



**TRAI Consultation Paper on the Terms and Conditions of Network Authorizations to be
Granted Under the Telecommunications Act, 2023**

Date of Release: 22-10-2024

Last date of submission: 19-11-2024

**IAFI comments on TRAI Consultation Paper on the Terms and Conditions of Network
Authorizations to be Granted Under the Telecommunications Act, 2023:**

S. No.	Issue	Page Nos
1	About ITU-APT Foundation of India (IAFI)	2 - 3
2	IAFI views/comments on the questioner	4 - 27
3	Annexure -I: Note on private/captive 5G Network	27 - 35

Brief about the ITU-APT Foundation of India (IAFI)

ITU-APT Foundation of India (IAFI) is a non-profit, non-political, non-partisan registered foundation. IAFI is working for last 20 years with the prime objective of encouraging involvement of professionals, corporate, public/private sector industries, R&D organizations, academic institutions, and such other agencies engaged in development of ICT sector, in the activities of the International Telecommunication Union (ITU) and the Asia Pacific Telecommunity (APT). Further details regarding IAFI are available on our website <https://iafi.in>

The Foundation has been recognized as an International/Regional Telecommunications Organization by the ITU, as IAFI is a sector Member of the ITU Radiocommunication Sector (ITU-R), ITU Development Sector (ITU-D) and ITU Telecommunication Standardization Sector (ITU-T) and affiliate Member of Asia Pacific Telecommunity (APT) which manifests its usefulness to the Indian Telecom industry. The Foundation members are entitled to participate and contribute to the activities of ITU-R, ITU-D, ITU-T and APT. Over the last three years, IAFI has submitted more than 100 contributions for the work of all the three sectors of the union, especially in the Spectrum Area.

IAFI has acquired credibility and reputation as a specialized stakeholder group in “spectrum innovation” in the country and also in the region. It is a key driving force in spectrum discussions in the country especially on spectrum as a key resource for digital transformation through IMT, Wi-Fi, Satellite services.

IAFI also carries out capacity building activities in the region. Our key participants include government and industry. It is critical to note that different government agencies have competing demands in spectrum viz. defence, broadcasting, public, space services. These stakeholders are essential for any fruitful discussions on spectrum enablement. The Government has come out with an innovative policy on spectrum regulatory sandboxes. IAFI could play an important role in building awareness, capacities in SMEs and Start-ups in exploiting the government initiatives and spreading these best practices in the other countries in the region.

IAFI key roles and activities include:

1. **Promotion of ICT Development:** The foundation actively promotes the development and deployment of ICT infrastructure and services across India. By collaborating with

various stakeholders, including government bodies, industry leaders, and academic institutions, it strives to create an enabling environment for the growth of the ICT sector.

2. **Standards Development and Implementation:** IAFI actively contributes to the development and implementation of international standards in telecommunications. It plays a key role in representing our interests in global forums, such as ITU, APT, UNO, WTO, etc and ensures that our perspective is effectively incorporated into the standards-setting process.
3. **Research and Development:** The foundation fosters research and development activities in the field of telecommunications. By supporting innovative research projects, it aims to address emerging challenges, explore new technologies, and promote cutting-edge solutions that can benefit both the industry and society at large.
4. **Capacity Building and Training:** Recognizing the importance of human capital in driving the growth of the telecommunications sector, the foundation organizes capacity-building programs and training workshops. These initiatives aim to enhance the skills and knowledge of professionals working in the field, enabling them to stay abreast of the latest advancements and best practices.
5. **Policy Advocacy:** IAFI actively engages in policy advocacy to influence decision-making processes related to ICT. It works closely with regulatory bodies and government agencies to provide inputs on policy formulation, regulatory frameworks, and spectrum management, ensuring that they align with the evolving needs of the industry and society.
6. **Industry Collaboration:** The foundation facilitates collaboration and networking among industry players, academia, and research organizations. It organizes conferences, seminars, and industry forums where stakeholders can exchange ideas, share experiences, and explore opportunities for partnership and cooperation.
7. **Digital Inclusion and Empowerment:** With a focus on promoting digital inclusion, the foundation works towards bridging the digital divide and ensuring that the benefits of ICT reach all sections of society. It supports initiatives that empower marginalized communities, promote digital literacy, and leverage technology for social and economic development.

Through its diverse range of activities, IAFI remains committed to driving the growth and development of the telecommunications sector in India. By fostering collaboration, advocating for sound policies, and promoting innovation, the foundation is playing a pivotal role in shaping India's digital future and contributing to the country's socio-economic progress.

.....

IAFI Comments

TRAI Consultation Paper dated 22-10-2024 was examined in detail and after due consultation with our industry partners, IAFI's detailed response with justification are as follows.

