Paper on the terms and conditions for Satellite Communication Network (SCN) Authorisation under Section 3(1)(b), including provisions relating to spectrum assignment for both feeder and user links.

9. The proposed framework therefore departs from the long-standing regulatory treatment of satellite-based services in India and the rest of the world and also risks constraining the independent development of the satcom sector. In our view, the framework may unintentionally dilute the specialised nature of satellite-based services and create structural dependencies for satcom players that are inconsistent with both the legislative framework and India's broader policy and strategic objectives for the space and communications sector.

9.1: Alignment with India's Policy Vision for Satcom and Space Economy.

9.1.1: Satellite communications have consistently been recognised as an important and distinct pillar of national communications infrastructure, particularly for serving rural, remote, border, maritime, aviation, disaster-prone and otherwise underserved geographies.

9.1.2: The Indian Space Policy, 2023 expressly recognises space-based communication services and envisages participation of both public and private entities in the provision of communication and data services. The policy reflects a broader national vision of enabling space-based services as an integral and independent component of India's digital communications ecosystem.

9.1.3: Even under the earlier licensing framework under the Indian Telegraph Act 1885, services such as GMPCS, VSAT and satellite-based IoT have operated under specialised licensing structures tailored to the unique characteristics of satellite systems.

9.1.4: It is important to note here that there has been no identifiable market failure under the existing regime to warrant a departure from the established position of treating satcom as an independent service category.

9.1.5: Importantly, satellite communications today serves objectives extending well beyond supplemental connectivity. They increasingly support disaster resilience, continuity of communications, strategic and emergency preparedness, maritime and aviation connectivity, and meaningful digital inclusion in commercially challenging geographies where terrestrial deployment remains difficult or economically unviable.

9.1.6: Satellite communications should therefore be viewed not as a substitute for terrestrial networks, but as a complementary and strategic layer within India's broader communications architecture.

9.2 : Consistency with the Telecommunications Act, 2023.

9.2.1: The Telecommunications Act, 2023 itself recognises the distinct nature of satellite-based services in the First Schedule to the Act, which provides for administrative spectrum assignment for various satellite-based services including Teleports, DTH, HITS, DSNG, VSAT, GMPCS, NLD, ILD and Mobile Satellite Services in L and S bands.

9.2.2: This reflects legislative recognition that satellite communications operate under a distinct technical and operational framework compared to terrestrial mobile networks.

9.2.3 Satellite systems differ fundamentally in:

1. spectrum assignment methodology,
2. international coordination requirements,
3. network architecture,
4. deployment economics,
5. service delivery models,
6. operational scale,
7. and the public-interest objectives they support.

9.2.4: **In this context, a distinct Satellite-based Telecommunication Service Authorisation may more appropriately reflect the specialised nature of satellite communications as recognised under the parent statute itself.**

9.2.5: TRAI had also observed that such a framework could:

a. encourage specialised investment,
b. support focused market development,
c. provide regulatory clarity,
d. and enable more appropriately calibrated regulatory and financial obligations for a still-nascent sector.

10. In India satcom is a relatively nascent sector, with a size and scale of operations only around Rs. 500-600 crores per annum as compared to the terrestrial mobile Services market of around Rs. 370000 crores per annum i.e. satcom is only 0.16% or less than 1/600 of terrestrial mobile. Hence, a well-differentiated and proportionate regulatory approach may better support sectoral growth and investment.

11. In particular, requiring satellite operators serving niche or remote geographies to comply with the full set of obligations designed primarily for large terrestrial access networks, would not be proportionate to the scale and nature of satellite operations.

12. It may be noted that the sharp difference from terrestrial systems applies to both to main satcom as well as to satellite-based IoT systems. The satellite IoT market is in fact even smaller than satcom and therefore both satellite IoT and satcom warrant a suitably appropriate and distinctive regulatory treatment.

13. Further, in satellite communications, the operator of the satellite system is often best positioned to ensure:
    i. continuity of service,
    ii. capacity planning,

iii. interference management,
iv. spectrum utilisation efficiency,
v. and service quality management.

13.1. Accordingly, preserving closer alignment between the service layer and operational layer may support both efficiency and accountability. At the same time, satellite operators should continue to retain the flexibility to partner with terrestrial service providers and network operators wherever commercially and technologically beneficial.

