SIAINDIA
An association for space industry

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SIA India /TRAI Resp/CP06/2026 13 May 2026

Shri Akhilesh Kumar Trivedi
Advisor (Networks, Spectrum and Licensing),
TRAI, New Delhi

Subject: SIA-India comments/input TRAI consultation no. 06/2026 dated 08-04-2026

Dear Sir,

This has reference to TRAI Consultation No. 06/2026 dated 08-04-2026 on the Framework for Satellite Communication Network Authorization, and Assignment of Spectrum to Satellite Communication Network Providers.

In this regard, please find enclosed SIA-India comments/input (Annexure-1) to abovementioned TRAI consultation for your kind perusal.

About SIA-India:

The Satcom Industry Association of India (SIA-India) is a non-profit organization established to serve and promote the common interests of the satellite industry ecosystem in India and seeks to ensure that the satellite industry benefits from the appropriate political, industrial and regulatory environment to fulfil their vital role in the efficient and ubiquitous delivery of satcom services in India.

As a trade association, we strongly articulate the need for certainty in the satellite industry, which is absolutely vital to attract investments and ensure continued development of existing and new satellite capabilities.

Accordingly, we believe that TRAI recommendations to this consultation will ensure long-term stability to sustain and augment the satellite ecosystem in the country.

With warm regards

Yours sincerely,

Anil Prakash
Director General
An Association for Space Industry

Enc. As above

Annexure-1

SIA-India Comments to TRAI Consultation Paper No. No. 06/2026 dated 08-04-2026 on the Framework for Satellite Communication Network Authorisation, and Assignment of Spectrum to Satellite Communication Network Providers

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The Satcom Industry Association of India (SIA-India) is a non-profit organization established to serve and promote the common interests of the satellite industry ecosystem in India and seeks to ensure that the satellite industry benefits from the appropriate political, industrial and regulatory environment to fulfil their vital role in the efficient and ubiquitous delivery of satcom services in India. SIA-India is pleased to provide comments to this CP as under:

Q1. What should be the eligibility conditions, area of operation, validity period of authorisation and the scope of the proposed Satellite Communication Network (SCN) authorisation under Section 3(1)(b) of the Telecommunications Act, 2023? Kindly provide a detailed response with justification.

i. In line with the vision of Viksit Bharat 2047, satellite is emerging as a key enabler of digital connectivity ensuring reliable access to remote and underserved regions, while strengthening critical applications in defence and disaster response. Therefore, the main focus and scope of the proposed Satellite Communication Network (SCN) authorisation should aim at enabling the delivery of broadband connectivity to places that are difficult to reach by terrestrial fixed or mobile connections as well as for passengers on aircraft and ships improved satellite communications.

ii. D2D applications have to alternatives- D2D in MSS bands and D2D in MS bands and presently MSS D2D is well-suited for integration into a broad range of mobile devices as well as the successful deployment of IoT, particularly Industrial Internet of Things (IIoT) applications utilising the globally harmonised MSS spectrum deployed in accordance with ITU's MSS framework. Therefore, ITU and NFAP allocation plan should be strictly adhered to for all MSS D2D allocations.

iii. In order to ensure compatibility and interoperability across various devices and networks, D2D services should be based on 3GPP Non-Terrestrial Network (NTN) specifications and should support existing and future generation 3GPP releases.

iv. Any Indian/foreign company should be made eligible to obtain the SCN authorization. Particularly, partnerships with Indian entities should be fostered that support both D2D in MSS and MS bands. Extant FDI norms would suffice for foreign companies.

v. To promote transparency, the details with regard to the spectrum licensee, satellite operator partner, frequency ranges and geographical extent should be clearly spelt in SCN authorization.

vi. Satellite-based communication services should be recognized as separate services and as such flexible rules and financial requirements are to be considered which are different from other telecom players.

vii. Given the unique nature of satellite-based communications services, entry fee should be low to minimize the financial burden to the new players. This will encourage more companies to enter still developing sector in India.

viii. SCN authorization should be on pan-India basis avoiding LSA-based restrictions and other regulatory complexities. Such authorization should follow Unified License regime guidelines.

ix. For the satellite component to be a part of the overall infrastructure, a vibrant market for satellite services is vital and this is possible through regulatory certainty, liberalization, equity and transparency and by promoting competition.

x. In our opinion, in addition to D2D and other services via satellite the scope of the proposed SCN authorisation should include Non-Terrestrial Network Internet of Things (NTN IoT), which is supported under the 3GPP Non-Terrestrial Network (NTN) standard (Release 17 onwards). NTN IoT services form an integral part of the D2D landscape, as they enable seamless connectivity across vast and remote areas, supporting a wide range of use cases and the market opportunity is substantial and is growing rapidly in India. In addition, other standards to enable devices to switch between different network types may also explored for delivering reliable and seamless connectivity across diverse environments for instance wi-fi, wireline networks etc.

xi. Flexible technical and regulatory frameworks will support licensees to find innovative ways to improve service delivery and use their spectrum efficiently. Therefore, SCN authorization frameworks should seamlessly facilitate satellite applications. Such a simplified service authorization framework would place the authorization holders on an even footing, and align with international practices for such services.