Q-1. Whether there is a need to merge the scopes of the extant Infrastructure Provider-I (IP-I) and Digital Connectivity Infrastructure Provider (DCIP) authorization (as recommended by TRAI in August 2023), into a single authorisation under Section 3(1)(b) of the Telecommunications Act, 2023?

Kindly provide a detailed response with justifications.

Q-2. In case your response to the Q-1 is in the affirmative, kindly provide a detailed response with justifications on –

(a) Eligibility conditions for the grant of the merged authorisation; and

(b) Area of operation, validity period of authorisation, scope, and terms & conditions (general, technical, operational, security etc.) of the merged authorisation.

Q-3. In case your response to the Q1 is in the negative, -

(a) What changes (additions, deletions or modifications) are required to be incorporated in the eligibility conditions, area of operation, validity period of authorisation, scope, and terms & conditions (general, technical, operational, security etc.) of the IP-I authorisation under Section 3(1)(b) of the Telecommunications Act, 2023 as compared to the extant IP-I registration?

(b) Whether there is a need to make certain changes in the eligibility conditions, area of operation, validity period of authorisation, scope, and terms & conditions (general, technical, operational, security etc.) of the DCIP authorisation (as recommended by TRAI in August 2023)?

If yes, kindly provide a detailed response with justifications.

IAFI Response to Q-1 to Q-3:

IAFI in its response dated August 8th, 2024, to the TRAI Consultation Paper on "The Framework for Service Authorisations to be Granted Under the Telecommunications Act, 2023" (issued July 11th, 2024), firmly stated its opposition for creation of a separate Digital Connectivity Infrastructure Provider (DCIP) authorization. IAFI also argued against both establishing a standalone DCIP license and merging it with the existing IP-I registration.

Q-4.

(a) Which telecommunication equipment/ elements should be included in the ambit of ‘in-building solution’ (IBS)?

(b) Whether there is a need to introduce a new authorisation under Section 3(1)(b) of the Telecommunications Act, 2023 for establishing, operating, maintaining or expanding in-building solution (IBS) by any property manager within the limits of a single building, compound or estate controlled, owned, or managed by it?

If yes, what should be the eligibility conditions, area of operation, validity period of authorisation, scope, and terms & conditions (general, technical, operational, security etc.) of such an authorisation?

Please provide a detailed response with justifications.

IAFI Response:

This response depends on the type of **property, whether within the limits of a single building, compound or estate controlled, owned, or managed by it.**

In cases of residential properties, most households install wired networks or Wi-Fi networks including routers etc. Thus, there is no need for listing down specific telecom equipment/elements which should be included in the ambit of IBS. There is also no need to introduce a new authorisation for establishing, operating, maintaining or expanding in-building solution (IBS) for such properties.

In case of buildings, where there are factories, businesses or enterprises, IAFI in its response dated August 8th, 2024, to the TRAI Consultation Paper on "The Framework for Service

Authorisations to be Granted Under the Telecommunications Act, 2023" (issued July 11th, 2024), proposed a concept of Class authorisation to exempt certain categories of networks from case-by-case authorisation required under Telecom Act 2023. This would also include in building solutions for these kinds of buildings, as it would typically be a captive network owned by the building owner.

Normally any non-commercial wireless services within a building or campus should not require a license or authorisation.

Since the frequency spectrum authorisations has been delinked from the licensing, there should be no need for any other authorisation for inbuilding use. Such usage is similar to WiFi usage at home for captive purposes of the residents and has no commercial value. As such a general exemption authorization should be issued for any in building use which does not involve any commercial transaction, including, but not limited to: Wireless Private /Captive Networks, Private Enterprise Networks, and Private/Captive 5G Networks. Such inbuilding users could either use unlicensed spectrum or they could apply for a specific spectrum authorisation. Such a new policy framework for enterprises to obtain the much-needed spectrum directly from DoT for establishing their own inbuilding Wireless captive Private Networks will pave the way for development of Industry 4.0 infrastructure in the country. India has vast presence of Industries across various sectors ranging from Manufacturing, Transportation, Mining, Land & Sea Ports, Automotive, Steel, Pharma, Education, where true potential of private networks can be exploited to drive "Make in India" initiative and eventually contributing to the national GDP. Thus, direct spectrum allocation and licensing of captive Industrial and enterprise 5G networks is in the overall national interest of all sectors of the economy. Please see detailed note in annex 1 on Private 5G networks.

Q-5. Whether there is a need to make any changes in the eligibility conditions, area of operation, validity period of authorisation, scope, and terms & conditions (general, technical, operational, security etc.) of the Content Delivery Network (CDN) authorisation, as recommended by TRAI on 18.11.2022?

If yes, what changes should be made in the eligibility conditions, area of operation, validity period of authorisation, scope, and terms & conditions (general, technical, operational,

security etc.) of the CDN authorisation? Kindly provide a detailed response with justification.