14. **Accordingly,**

a. A standalone Satellite-based Telecommunication Service Authorisation under Section 3(1)(a), as originally recommended by TRAI, may offer a balanced and future-ready framework that is more closely aligned with:
b. India's policy vision under the Indian Space Policy, 2023, the legislative framework and recognition reflected in the Telecommunications Act, 2023.
c. the specialised operational characteristics of satellite communications,
d. the need for regulatory clarity, investment certainty and proportionate compliance obligations, and,
e. the broader national objective of accelerating universal and meaningful connectivity.

15. **In view of the above reasons, we recommend that satellite-based communication services — including satellite broadband/internet access, GMPCS, VSAT and satellite-based IoT services— be allowed as a distinct standalone Satellite-based Telecommunication Service Authorisation, rather than being subsumed entirely within terrestrial-focused Access or Internet Service Authorisations.**

16. **In view of the above reasons, we recommend that satellite-based communication services — including satellite broadband/internet access, GMPCS, VSAT and satellite-based IoT services— be allowed as a distinct standalone Satellite-based Telecommunication Service Authorisation, rather than being subsumed entirely within terrestrial-focused Access or Internet Service Authorisations.**

17. Such an approach would support the orderly growth of India's satcom ecosystem while preserving operational flexibility, encouraging investment and innovation, and complementing terrestrial networks in advancing the shared national objectives of Digital Bharat, universal connectivity, resilience and the growth of India's space economy.

18. **Given that Satellite Communications is the last link to bridge the Digital Divide, the absence of standalone and dedicated satellite service providers as was envisaged earlier and the dependence on partnership with Service Licensees to provide Satellite based services (who have little or no motivation to serve the difficult-to-reach areas) will lead to reduced competition, inferior quality of service and higher consumer prices, besides perpetuating the connectivity gap that Government aims to close.**

Comment # 2

(i) If it is decided to have a separate Satcom Network Authorisation (SCN), why SCN deserves to be a distinct ' light touch' authorisation u/S 3 (1) (b) and not have the same T&C as that of an Access Service Authorisation u/S 3 (1) (a)

BIF's Counter Comments:

Based on a reading of the current CP, we feel that this SCN Construct (as proposed in this CP) has some structural flaws and shortcomings. These are given below:

1. **Shift to an intermediary-led model:** The proposed SCN framework may push satellite services into a dependent structure requiring business/commercial arrangements with Service Licensees, potentially raising entry barriers for specialised satellite players and affecting competitive neutrality vis-à-vis terrestrial operators.

2. **Spectrum assignment at the network layer:** The proposal to allow spectrum to SCN entities departs from the established principle of vesting spectrum with service providers. The new SCN proposal, derived from the Telecommunications Act 2023, aims to "delink the service and network layers," permitting infrastructure providers to hold spectrum without being the service provider themselves. This breaks the established practice where the Access Service Provider/TSP who provides telecom services to the end consumer, holds the spectrum and is responsible for its usage.

2.1. This proposed SCN framework will create ambiguity in ownership, control and accountability, especially since service rollout obligations are typically linked to spectrum usage. The proposed framework suggests SCN entities could hold spectrum directly or through partner providers, which could blur lines as regards who shall control the usage of spectrum and who shall be responsible for regulatory compliance (roll out obligations) particularly in the situation where spectrum is directly assigned to the SCN provider.

3. Practical and structural complexities: The framework relies heavily on commercial agreements between SCN provider and the service licensees which, based on past experience (e.g., VNO models), may be ineffective as a business model without strong alignment of incentives and without regulatory oversight and enforcement.

4. Additionally, in case of spectrum sharing between the SCN Provider and the Service Licensees (particularly in case of spectrum in IMT bands for provision of D2D services),issues such as **service-area-based IMT spectrum versus pan-India SCN authorisation** could create operational and regulatory complications.

5. Overall, the proposed structure appears relatively complex and is fraught with many dependencies between the SCN provider and the service licensees (which are in the domain of uncertainty and may risk **delays or sub-optimal rollout** of satellite communication services.

6. The proposed SCN provider may be termed as 'Netcos' in the unbundled model of separating service cos from Infrastructure Providers . They may be permitted under a light license regime with zero entry barrier and minimum security compliance obligations. The reason we mention this is because under Section 3(1)(b) of the Telecom Act as the CP envisages, these Satellite Communication Networks shall not directly provide services to the end consumers. They are built to provide networks which could be optimally utilised by Telecom Service Providers/smaller or local Internet Service Providers/VNOs/PM-WANI Service Providers(PDO/PDOAs) to provide multi-play services to the end consumers in places/locations where terrestrial networks are either not available nor are techno-economically feasible viz. rural and remote areas, dense forest areas, islands, hilly terrains and areas which are difficult to reach.