Therefore, it is important that there is a legal and regulatory structure that enables the deployment of a holistic mixture of different technologies to allow the provision of new SCN services, improvements in quality and availability of lower prices.

Q2. What should be the terms and conditions (general, technical, operating, security related etc.) that should be made applicable for the proposed Satellite Communication Network authorisation? Kindly provide a detailed response with justification.

In our opinion, terms and conditions provided in the TRAI Recommendations dated 8th December 2025 on 'Terms and Conditions for the Assignment of Spectrum for Certain Satellite-Based Commercial Communication Services are broadly applicable with regard to SCN services as well.

The authorization should specify duration of the licence, renewal information, the frequency of operation and geographic area, the permitted level of radio emission payment details, interference management record keeping requirements, third party use, if any etc.

It may be noted that spectrum efficiencies are more appropriately pursued through our planning, licensing and allocations decisions and advances in technology than through the imposition of a licence condition.

Spectrum for satellite services should administratively allocated through a process of well-defined, simple and transparent process.

A well-defined renewal process would promote continuity, uphold operational stability, and facilitate long-term planning and investment.

The terms and conditions should be kept balanced and not overly prescriptive, avoiding unnecessary technical constraints.

To ensure certainty in continuity of satellite services, reduce administrative overheads and recover huge the capital investments, The validity period of authorization regime should not be less than the typical lifetime of a satellite (including design construction launch and in service life which is not less 20 years. Furthermore, a stable and consistent regulatory environment give investors sufficient confidence to plan and monetize their investments

SCN authorization should support technology neutral as to the specific architecture and deployment models developed for Indian networks, to enable innovation and evolution.

The authorization should consider the factors such as the use of satellite spectrum for global operations, system and need for regulatory operational certainty worldwide.

SCN authorization should be based on single window clearance for hassle free deployments and be aligned with existing telecom frameworks.

SCN Authorised entities should operate the satellite earth station Gateway and permitted to share or lease this network infrastructure with service licensee's like Comm VSAT authorization/SCNaaS. These operations must align with the technical and operational requirements specified under the respective service authorization regimes.

To preclude interference to incumbent and future systems, spectrum assignments should be strictly in accordance with NFAP and ITU-RR provisions and should align with international standards and practices such ITU, 3GPP etc.

SCN authorization holding entities should be made accountable for implementing, maintaining, and proving compliance with data protection and security measures.

Q3. Which type of authorised entities should be permitted to seek Satellite Communication Network as a Service (SCNaaS) from the entities holding the proposed Satellite Communication Network authorisation? Whether virtual network operators (VNOs) should also be permitted to seek SCNaaS? Kindly provide a detailed response with justification.

Multiple MNOs/VNOs/MVNOs having tie-ups with SNOs may be permitted to provide SCNaaS for better augmentation and outreach especially to promote rural/remote connectivity and IOT products. The scope and role of each one of the entities should be distinctly defined.

We understand that in the global scenario Soracom(Japan), Transatel (France), Transatel(US), Onomondo (Germany) etc., who are VNOs/MVNOs, are already providing SCNaaS.

However, such SNO-MNO partnerships should not limit optionality and competition by promoting dependency and exclusivity for first movers on the basis of regulatory provisions to access spectrum for the satellite component of IMT.

Q4. Whether the SCN authorised entity establishing, operating, maintaining, or expanding the baseband system along with SCN should be mandated to extend control, visibility, resource allocation and management of the telecommunication services, being provisioned using SCN to users, to the partnering entity on mutually agreed terms and conditions? Please provide a detailed response with justification.

SCN authorized entity should be provided by an SNO partnering with an MNO, who is licensed to use the relevant frequencies nationally as per RR/ NFAP provisions should be permitted with satellite services wherein MNOs and Satellite Operators have ample opportunity to provide a greater variety of services from the same spectrum holding.

The framework should allow Satellite Operators and MNOs to collaborate closely to augment the coverage and avoid interference between the terrestrial and satellite components of the combined network.

It is necessary to ensure SCN authorized entity has sufficient visibility to manage customers and service quality, provisioning and support.

Promote flexible control and management requirements between SCN and partnering entities aiming at improving the connectivity in remote/rural/urban/IoT services areas.

The SCN authorized entities should deploy the necessary baseband equipment and infrastructure to provide access to service authorization holders (SCNaaS). If necessary, the service authorization holder should have flexibility to use his own baseband equipment, if he intends so.

Q5. What provisions should be included in the terms and conditions of Satellite Communication Network (SCN) authorisation considering the policy/ Act in the Space sector? Kindly provide a detailed response with justification.

The SCN authorization should be in sync with the Indian Space Policy – 2023 and the Norms Guidelines and Procedures (NGP) released by IN-SPACe requiring private entities (NGEs) to obtain authorization for end-to-end space activities.

In our opinion, terms and conditions provided in the TRAI Recommendations dated 8th December 2025 on 'Terms and Conditions for the Assignment of Spectrum for Certain Satellite-Based Commercial Communication Services are broadly applicable with regard to SCN services as well.

SCN authorization should support efficient integration of with terrestrial networks and emerging IOT applications.