IAFI Response:

In response to TRAI Consultation Paper dated 16-12-2021, IAFI has submitted the detailed inputs and same is attached again for the consideration of the TRAI. In addition, CDNs, especially those operated by unlicensed entities, should be obligated to fulfill some minimum QoS standards. Further, content should always be blocked by issuing orders directly to CDN or platform hosting the content in India or to the content providers. We also submit that commercial arrangements between CDN and ISPs should continue to be governed by market forces, and no regulatory intervention is required in the same. Lastly, CDNs can be mandated to set-up their infrastructure in tier-2 and tier-3 cities based on a defined criterion (viz. quantum of traffic).

Q-6. Whether there is a need to make any changes in the eligibility conditions, area of operation, validity period of authorisation, scope, and terms & conditions (general, technical, operational, security etc.) of the Internet Exchange Point (IXP) authorisation, as recommended by TRAI on 18.11.2022? If yes, what changes should be made in the eligibility conditions, area of operation, validity period of authorisation, scope, and terms & conditions (general, technical, operational, security etc.) of the IXP authorisation? Kindly provide a detailed response with justification.

IAFI Response:

In response to TRAI Consultation Paper dated 16-12-2021, IAFI has submitted the detailed inputs and same is attached again for the consideration of the TRAI.

The role of the exchanges in this framework should be to provide only a common location or a colocation place (i.e. DC facility) where different ISPs can place their equipment to peer with each other on the commercial conditions mutually agreed. No content-to-content peering should be allowed i.e. the end user should not be allowed to connect at exchanges/IXP for any

content-to content peering.

TRAI may accordingly review its recommendation on the Regulatory Framework for the Promotion of the Data Economy through the Establishment of Data Centers, Content Delivery Networks, and Interconnect Exchanges in India, dated November 18, 2022.

Q.7 Whether there is a need to make any changes in the eligibility conditions, area of operation, validity period of authorisation, scope, and terms & conditions (general, technical, operational, security etc.) of the Satellite Earth Station Gateway (SESG) authorisation, as recommended by TRAI on 29.11.2022? If yes, what changes should be made in the eligibility conditions, area of operation, validity period of authorisation, scope, and terms & conditions (general, technical, operational, security etc.) of the SESG authorisation? Kindly provide a detailed response with justification.

Q8. Whether there is a need to introduce a new authorisation for establishing, operating, maintaining or expanding satellite communication network, which may be used to provide network as a service to the entities authorised under Section 3(1)(a) of the Telecommunications Act, 2023? If yes-

(a) What should be the eligibility conditions, area of operation, validity period of authorisation, scope, and terms & conditions (general, technical, operational, security etc.) of such authorisation?

(b) Whether an entity holding such authorisation should be made eligible for the assignment of spectrum for both feeder link as well as user link?

Kindly provide a detailed response with justification.

Q-9. Whether there is a need to introduce an authorisation under Section 3(1) of the Telecommunications Act, 2023 for establishing, operating, maintaining or expanding ground stations, which may be used to provide ground station as a service (GSaaS)?

If yes, what should be the eligibility conditions, area of operation, validity period of authorisation, scope, and terms & conditions (general, technical, operational, security etc.) for the authorisation to establish, operate, maintain, or expand ground stations, which may be used to provide GSaaS?

Kindly provide a detailed response with justifications.

IAFI Response to Questions 7-8-9

The SatCom regulatory regime in India has not evolved to keep pace with the developments in technology. At present, there is no separate registration for SESG or Satellite Communication Network operators in India, forcing even satellite operators – who only wish to set up Satellite Earth Station Gateways (SESGs)/Satellite Network Portals (SNPs) and acquire satellite spectrum to operate the SESG/SNP to provide satellite bandwidth to TSPs and do not intend to provide any retail services to end customers directly – to take a Unified License, which comes with strict conditions like security compliance etc.

While TRAI recognized the issue, and recommended for a separate SESG license; however, the issue was not addressed holistically. TRAI followed the same approach as IP-I, recommending that SESG licensees should not be allowed to use spectrum or install baseband equipment – without acknowledging the unique requirements of global-level NGSO operators.

We submit that there should be a separate light-touch registration for SESG/Satellite Communication Network operators, they should not be required to obtain any license/authorisation.

Further, the SESG/Satellite Communication Network operator should be allowed to acquire/use spectrum required for the operation of SESGs/SNPs (for establishing the feeder link with the satellite) and to install baseband equipment at the SESGs/SNPs. Without these, the separate SESG/Satellite Communication Network registration would be of no use to NGSO satellite operators.

Furthermore, the spectrum required for the operation of UTs should be allocated to service licensees.