7. Scope: The SCN authorised entity should be permitted to: (a) lease satellite transponder capacity or space segment from authorised satellite operators; (b) establish, operate, maintain and expand gateway earth stations in India; (c) establish feeder links and user links; (d) provide SCNaaS on a wholesale basis to service authorised entities (Section 3(1)(a)) on fair, reasonable and non-discriminatory (FRAND) terms.

8. It is submitted that no matter how the eligibility conditions, scope or validity period of the SCN authorisation are calibrated, the SCN entity cannot provide services directly to end-users. This means dedicated satellite operators, whose entire business proposition is serving end-users in geographies without terrestrial coverage, are permanently relegated to a wholesale-only role. They cannot build direct subscriber relationships, cannot provide billing services and cannot be held accountable under QoS regulations to consumers. The service-layer gap created by DoT's non-acceptance is not remedied by any combination of eligibility conditions or scope of the SCN. A global NGSO operator seeking to enter India as a direct connectivity provider has no pathway under the SCN architecture, it must either partner with or acquire an Indian service authorised entity, introducing structural dependency that does not exist in any other comparable jurisdiction.

Comment # 3

(i) Why Spectrum for both the Feeder and the User Link must be made available to the SCN provider and why SCN provider must be permitted to provide both B2C services u/S 3(1) (a) and B2B services u/S 3(1) (b)

BIF's Counter Comments:

1. The Indian Space Policy gives adequate recognition to the fact that satellite networks are inherently international. The same transponders are used to provide services in multiple countries. Further, just one SESG/SNP is capable of serving huge areas. It is, therefore, neither technically nor legally required that a satellite operator establish an SESG/SNP in every country it wishes to serve.

2. In this regard, the SESGs/SNPs established in India, too, could be capable of providing feeder-link connectivity to satellites as far as 2500 km from their locations, including satellites overseas. This means that an operator may be able to provide connectivity to all its customers – not just within the territorial boundaries of India but potentially the majority of the South Asian region.

3. In fact, even the Authority, in its Recommendations dated 18th September 2024 on the 'Framework for Service Authorisations to be Granted Under the Telecommunications Act, 2023', has recommended that operators should be permitted to use the SESGs/SNPs established in India for providing service in foreign countries after obtaining the Central Government's permission. Subsequently, DoT also published draft guidelines on the issue, for stakeholder comments. However, the final guidelines are still awaited.

4. In line with the vision of the Government of India encapsulated under the Space Policy as well as the Authority's Recommendations, the SESGs/SNPs established in India should be permitted to be used for providing feeder-link connectivity to satellites that provide connectivity to customers outside of India – under an enabling framework with no unnecessarily onerous requirements. Needless to say, the connectivity services in these other countries would be provided subject to their respective and applicable licensing/regulatory frameworks.

5. Therefore, the SESGs/SNPs established in India should be allowed to be used to provide feeder-link connectivity to satellites that are providing connectivity to customers outside of India.

6. In addition, it may be noted that the Indian Space Policy 2023 explicitly and repeatedly recognises **satellite communication as a service.** For example, Section 4 of the Policy, which governs Non-Governmental Entities, opens with the statement that NGEs shall be allowed to undertake "end-to-end activities in space sector through establishment and operation of space objects, ground-based assets and **related services, such as communication, remote sensing, navigation, etc.**

7. Section 3 (Strategy) of the Policy, which articulates the Government's overarching approach to the space economy, states that Indian consumers of space technology or services (such as **communication**, remote-sensing, data-services, launch-services, etc), whether from public or private sectors, shall be free to directly procure them from any source. The bracketed list explicitly includes communication alongside "data-services" and "launch-services", all of which are unambiguously services in the economic and regulatory sense. The phrase "directly procure" is the language of the consumer-service relationship where a consumer procures a *service*, not a technology.

8. This recognition in the Indian Space Policy 2023 directly undermines DoT's position that satellite communication is "only a technology" and not a service requiring separate authorisation.

9. The Space Policy, which is the overarching government framework for the sector and was approved by Cabinet, takes the opposite view as shown above. If satellite communication were merely a technology, the Indian Space Policy, 2023 would then be without any basis.