Authorization should also promote the efficient use of the scarce spectrum giving the opportunity for MNOs and Satellite Operators to provide a greater variety of services from the same spectrum holding.

Authorization should not limit the types of business models which can be deployed, provided there is a partnership between the MNO and Satellite Operator

Ensuring that spectrum allocation and fees do not unfairly hinder new entrants or existing providers from competing is a statutory objective. This supports the development of innovative electronic communications services.

The service authorization for D2D ecosystem should include NTN IOT and M2M connectivity requirements as well. NTN IoT can ensure continuous connectivity in remote/rural areas where traditional terrestrial networks are either unavailable or unreliable. This expanded reach enables essential services to operate more efficiently and effectively.

A technology-neutral regulatory framework is necessary to support a wide range of D2D services including those enabled by IOT. This will help in achieving India's strategic connectivity goals.

Q6. Whether there is any need for mandating a reference agreement between the entities holding the proposed Satellite Communication Network authorisation and the authorised entities providing telecommunication service? If yes, what should be the salient features of the reference agreement between such entities? Kindly provide a detailed response with justification.

The need for reference agreement between the entities holding the proposed Satellite Communication Network authorisation and the authorised entities providing telecommunication service should be made optional.

It is proposed satellite operators and spectrum licensees to have a written agreement as a pre-requisite to the supply of an IMT satellite direct-to-mobile service in the spectrum licensee's spectrum bands. This a best-practice approach that would minimise the risk of interference.

Such an agreement should mandate careful coordination of frequencies used and the geographic separation of the terrestrial coverage and the satellite coverage in situations where the same frequencies between the MNOs and satellite operations are used.

The authorization should limit the geographic scope of the licence within Indian territory including defined territorial waters, which will help to manage any potential cross-border interference

The agreement should support the satellite operators to provide capacity to MNOs for integration into consumer offerings that aligns with existing market structures and ensures interoperability.

As the contractual agreement is between parties on business terms, it should be encouraged to find partners with large customer bases to achieve growth.

In order to create additional revenue streams, the agreement should promote that the entities are able to leverage infrastructure and generate revenue.

Q7. With respect to the interconnection with the proposed Satellite Communication Network Authorised Entities, whether there are any other issues in addition to those raised in TRAI's consultation paper on 'Review of existing TRAI Regulations on Interconnection matters' dated 10.11.2025, which require to be addressed in this consultation process? Please provide a detailed response with justification.

SIA India broadly agrees that issues raised in in TRAI's consultation paper on 'Review of existing TRAI Regulations on Interconnection matters' dated 10.11.2025 are

relevant. The guidelines being framed should align with the current Unified License regime.

It should also be ensured that SCN authorized entities should have rights for seamless interconnection with all fixed and mobile networks.

The interconnection responsibilities between SCN entity and services providers with regard to traffic routing, QoS, fault management etc. should be clearly defined.

At the same time, we recommend pragmatic approach in the interference mitigation to ensure coexistence difference services in the interconnected environment. If required, a detailed co-existence assessment to protect incumbent users should be considered.

Q8. Any other inputs or suggestions relevant to the proposed Satellite Communication Network authorisation may kindly provided with detailed justification.

IoT applications have an impact over diverse industries such as agriculture, oil & gas, logistics, and maritime, where IoT devices connected via NTN can drive innovation, efficiency, and cost savings.

The use cases for NTN IoT are numerous and robust, providing clear paths to revenue generation, whereas the business case for handset-based D2D services remains uncertain. Hence, we support inclusion NTN IOT and M2M capabilities in SCN authorization framework.

SIA-India underscores the importance of maintaining a technology-neutral regulatory framework that accommodates the full spectrum of D2D services, including narrowband Internet of Things (NB-IoT) services over satellite. Such an approach could support without bias toward specific device types, frequency bands, or architectures. This inclusivity is vital to foster innovation, competition, and broad consumer and societal benefit.

VSAT operators have over the period of time has stabilized in leveraging the satcom ecosystem in the country in many sectors and have nationwide reach. It is our understanding that this consultation on SCN and SCNaas intends to simplify the licensing regime for providing all types of satcom services. In this context, it relevant to acknowledge importance of VSAT ecosystem as well.

Therefore, we request TRAI to recommend supporting models that promote interoperability, open standards, and flexibility, particularly where satellite and terrestrial networks complement each other to improve nationwide connectivity.

Q9. Which of the following services should be permitted to be provided by using the SCNs established by the proposed SCN authorised entities:

(a) Fixed Satellite Service (FSS);

(b) Mobile Satellite Service (MSS);

(c) Direct-to-Device (D2D) Service via satellite by using MSS spectrum;

(d) Direct-to-Device (D2D) Service via satellite by using IMT spectrum?

Kindly provide a detailed response with justification.