Lastly, the SESG/Satellite Communication Network operator should also be allowed to connect their SESGs with their Points-of-Presence (where the respective traffic is handed back over to different partners/service providers) – through a fiber/leased line, without having to acquire any separate license/authorisation.

IAFI therefore supports a separate Satellite Earth Station Gateway (SESG) registration (i.e. the SESG will not form part of the Unified License). We are also clear that the SESG operator should not be permitted to provide Services to the consumers directly. However, as some satellite systems require that the baseband equipment be owned and operated by only one entity, flexibility should be allowed in terms of who can install the baseband equipment at the SESG.

Further, we do not support the proposal that the gateway frequency spectrum should be assigned to the service licensees and not the gateway licensee. Gateway spectrum must be licensed to the Gateway licensee. In the proposed way of granting the spectrum to the service licensee, multiple licensing of the same spectrum for operation of the same antennas would need to be issued in the case of multiple service licensees using the same gateway, which would be absurd.

In general, as the final arrangements for spectrum allocation need to be coherent and harmonious, it may be best to separate the licensing conditions for spectrum assignment to service licensees and the spectrum licensees for the SESG spectrum

Further there should be no need for disclosure of the financial terms of the agreement between the service licensees and the gateway operator, which could lead to confidential and commercially sensitive information become public.

With regard to the proposed merger of the GMPCS and VSAT licenses, we continue to believe that these services are totally different, with GPMCSs using typically much lower frequencies with very different characteristics, including sharing capabilities. While the desire to simplify the licensing framework is understandable, IAFI is of the view that it would be best to keep the licenses separate.

Q-10. Whether there is a need to introduce an authorisation under Section 3(1)(b) of the Telecommunications Act, 2023 for establishing, operating, maintaining or expanding cloud-hosted telecommunication networks, which may be used to provide telecommunication network as a service to the authorized entities under Section 3(1)(a) of the Telecommunications Act, 2023? If yes, what should be the eligibility conditions, area of operation, validity period of authorisation, scope, and terms & conditions (general, technical, operational, security etc.) of such an authorisation? Kindly provide a detailed response with justifications.

IAFI Response:

No, there is no need to introduce a separate authorisation for establishing, operating, maintaining or expanding cloud-hosted telecom networks, which may be used to provide telecom network as a service to the authorised entities.

There is no restriction on virtualisation under the existing regime. TSPs in India have already adopted virtualisation in their networks – as per their respective business & other requirements, they have moved from hardware to software and from physical infrastructure to cloud-hosted networks.

The regime should continue to be flexible enough to allow both physical and virtual layers. A separate authorisation for cloud-hosted telecom networks would not serve any purpose.

Moreover, TRAI has itself recommended, in its latest Recommendations dated 18th September 2024 on ‘the Framework for Service Authorisations to be Granted Under the Telecommunications Act, 2023’, that

NLD & ILD Authorisations and GMPCS & Commercial VSAT CUG Authorisations should be clubbed in order to minimize the number of authorisations and simplify the regime. We suggest that similar approach should continue here.

Q-11. What should be the eligibility conditions, area of operation, validity period of authorisation, scope, and terms & conditions (general, technical, operational, security etc.) of the authorisation for Mobile Number Portability Service under Section 3(1)(b) of the Telecommunications Act, 2023? Kindly provide a detailed response with justifications.

IAFI Response:

Mobile Number Portability (MNP) has proved a great success in India and around 11 million mobile numbers portability requests has been processed since Jan, 2011 to 2024 .

Introducing an authorization for Mobile Number Portability (MNP) under the Telecommunications Act, 2023, would support a fair, secure, and seamless porting process across India's telecom networks. Eligibility requirements should include technical expertise in number portability, sufficient financial capacity to operate MNP infrastructure, a commitment to network neutrality, and adherence to data security and privacy standards. This would ensure that MNP providers are capable of managing secure and efficient porting services across operators while protecting consumer data.

The authorization should be nationwide, with a validity period of 10-15 years to encourage sustained investment. The scope would cover comprehensive MNP services, such as managing the porting process, database management, and inter-operator coordination. This enables accurate number routing and efficient transitions, ensuring that all consumers can benefit from a consistent MNP experience.

To ensure reliable service, MNP providers must adhere to regulatory requirements, provide timely porting, and maintain fair access and transparent pricing for all telecom operators. Technical standards and robust security measures would be necessary to protect MNP infrastructure and consumer data, while regular reports and cooperation with regulatory authorities would uphold service quality and compliance.

A structured MNP framework would empower consumer choice, foster competition, and support network interoperability, which are crucial for a dynamic telecom market. With enhanced data security and regulatory alignment, this authorization would strengthen India's MNP system, promoting a competitive, consumer-focused telecommunications environment.