10. DoT's contention that satellite is a technology medium permissible within any existing terrestrial service authorisation is therefore inconsistent with the Cabinet approved Space Policy, which treats satellite communication as a distinct *service* category with its own authorisation pathway (through IN-SPACe at the space segment level) and its own regulatory governance (through DoT at the service level). TRAI's recommendation of a standalone Satellite-based Telecommunication Service Authorisation under Section 3(1)(a) is, in this light, not only legally sound but also aligned with the highest level government policy document governing the space sector, a point TRAI should explicitly make when reiterating its previous recommendations.

11. Para 2.62 of the CP mentions that in May 2024, the IN-SPACe issued 'Norms, Guidelines and Procedures for Implementation of Indian Space Policy-2023 in respect of Authorization of Space Activities (NGP)'. The relevant extract of the Chapter IX of the NGP is reproduced below:

    " IN-SPACe Authorization is not required for setting up of gateways or hubs **supporting satellite communication services** such **as Direct-to-Home (DTH), TV Uplink, Digital Satellite News Gathering Service (DSNG), Very Small Aperture Terminal (VSATs), broadband, Inflight and Maritime connectivity (IFMC), etc**. Establishment and operations of such gateways/ hubs including those required for supporting the operations of the high throughput GSO or NGSO satellites/ constellations shall be governed by the prevailing licensing/ approvals process by the respective government departments/ ministries. …"

12. Thus, even the NGP explicitly mentions VSAT, GMPCS, broadband, IFMC as services.

13. We submit that no cross-referencing conditions between the SCN authorisation and IN-SPACe rules can eliminate the coordination risk between SCN, service authorised entity and IN-SPACE For example, if the IN-SPACe authorisation of the space segment provider is revoked or modified, the SCN entity's authorisation is affected, which in turn affects the service entity's ability to serve its subscribers, with no direct regulatory pathway between IN-SPACe and the end-service provider. This regulatory chain has no equivalent in terrestrial telecom and cannot have any solution within the SCN framework.

14. Accordingly, none of the proposed combinations fully resolve the underlying structural concerns arising from the separation of the satellite network layer and the satellite service layer.

15. In our respectful submission, the most coherent regulatory approach would therefore be to permit a standalone Satellite-based Telecommunication Service

Authorisation under Section 3(1)(a), wherein the same entity holds the spectrum assignment, operates the satellite network and remains directly accountable for end-user service delivery.

16. Without prejudice to the above, if the SCN authorisation framework is nevertheless adopted, Combination 1 would be the least complex and most operationally efficient among the available options, as it avoids fragmentation of spectrum holding and enables integrated management of feeder-link and user-link spectrum within the same operational entity. This may be particularly relevant for NGSO broadband systems, where dynamic spectrum optimisation across an integrated constellation architecture is critical.

17. Entry 12 of the First Schedule to the Telecom Act, provides for administrative assignment for "Radio backhaul for telecommunication services". Further, the term 'radio backhaul' has been defined as "the use of radio frequency only to interconnect telecommunication equipment, other than the customer equipment in telecommunication networks". Since feeder link spectrum would only be used to connect SESGs with satellites, and not customer equipment, it would fall within the scope of 'radio backhaul'. Also, Entry 16 of the First Schedule of the Telecom Act provides for administrative assignment of spectrum for a number of Satellite services including MSS in the L & S band. Hence, in line with Section 4(4), such assignment may be done through administrative process only.

18. **Spectrum Utilization and Pricing:** The charges should accurately reflect the value and usage of the assigned spectrum-both for the feeder and the user link. Also, in a situation where a SCN entity operates in partnership with other entities to deliver D2D services using scarce MSS spectrum owned by them, the contractual terms may be subjected to specific guidelines.

19. The service entity will hold MSS spectrum and the SCN entity will use it. The charges must reflect both the network service component (SCN infrastructure) and the spectrum use component (utilisation of the service entity's MSS assignment). No regulatory formula can cleanly separate these two components because they are technically inseparable. The value of the SCN entity's infrastructure is zero without the spectrum, Even the MSS spectrum cost to the service entity will be zero without SCN. This dependency without a unified regulatory anchor has the potential for possible commercial disputes that TRAI will be called upon to adjudicate repeatedly, a compliance overhead that a unified satellite service authorisation would have entirely avoided.