Both FSS and MSS should be permitted as a core service to cater to the different markets fundamentally for providing different services to different customers. Hence, we support SCNs using both FSS and (b) MSS spectrum to SCN entities, based on service requirements. The technological advancements in the SCN framework should be augmented through flexible deployment. As of now, it is prudent to permit Direct-to-Device (D2D) Service via satellite by using MSS spectrum utilizing existing globally harmonized MSS-allocated spectrum in the L and S bands due to following advantages: a) It will eliminate the need for MNOs to clear valuable terrestrial mobile service spectrum; b) It resolves cross-border coordination challenges; and c) It eliminates exclusion zones near terrestrial coverage areas, providing seamless coverage for a seamless, interference-free user experience. The L-band and S-band MSS spectrum has already been included in the 3GPP NTN standards (3GPP Release 17 and 18 NTN specifications). It obviously seeks to mitigate the interference risks and enable effective utilization of these bands by avoiding any need to repurpose terrestrial spectrum for satellite communications or operate on a co-frequency basis with terrestrial networks. The L-band and S-Band MSS spectrum are allocated globally across all three ITU regions ensuring global compatibility and regulatory alignment for D2D including NB-IOT services underscoring the potential benefits in fostering a robust and competitive SCN ecosystem in India.

Q10. Whether D2D Service via satellite by using IMT spectrum should be permitted at this stage itself, or should this matter be examined after considering the outcome of WRC-2027? Kindly provide a detailed response with justification.

The use of IMT spectrum for D2D services requires satellite operators to use spectrum already licensed and used by mobile network operators to serve their customers. Of course, the absence international harmonization or regulation does not preclude sovereign administration from authorizing D2D services via satellite using IMT spectrum by implementing a common set of technical and operational measures to avoid interference. However, the use may require NFAP amendments.

Therefore, the selection of IMT bands at this stage may be potential for in-band and out-of-band interference, since the nature of D2D in MS bands still largely remains untested and technical and compatibility studies are still ongoing at ITU-R level.

As such, this approach introduces additional technical complexities and operational risks and as such requires completion of ongoing technical studies being currently held under WRC-27 Agenda Item 1.13.

The use of the IMT spectrum for this purpose is likely to be limited somewhat by co-frequency interference and the resulting need to utilize exclusion or buffer zones. These factors may make the use of IMT spectrum for D2D infeasible in some areas—with actual impacts dependent on terrestrial network cell size, terrestrial network cell density, load conditions in each cell, and other factors.

Any positive outcome from WRC-27 would likely to support cross-border harmonization and could guide to frame national regulation, which will facilitate smooth implementation.

Hence, SIA-India proposes that applicable rules and policy changes to authorize D2D operation in IMT spectrum via satellite should be considered based on the outcome of WRC-2027 for appropriate technical and regulatory conditions.

Notwithstanding above observations, Satellite Operator may be permitted to provide IoT services using an MNO's IMT spectrum if the devices have capability for such use cases and subject to that they modify their networks in line with WRC-27 recommendations at a later date.

Q11. From the perspective of holding spectrum for the feeder link and the user link on SCNs, which of the following combinations should be permitted at the SCNs established by the proposed SCN authorised entities:

Combination No.	Spectrum for the feeder link held by -	Spectrum for the user link held by -
1	SCN authorised entity	SCN authorised entity
2	SCN authorised entity	Partnering entity (service provider)
3	Partnering entity (service provider)	SCN authorised entity
4	Partnering entity (service provider)	Partnering entity (service provider)

Kindly provide a detailed response with justification.

From the perspective of holding spectrum for the feeder link and the user link on SCNs, SIA-India proposes following:

i. Support flexibility across spectrum holding models, allowing different combinations depending on service type.

ii. Allow partnering entities -MNOs- to hold user link spectrum, particularly for IMT based and D2D services.

iii. Allow SCN entities to hold and manage feeder link spectrum, to ensure efficient satellite network operation.

iv. Enable models where user link spectrum is held by service providers and feeder links by SCN entities.

v. Avoid rigid approaches that could limit hybrid MSS-IMT models or delay deployment.

Q12. Which of the following types of spectrum should be assigned to the proposed SCN authorised entities:

(a) Spectrum in the frequency bands allocated for FSS

(b) Spectrum in the frequency bands allocated for MSS

(c) Any other?

Kindly provide a detailed response with justification.

Depending on the range of service requirements, spectrum in the frequency bands allocated for both FSS and MSS can be supported to enable wide range of services.

As of now, spectrum in the frequency bands (especially L-band and S-band for early deployment) allocated for MSS may be considered for the proposed SCN authorized entities to augment services.

SIA-India's responses to Q-9 and Q-10 also refer.

Q13. What should be the broad policy and regulatory framework for the assignment of FSS spectrum and/ or MSS spectrum to the proposed SCN authorised entities? Specifically, -

(a) NGSO-based FSS and GSO/ NGSO-based MSS: Whether in respect of NGSO-based FSS and GSO/ NGSO-based MSS, TRAI's recommendations dated 09.05.2025 on 'Terms and Conditions for the Assignment of Spectrum for Certain Satellite-Based Commercial Communication Services' to DoT (read with the TRAI's response dated 08.12.2025 to DoT's back-reference dated 12.11.2025) should be made applicable to SCN authorised entities with necessary modifications? If yes, what modifications would be required in

the terms and conditions for the assignment of spectrum for NGSO-based FSS and GSO/ NGSO-based MSS? If no, what should be the terms and conditions for this purpose?