Q-12. What provisions should be included in the terms and conditions of various network authorisations under Section 3(1)(b) of the Telecommunications Act, 2023 considering the various sections including Sections 4 to 9, 19 to 24, 32 to 42, 44, 45, 49, and 55 of the Telecommunications Act, 2023 and technological/ market developments in the telecommunication sector?

Kindly provide a detailed response with justifications.

IAFI Response:

Any specific terms and conditions proposed to be included in authorisations under the provisions of the Telecom Act should be deliberated with the industry before being proposed.

Q-13. What provisions should be included in the terms and conditions of various network authorisations under Section 3(1)(b) of the Telecommunications Act, 2023 considering the policy/ Act in the Space Sector and other relevant policies/ Acts in the related sectors?

Kindly provide a detailed response with justifications.

IAFI Response:

See response to questions 7-8-9 for space sector.

Q-14. What should be the terms and conditions for the merger, demerger, acquisition, or other forms of restructuring of the entities holding network authorisations under Section 3(1)(b) of the Telecommunications Act, 2023?

Please provide a detailed response with justifications in respect of each network authorisation.

IAFI Response:

The transfer/merger guidelines should factor in the following submissions:

1. Methods other than NCLT-sanctioned scheme, including slump sale and business transfer agreement, should also be recognized under the guidelines.
2. There should be no separate requirement of DoT's approval for merger/demerger, post the completion of the NCLT proceedings, as DoT is itself involved in the NCLT proceedings.
3. Neither the Transferor Company nor the Transferee Company should be required to clear their outstanding dues for the purpose of obtaining DoT's permission for merger/demerger and transfer, in case of dispute pertaining to the outstanding dues and/or the matter being sub-judice.
4. The requirement of submission of BG in respect of any litigated amounts should be done away with.
5. The time spent in pursuing any litigation on account of which the final approval for merger/demerger is not granted by DoT or any other authority, should be excluded while calculating the time frame granted post NCLT approval for transfer/merger of licenses/authorisations. Also, strict timelines must be stipulated for DoT to exercise its legal remedies against any merger/demerger.

Q-15. What conditions should be made applicable for the migration of existing network licenses, registrations etc. to the new network authorisation regime under Section 3(1)(b) of the Telecommunications Act, 2023? Kindly provide a detailed response with justifications.

IAFI Response:

The Telecommunications Act, 2023 allows licensees, registrants, and permission holders to migrate to the new network authorization regime under Section 3(1)(b).

We believe that the process of migration to the new regime should be voluntary, in line with the provisions of the Telecom Act.

Further, we recommend the following:

(i) Migration to the new regime should not create a disparity between the licenses and the principles of fairness and equity should be maintained. The terms and conditions applicable to the existing licensees who choose not to migrate should be no worse-off than those applicable to such licensees who choose to migrate as well as to new entrants who obtain an authorisation under the new regime.

(ii) Migration should not be conditional upon withdrawal of sub-judice matters or upon submission of BGs/undertakings regarding payment of dues in respect of such matters.

Q-16. What procedure should be followed for the migration of existing network licenses, registrations etc. to the new network authorisation regime under Section 3(1)(b) of the Telecommunications Act, 2023?

Kindly provide a detailed response with justifications.

IAFI Response:

See question 15 above

Q-17. Whether there is a need to introduce certain new authorisations (other than the authorisations discussed above) to establish, operate, maintain or expand telecommunication networks under Section 3(1)(b) of the Telecommunications Act, 2023?

If yes, -

(a) For which type of telecommunication networks, new authorisations should be introduced?

(b) What should be the eligibility conditions, area of operation, validity period of authorisation, scope, and terms & conditions (general, technical, operational, security etc.) of such authorisations?

Kindly provide a detailed response with justifications.

IAFI Response:

IAFI in its response dated August 8th, 2024, to the TRAI Consultation Paper on "The Framework for Service Authorisations to be Granted Under the Telecommunications Act, 2023" (issued July 11th, 2024), made a number of proposals including proposals for captive networks authorisation, etc. Please see our enclosed response.

In summary, under the Telecommunications Act, 2023, a number of new authorisations should be introduced beyond those already outlined under Section 3(1)(b) to address the evolving needs of the telecommunications sector. These new authorizations would, inter alia, include Neutral Host Network Authorization, Private 5G Network Authorization, Submarine Cable Landing Station Authorization, and Wireless Access Network Sharing Authorization. Each of these would cater to specific network types and emerging technologies, promoting innovation, infrastructure sharing, and supporting industry-specific needs.

Q-18. Whether there is a need to remove certain existing authorisations to establish, operate, maintain or expand telecommunication networks, which may have become redundant with technological advancements? If yes, kindly provide a detailed response with justifications.