(b) GSO-based FSS: Whether the terms and conditions for the assignment of spectrum to SCN authorised entities for GSO-based FSS should be analogous to those recommended by TRAI for NGSO-based FSS and GSO/ NGSO-based MSS through its recommendations on 'Terms and Conditions for the Assignment of Spectrum for Certain Satellite-Based Commercial Communication Services' dated 09.05.2025 (read with the TRAI's response dated 08.12.2025 to DoT's back-reference dated 12.11.2025) with necessary modifications? If yes, what modifications would be required for GSO-based FSS? If no, what should be the terms and conditions for this purpose?

Kindly provide a detailed response with justification.

Instead of framing multiple policy/regulatory frameworks, it is prudent to assimilate terms and conditions already framed for NGSO-based FSS and GSO/ NGSO-based MSS and GSO-based FSS and adopt a workable and transparent framework for SCN-specific use cases - SCNaaS, hybrid models. We propose to consider optimal use of spectrum and support the availability of a wide range of communications services across the sector. While framing the terms and conditions, any additional complexities or duplicative conditions may be avoided. The spectrum use for D2D services should also maximise the benefits of IoT connectivity for both businesses and consumers together in India. Consistency in levying spectrum charges via administrative assignment model should be the hallmark for SCN networks. This assignment process for satellite/satcom services better supports quick deployment, safeguards service quality, and meets the long-term operational needs of space-based services and provide certainty to the players to protect their investments.

Q14. What should be the eligibility conditions for seeking administrative assignment of FSS spectrum and/or MSS spectrum by the proposed SCN authorised entities? Kindly provide a detailed response with justification.

Any Indian company desiring to provide satellite-based services in India strictly complying with rules and regulations of DoT and INSPACe should be eligible for seeking administrative assignment of FSS/MSS spectrum. Furthermore, the licence fee charged via administrative assignment should be only based on cost-recovery by the administration.

Q15. Whether there are any other inputs or suggestions relevant to the assignment of FSS spectrum and/ or MSS spectrum to the entities holding the proposed SCN authorisation? Kindly provide a detailed response with justification.

The assignment of FSS/MSS spectrum should have due considerations to the potential benefits of D2D services, including the extension of mobile coverage beyond that provided by the current terrestrial networks, greater network resilience, and innovation across several sectors, including providing connectivity for Internet of Things (IoT) device. Satellite-IoT services could deliver a number of benefits across a variety of spectrum bands.

Q16. In case it is decided to permit the proposed SCN authorised entity to utilize the FSS spectrum and/ or MSS spectrum assigned to a service authorised entity ("partnering entity") for the purpose of providing SCNaaS to the partnering entity – whether there is a need to establish a policy and regulatory framework for enabling the SCN authorised entity to enter into an agreement/ arrangement with the partnering entity to utilize FSS spectrum and/ or MSS spectrum assigned to such partnering entity for the purpose of providing SCNaaS to the partnering entity?

(i) If yes, what should be the terms and conditions under such a framework?

(ii) If no, in what manner such agreements/ arrangements should be enabled and regulated?

Kindly provide a detailed response with justification.

- A flexible framework permitting SCN authorized entities to use the spectrum assigned to partnering entities for SCNaaS provision
- Allow terms to be commercially agreed - spectrum use, service levels, capacity allocation- subject to regulatory compliance
- Ensure clear allocation of responsibilities between parties - e.g. spectrum rights, interference management, regulatory obligations
- Avoid overly prescriptive rules or approval requirements that could delay deployment or limit partnership models

Q17. Whether there are any other inputs or suggestions relevant to the agreement/ arrangement between the proposed SCN authorised entities and service authorised entities ("partnering entities") to utilize the FSS spectrum and/ or MSS spectrum assigned to such partnering entities? Kindly provide a detailed response with justification.

None

Q18. In case it is decided to permit D2D service via satellite by using the spectrum in the frequency bands allocated for MSS such as L-band and S-band, whether there is a need to establish a policy and regulatory framework for enabling and regulating such a service? If yes, kindly suggest a broad framework for this purpose and the key terms and conditions to be included under such a framework? Kindly provide a detailed response with justification.

Yes, there is need to establish a transparent and workable policy and regulatory framework before permitting D2D service via satellite by using the spectrum in the frequency bands allocated for MSS such as L-band and S-band under the existing authorization regime.

To maintain spectrum efficiency and mitigate interference risks, the licensing framework should strictly stipulate applicable separation zones to be integrated into the frequency planning by MNOs and SNOs when deploying D2D services.

SIA India advocates for a flexible approach for D2D services authorisation on technology neutral basis without barriers to service deployment.

Due to the resilience and robustness of satellite connectivity, satellite IoT could act as a critical backup for terrestrial networks during outages. It also provides vital data to disaster relief agencies, enabling better planning and response. IoT services in the MSS bands for terminals supporting 3GPP Release 17 and beyond may be considered. This may help various vertical sectors to benefit from satellite IOT networks.