IAFI Response:

IAFI in its response dated August 8th, 2024, to the TRAI Consultation Paper on "The Framework for Service Authorisations to be Granted Under the Telecommunications Act, 2023" (issued July 11th, 2024), made several proposals in this regard. These need to be implemented.

Q-19. Whether there is a need to club the scopes of certain authorisations to establish, operate, maintain or expand telecommunication networks into a single network authorisation under Section 3(1)(b) of the Telecommunications Act, 2023 for bringing more efficiency in the telecommunication networks?

If yes, kindly provide a detailed response with justifications.

IAFI Response:

IAFI in its response dated August 8th, 2024, to the TRAI Consultation Paper on "The Framework for Service Authorisations to be Granted Under the Telecommunications Act, 2023" (issued July 11th, 2024), made a number of proposals in this regard.

Clubbing the scopes of certain telecommunications authorizations into a single network authorization under Section 3(1)(b) of the Telecommunications Act, 2023, can greatly enhance efficiency in the sector. A unified authorization would reduce regulatory burden by streamlining compliance processes, enabling telecom operators to follow one comprehensive set of rules instead of managing multiple licenses. This approach also expedites network rollouts, particularly in underserved areas, by eliminating the need for separate applications, fees, and approvals for different network operations.

This shift would also enhance operational efficiency, offering telecom operators greater flexibility to adapt their networks to evolving demands and technological advancements. A single authorization allows for the seamless integration of network components, optimizing resource utilization and potentially reducing costs. Additionally, it can attract more investment by providing a simplified regulatory framework, fostering a competitive environment that encourages innovation and attracts funding for infrastructure and technology upgrades.

Adopting a unified authorization would align India's telecom regulatory framework with international best practices, many of which have already streamlined licensing to promote efficiency. This would also accelerate the Digital India initiatives, enabling faster deployment of broadband and digital services, especially in rural and remote areas. Overall, a single network authorization would support the government's vision, benefit consumers through improved service delivery, and stimulate innovation within the industry.

Q-20. What provisions should be included in the terms and conditions of various network authorisations under Section 3(1)(b) of the Telecommunications Act, 2023 to improve the ease of doing business?

Kindly provide a detailed response with justifications.

IAFI Response:

To enhance the ease of doing business, the Telecommunications Act, 2023 should introduce provisions that simplify the application and approval process for network authorizations. A fully online, single-window clearance system would streamline approvals, reducing paperwork and

processing time while improving transparency. Additionally, implementing deemed approvals—where applications are automatically approved if the regulator does not respond within a set timeframe—would eliminate unnecessary delays and promote efficiency. Clearly defined eligibility criteria and transparent documentation requirements will ensure predictability for applicants.

A more flexible licensing framework is crucial to reducing regulatory burdens. Moving towards a unified licensing regime would consolidate various authorizations into a single license, offering greater flexibility for operators. The system should also embrace technology and service neutrality, allowing licensees to deploy any technology and offer diverse services within their license scope. Spectrum liberalization, with longer license durations, will provide operators with greater certainty, enabling more robust investment in network infrastructure.

A light-touch regulation approach would foster innovation and flexibility by focusing on outcomes like service quality and consumer protection rather than rigid technical requirements. A risk-based regulatory approach would allow resources to be concentrated on higher-risk areas, reducing unnecessary compliance burdens for low-risk activities. Regular reviews of regulations would ensure that licensing conditions remain aligned with market dynamics and technological advancements.

To further reduce the compliance burden, simplified reporting processes and self-certification for certain compliance aspects can be introduced. Proportionate penalties should be applied to ensure that fines are not excessive, encouraging investment. Promoting infrastructure sharing, network roaming, and open access networks would optimize resource utilization and foster competition, ultimately benefiting consumers through improved service quality and affordability. These provisions will create a more conducive environment for growth in India's telecom sector and its contribution to the digital economy.

It will be appropriate that DoT portal "SaralSanchar" should be used for all above mentioned activities.

Q-21. Whether there is a need for mandating a reference agreement between authorized entities establishing, operating, maintaining or expanding the telecommunication network,

and authorized entities providing telecommunication services?

If yes, -

(a) Between which type of entities, reference agreements are required to be mandated?

(b) What should be the salient features of the reference agreements between such entities?

Kindly provide a detailed response with justifications.

IAFI Response:

No, there is no need for mandating a reference agreement between authorised entities establishing, operating, maintaining or expanding telecom networks, and authorised entities providing telecom services.

The Authority has presently mandated reference agreements in very limited scenarios. No specific proposal or justification has been put forward by TRAI regarding the need for reference agreement in any other scenario.

We submit that the commercial arrangements between service providers and network operators should continue to be governed by market forces. We do not see any need for ex-ante regulatory intervention at this stage.

Q-22. Are there any other inputs or suggestions relevant to the subject? Kindly provide a detailed response with justifications.

IAFI Response:

Several important suggestions can help improve the regulatory framework for telecommunications in India under the Telecommunications Act, 2023. First, spectrum management could be enhanced by implementing dynamic spectrum sharing technologies, ensuring fairness in spectrum auctions, and allowing for spectrum trading in secondary markets to optimize allocation based on demand. Additionally, streamlining Right-of-Way (RoW) permissions for infrastructure development and promoting public-private partnerships (PPPs)

can accelerate network rollout, especially in rural and underserved areas.

To support technological advancement, the regulatory framework should facilitate the deployment of 5G and future technologies, including appropriate spectrum allocation and policies for Open RAN adoption, which encourages competition in telecom equipment markets. Incentivizing the development of indigenous technologies can further reduce reliance on foreign vendors and promote self-reliance in the telecom sector. These measures will ensure that India remains at the forefront of technological innovation in telecom.

Consumer protection is another critical aspect, with stronger regulations on data privacy and security to build trust in digital services. Upholding net neutrality and ensuring accessibility for persons with disabilities are essential to prevent discrimination and ensure equitable access to telecom services for all users. These provisions will ensure that consumer rights are safeguarded in an increasingly digital environment.

Finally, strengthening the regulatory capacity is key to addressing the challenges and complexities of the telecom sector. The regulator must be independent, well-equipped with expertise, and engaged in regular consultations with stakeholders to ensure that regulations align with market dynamics and technological developments. By incorporating these inputs, the Telecommunications Act, 2023 can create a dynamic, competitive, and future-proof telecom sector that drives India's economic and digital growth.

Q-23. In case it is decided for merging the scopes of the extant Infrastructure Provider-I (IP-I) and the Digital Connectivity Infrastructure Provider (DCIP) authorization into a single authorization under the Section 3(1)(b) of the Telecommunications Act, 2023, what should be the: -

- (a) Minimum equity and Networth of the Authorized entity.**
- (b) Amount of application processing fees**
- (c) Amount of entry fees**
- (d) Any other Fees/Charge Please support your response with proper justification.**

IAFI Response:

IAFI in its response dated August 8th, 2024 to the TRAI Consultation Paper on "The Framework for Service Authorizations to be Granted Under the Telecommunications Act, 2023" (issued July 11th, 2024), firmly stated its opposition for creation of a separate Digital Connectivity Infrastructure Provider (DCIP) authorization. IAFI argued against both establishing a standalone DCIP license and merging it with the existing IP-I registration.

IAFI is of the clear opinion that there is no need to create a separate authorization viz DCIP, to avoid unjust enrichment of one set of operators at the cost of others.

Q-24. In case it is decided not to merge the scopes of IP-I and DCIP, what changes/modifications are required to be made in the financial conditions of –

(a) DCIP authorisation as recommended by TRAI in August 2023

(b) IP-I authorisation under the Telecommunications Act, 2023 with respect to the extant IP-I registration?

Please provide a detailed response with justification.

IAFI Response:

IAFI in its response dated August 8th, 2024 to the TRAI Consultation Paper on "The Framework for Service Authorizations to be Granted Under the Telecommunications Act, 2023" (issued July 11th, 2024), firmly stated its opposition for creation of a separate Digital Connectivity Infrastructure Provider (DCIP) authorization. IAFI argued against both establishing a standalone DCIP license and merging it with the existing IP-I registration.

IAFI is of the clear opinion that there is no need to create a separate authorization viz DCIP, to avoid unjust enrichment of one set of operators at the cost of others.

Q-25. In case it is decided to introduce a new authorisation under Section 3(1)(b) of the Telecommunications Act, 2023 for establishing, operating, maintaining or expanding in-building solution (IBS) by any property manager within the limits of a single building,

compound or estate controlled, owned, or managed by it, then-

(a) Whether there is a need to have financial conditions associated with such an authorisation?

(b) In case your response to the above is in the affirmative, then what should be financial conditions for such an authorisation?

Please provide detailed response with justification.

IAFI Response:

The Telecommunications Act, 2023 should include financial conditions even for small-scale in-building solutions (IBS) deployed by property managers within a single building or estate. This is necessary to manage spectrum resources, ensure fair competition among IBS providers, fund regulatory oversight, and promote safety and security within these networks.

However, these financial conditions should be proportionate to the limited scope of such deployments. A low one-time authorization fee, a small recurring renewal fee, and a spectrum usage fee (if applicable) would be appropriate. A performance bank guarantee could be optional, depending on the scale and criticality of the IBS deployment.

These measures strike a balance between enabling property managers to enhance connectivity and ensuring responsible resource use and compliance. This approach facilitates IBS deployment while maintaining a well-managed telecommunications environment.