Q19. In case with a view to enable D2D service via satellite using IMT spectrum, it is decided to permit the proposed SCN authorised entity to utilize IMT spectrum assigned to a service authorised entity ("partnering entity") for the purpose of providing SCNaaS to the partnering entity, -

(a) whether there is a need to establish a policy and regulatory framework for enabling the SCN authorised entity to enter into an agreement/ arrangement with the partnering entity to utilize IMT spectrum assigned to such partnering entity for the purpose of providing SCNaaS to the partnering entity? If yes, what should be the terms and conditions under such a framework? If no, in what manner such arrangements should be enabled and regulated?

(b) Which frequency bands identified for IMT should be considered for this purpose? Specifically, whether only FDD-based frequency bands should be considered?

(c) For the frequency bands identified for IMT where D2D is decided to be permitted, whether the National Frequency Allocation Plan (NFAP) should be modified to include MSS on a secondary basis? If yes, kindly furnish your suggestion for the proposed modification(s).
(d) To mitigate the issues related to cross-border interference, whether any other condition in addition to Article 4.4 of the ITU-Radio Regulations is required to be made applicable?

(e) What regulatory framework should be established for ensuring interference-free operation of D2D service via satellite by using IMT spectrum within the country? Specifically, which of the following methods should be followed:

(i) The SCNs established by SCN authorised entities should be permitted to be used to provide D2D service via satellite by using IMT spectrum only if a single partnering entity (access service provider) holds the relevant IMT frequency channel in all the 22 LSAs of

the country and agrees to permit the usage of its IMT frequency channel by the SCN authorised entity at its SCN for the purpose of providing SCNaaS; or

(ii) The SCNs established by SCN authorised entities should be permitted to be used to provide D2D service via satellite by using IMT spectrum if one or more access service providers – together holding the assignment of the relevant IMT frequency channel across all 22 licensed service areas of the country – agree to allow the usage of their IMT frequency channel by the SCN authorised entity at its SCN for the purpose of providing SCNaaS; or

(iii) Any other method?

Kindly provide a detailed response with justification.

In addition to D2D services using MSS spectrum, if feasible, D2D services can be extended using IMT spectrum through partnering MNOs using their assigned spectrum, which can be treated as the extension of terrestrial mobile networks. However, such a course may require amendment to NFAP-2025 provisions. It is to be also noted that under WRC-27 agenda item 1.13, technical and compatibility studies are undergoing at WP 4C level in coordination with WP 5D for provisioning D2D service via satellite using IMT is already currently undergoing. It is prudent to wait for the outcomes of WRC-27. Any positive outcome from WRC-27 would likely to support cross-border harmonization and could guide to frame national regulation, which will facilitate smooth implementation.

Q20. Whether there are any other inputs or suggestions with respect to the delivery of D2D services via satellite through SCNs established by the proposed SCN authorised entities? Kindly provide a detailed response with justification.

None

Q21. Any other inputs or suggestions related to the use of spectrum on SCNs established by the proposed SCN authorised entities may be submitted with proper explanation and justification.

None

Q22. Regarding the agreement between SCN Authorised entity and a Service Authorised entity providing FSS/ MSS to the end user, for provision of SCNaaS to the Service Authorised entity, which may or may not include provisions for utilisation of FSS/ MSS spectrum assigned to the Service entity, is there a need to regulate charges exchanged between the two entities under such an agreement? If yes, what would be the possible parameters, including SLA parameters, Spectrum utilisation etc., which would form the basis of regulation? Please provide your response with justification.

There is no need to regulate charges exchanged between the two entities under such an agreement. The current authorization frameworks would suffice wherein mutual agreements between the parties would form the basis of regulation.

If necessary, a light touch commercially viable framework with regard to pricing, service levels and capacity arrangements is required.

Q23. In case of an agreement between an SCN Authorised entity and a Service Authorised entity providing D2D services using MSS spectrum, for provision of SCNaaS to the Service Authorised entity, which may or may not include provisions for utilisation of MSS spectrum assigned to the Service entity amongst other possible spectrum utilisation arrangements, is there a need to regulate charges exchanged between the two entities under such an agreement? If yes, what would be the possible parameters, including SLA parameters, Spectrum utilisation etc., which would form the basis of regulation? Please provide your response with justification.

There is no need to regulate charges exchanged between the two entities under such an agreement for provision of SCNaaS. If necessary, a light touch commercially viable framework with regard to pricing, service levels and capacity arrangements may be considered.

Q24. In case of an agreement between an SCN Authorised entity and a Service Authorised entity providing D2D services using IMT spectrum, for provision of SCNaaS to the Service Authorised entity, which may or may not include utilising spectrum for feeder link assigned to the service entity, besides utilising IMT spectrum assigned to the Service Authorised entity, is there a need to regulate charges exchanged between the two entities under such an agreement? If yes, what would be the possible parameters, including SLA parameters, Spectrum utilisation etc., which would form the basis of such regulation? Please provide your response with detailed justification.

None

Q25. Should the charges paid by the Service Authorised entity (providing either FSS, MSS or D2D service to the end user) to SCN Authorised entity for provisioning of Satellite Communication Network as a Service (SCNaaS), be permitted to be deducted from ApGR of the Service Authorised entity for the purpose of arriving at AGR for levy of License/ Authorisation Fees and Spectrum charges? Please provide your response with justification.

- Allow SCNaaS charges paid by service providers to be deducted from ApGR, to avoid double-counting in AGR calculations
- Ensure no duplication of revenue recognition between SCN and service providers
- Establish a clear and consistent approach to AGR treatment, aligned with partnership-based models
- Support efficient commercial arrangements, particularly for hybrid and SCNaaS based service delivery mechanism

Q26. If the answer to the above question is no, please suggest the methodology for considering such charges in determination of AGR of both the service authorised and SCN authorised entities, for purposes of levying Authorisation/ License fees & Spectrum Charges? Please provide your response with justification.

A clear and consistent methodology to allocate revenues between SCN and service providers should be put in place. No double-counting of revenues with distinct treatment of SCNaaS and end-user service revenues should be avoided, as it may lead to overestimation and likely to distort. Therefore, the methodology applied should be simple, transparent and aligned with existing AGR frameworks.

Q27. What should be the appropriate definition of GR, AGR, and ApGR for SCN Authorisation, including the relevant items of revenue, exclusions and deductions? Additionally, are there any operational or non-operational revenue elements specific to SCN Authorised entities that should be considered within the scope of definitions of GR, AGR and ApGR? Please provide detailed response with specific line items of revenue, exemptions and deductions, and specific definitions for GR/ApGR/AGR.

• Align definitions of GR, ApGR, and AGR with existing telecom frameworks, while adapting for SCN-specific models • Ensure a clear and consistent approach to revenue classification, distinguishing between SCNaaS (wholesale) and end-user (retail) revenues • Exclude pass-through charges and revenues already accounted for at another level, to avoid double counting • Ensure treatment reflects the partnership-based nature of SCNaaS (e.g. SCN as wholesale provider to service entities) • Keep the framework simple, transparent, and aligned with existing AGR principles Furthermore, the Digital Bharat Nidhi (DBN) levy of 5% under the Telecommunication Act 2023 on the Adjusted Gross Revenue (AGR) of telecom operators should be exempted from License Fee applicable for proposed SCN / SCNaaS Authorisations as the services are meant to bridge the digital divide in the unserved & undeserved areas of the country.

Q28 In case FSS/MSS or any other spectrum is assigned to the Satellite Communication Network (SCN) authorised entities for provisioning of SCNaaS to Service authorised entities, what should be the broad financial terms & conditions of such an assignment?

Ensure spectrum charges are predictable, transparent, and proportionate • Avoid approaches that could create excessive financial burden • Support pricing frameworks that enable investment and sustainable deployment

• Ensure consistency with international practices, where relevant
• Avoid introducing additional charges that could impact emerging satcom services including D2D deployment.
• Keep the authorization framework and financial terms and conditions simple and clear.

Q29. Should the spectrum charges for Satellite Communication Network (SCN) authorised entities be based on the spectrum charging framework as per the Recommendations dated 09.05.2025 applicable for Satellite based commercial communications services? Accordingly, what should be the appropriate spectrum charging framework and spectrum charges applicable for a SCN Authorised entity? Please provide your response with detailed justification.

We agree that the spectrum charges for SCN authorized entities should be based on TRAI' Recommendations dated 09.05.2025 applicable for Satellite based commercial communications services tailored to suit SCN-specific models applying suitable adjustments.

Q30. If spectrum charges are to be levied on the basis of AGR of the SCN Authorised entity, are there any specific operational/ non-operational revenue items that should be excluded from AGR for the purpose of determination of spectrum charges? Please provide your response with detailed justification.

- Exclude pass-through revenues and wholesale SCNaaS components from AGR calculations
- Ensure no double counting of revenues across SCN and service providers
- Reflect the partnership-based nature of SCNaaS (wholesale vs retail separation)
- Keep AGR treatment clear, consistent, and aligned with existing frameworks
- Consider only AGR based spectrum charges and no fixed charges per device

Q31 If the spectrum charges are not to be levied on basis of AGR of the SCN Authorised entity, what should be the appropriate spectrum charging mechanism and the corresponding level of spectrum charges applicable to Satellite Communication Network (SCN) authorised entities? Please provide your response with detailed justification.

If the spectrum charges are not to be levied on basis of AGR of the SCN Authorised entity, the spectrum charging mechanism may be a fixed amount based on administrative pricing model, which will be investment friendly and attract potential players significantly to help bridge the digital divide. Thus, a simple and predictable charging mechanism (e.g. flat or capacity-based per MHz) may be adopted.

Q32. In case D2D services are permitted to be provided using the MSS frequency bands such as L & S bands, what should be the appropriate spectrum charging framework for such bands when utilised for provision of D2D satellite-based services? Please provide

detailed justification for your response, including the methodology for determination of such spectrum charges, if required.

Satellite communication networks should generally not subject to market considerations but need special considerations. Therefore, the spectrum charges should be levied in such a manner to recover regulatory overheads only.

Q33. In case D2D services are permitted to be provided using the IMT spectrum assigned to the Service Authorised entity ('partnering entity') providing D2D satellite-based telecommunication services, should any additional spectrum charges be levied on the Service Authorised entity ('partnering entity') for use of IMT spectrum in the provision of satellite based D2D services? If yes, what should be the basis and quantum of such additional spectrum charges payable by the Service Authorised entity to the Government? In either case, please provide detailed justification for your response, including the detailed methodology for determination of such spectrum charges.

SIA-India is of the view that using the IMT spectrum for providing D2D satellite-based telecommunication services should be based on WRC-27 outcomes. Notwithstanding the above, we opine that additional spectrum charges should not be levied for providing D2D satellite-based telecommunication services using the IMT spectrum, since this is only an extension of terrestrial networks in hybrid mode via satellite to augment the coverage.

Q34. In case spectrum is assigned to Satellite Communication Network (SCN) authorised entities, what should be the appropriate payment terms for spectrum charges payable by Satellite Communication Network (SCN) authorised entities? Please provide your response with justification.

We support a more liberalised approach for payment of spectrum charges for SCN authorised entities based on administrative pricing regime. This approach synchronises with the current global practice and help to speed up the deployment of satellite-based services efficiently. A straight forward, flexible and predictable charging mechanism to recover the direct costs by administration is prudent. Flexibility should be put in place to fix the payment date in consultation with the Licensees (either spread of dates for large licences or coordinated same date) to avoid unnecessary late fee payment which is currently a burden to the licensee. It is our understanding that payment terms for spectrum charges payable by SCN authorised entities should be similar to that of DOT back reference to TRAI dated 12.11-2025.

Q35. In case Minimum Spectrum Charges are to be applicable for SCN authorised entities, what should be the payment terms for the minimum spectrum charges for SCN authorised entities? Please provide your response with detailed justification.

None

Q36. What should be the minimum equity and minimum net worth requirements for a Satellite Communication Network (SCN) authorised entity? Please provide detailed justification in support of your response.

- Keep minimum equity and net worth requirements proportionate to SCN business Models.
- Avoid thresholds that could exclude new or emerging players.
- Ensure requirements reflect capital intensity and phased deployment nature of satellite systems.

Q37. What should be the entry fee for proposed Satellite Communication Network (SCN) authorisation? Please provide detailed justification in support of your response.

SIA-India believes that the entry fee levied should be reasonable to support service affordability and encourage competition and investment, thereby helping to close the digital divide.

Q38. What should be the rate of Authorisation Fee for a Satellite Communication Network (SCN) authorised entity? Please provide detailed justification in support of your response.

Authorization fees should be transparent, consistent and proportionate to obtaining and maintaining the authorization. The fee should not involve any hidden costs that would unduly burden the entities.

Q39 Should a Minimum Authorisation Fee be applicable for the proposed SCN Authorisation? If yes, what should be the Minimum Authorisation Fee be for the proposed SCN Authorisation? Please provide detailed justification in support of your response.

Higher Authorization fee will deter and drive away the small players and start-ups. In order to promote multiple investments, the authorization fee should keep to modest level to sustain the growth of space industry in the country. Therefore, we are of the view that the appropriate minimum authorisation fee should be determined strictly based on an administrative cost-recovery model.

Q40. What should be the appropriate payment terms & conditions for Authorisation Fees? Please provide detailed justification in support of your response.

The payment terms and conditions should be simple and predictable in nature.

The late fee is levied cumulatively which is taxing the players financially difficult. Instead of levying cumulative late fee, the same be levied in simple interests for delay beyond a particularly period.

The late fee may be levied @ 2% per quarter (instead of 2% per month presently) on simple interest.

Q41. What should be the terms and conditions for Bank Guarantees, including both Performance Bank Guarantee (PBG) and Financial Bank Guarantee (FBG), for SCN authorised entities? Please provide detailed justification in support of your response.

In our opining, the PBG/FBG requirement may create barriers for the entry of smaller players and start-ups and hence no performance bank guarantee (PBG) or Financial Bank Guarantees (FBGs) should be imposed for SCN authorized entities.

If at PBG/FBG is considered, it should be one or two times proportional to the authorization fee.

Q42. What should be the application processing fee for Satellite Communication Network (SCN) authorised entity? Please provide detailed justification in support of your response.

SIA-India opines that the application processing fee for SCN authorized entity should be free of cost till growing space industry achieve stability in the country and this can be reviewed after a gap of 5 years period.

In case, if it is felt necessary to levy the application processing fee, it should be just to recover the administrative overheads in processing the applications.

Q43. Apart from the financial provisions discussed earlier, are there any other financial terms and conditions that should be made applicable for the proposed Satellite Communication Network authorisation? Kindly provide a detailed response with justifications.

The DBN levy of 5% should be exempted from License Fee applicable for proposed SCN / SCNaaS Authorisations as the services will mostly be provided in unserved and underserved areas of the country. This will reduce the service cost for end users and make services more affordable and will help in reducing the digital divide.

The space policy stability was ensured in the Union Budget 2026 at a time when private capital is already driving growth in India's space startup ecosystem. At this juncture, the stability and relaxed norms in the regulatory regime, promoting the continuance of administrative pricing and fiscal incentives from the government will further help the budding space industry to reach its pinnacle.

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