It is important to streamline the authorization process, maintain fee transparency, and consider exemptions or reduced fees for specific building types or beneficial technologies. This approach ensures a balanced and efficient regulatory framework for IBS, promoting innovation and connectivity while safeguarding public interests.

Q-26. Whether there is a need to change/ modify any of the financial conditions of the IXP and CDN authorisations from those recommended by TRAI on 18.11.2022?

If yes, please provide a detailed response with justification(s).

IAFI Response:

We request you to refer to our response to Question No. 5 and 6.

Q-27. Whether there is a need to change/ modify any of the financial conditions of the Satellite Earth Station Gateway (SESG) authorization from those recommended by TRAI on 29.11.2022?

If yes, please provide a detailed response with justification(s).

IAFI Response:

We request you to refer to our response to Question No. 7-8-9.

Q-28. In case it is decided to introduce a new authorisation for establishing, operating, maintaining or expanding satellite communication network under Section 3(1)(b) of the Telecommunications Act, 2023, then, what should be the financial conditions for such authorisation?

IAFI Response:

We request you to refer to our response to Question No. 7-8-9.

Q-29. In case it is decided to introduce an authorisation under Section 3(1) of the Telecommunications Act, 2023 for establishing, operating, maintaining or expanding ground stations, which may be used to provide Ground Station as a Service (GSaaS), then:

(a) Whether there is a need to have financial conditions associated with such an authorisation?

(b) In case your response to the above is in the affirmative, then what should be financial conditions for such an authorisation? Please provide detailed response with justification.

IAFI Response:

We request you to refer to our response to Question No. 7-8-9.

Q-30. In case it is decided to introduce an authorisation under Section 3(1)(b) of the Telecommunications Act, 2023 for establishing, operating, maintaining or expanding cloud-hosted telecommunication networks, which may be used to provide telecommunication network as a service to the authorised entities under Section 3(1)(a) of the Telecommunications Act, 2023, then:

(a) Whether there is a need to have financial conditions associated with such an authorisation?

(b) In case your response to the above is in the affirmative, then what should be financial conditions for such an authorisation? Please provide detailed response with justification.

IAFI Response:

As submitted under Q10, there is no need to introduce a separate authorisation for establishing, operating, maintaining or expanding cloud-hosted telecom networks.

Q-31. For Mobile Number Portability Service authorisation under Section 3(1)(b) of the Telecommunications Act, 2023, should the amount of entry fee and provisions of bank guarantees be: (a) kept same as per existing MNP license.

(b) kept the same as recommended by the Authority vide its Recommendations dated 19.09.2023

(c) or some other amount/ provisions may be made for the purpose of Entry Fee and Bank Guarantees. Please support your response with proper justification.

IAFI Response:

Determining the entry fee and bank guarantee for Mobile Number Portability (MNP) authorization under the Telecommunications Act, 2023 requires careful consideration. While maintaining the existing framework or adopting the Authority's recommendations are options,

a customized approach offers the most flexibility to address the unique circumstances of the MNP market and the Act's goals.

This tailored approach should prioritize promoting competition, protecting consumer interests, encouraging innovation, and ensuring regulatory compliance. The entry fee should encourage new entrants without hindering existing providers, while the bank guarantee should safeguard consumers from potential service disruptions.

To determine specific amounts, a comprehensive consultation with stakeholders like MNP providers, telecom operators, and consumer groups is crucial. This process should consider market dynamics, service costs, potential risks, technological advancements, and international best practices, ensuring a robust and effective MNP framework that benefits the entire telecommunications sector.

Q-32. For Mobile Number Portability Service authorisation under Section 3(1)(b) of the Telecommunications Act, 2023, whether there is a need to review/ modify:

(a) Definition of GR, AGR, ApGR

(b) Rate of authorisation fee

(c) Format of Statement of Revenue Share and License Fee

(d) Norms for the preparation of annual financial statements

(e) Requirement of Affidavit Please provide your response with detailed justification.

IAFI Response:

To align Mobile Number Portability (MNP) authorization with the Telecommunications Act, 2023, a review of key aspects is crucial. This includes re-evaluating the definitions of Gross Revenue (GR), Adjusted Gross Revenue (AGR), and Applicable Gross Revenue (ApGR) to ensure they are consistent with the Act and facilitate transparent financial calculations. The rate of authorization fees should also be reviewed to reflect current market dynamics and encourage competition while ensuring the financial sustainability of MNP providers.

Furthermore, the format of revenue sharing and license fee statements should be standardized to align with the Act's reporting requirements, and norms for preparing annual financial

statements should be updated to ensure accuracy and transparency. Finally, the requirement of affidavits should be reviewed to streamline the process without compromising the framework's integrity.

This comprehensive review will ensure a robust and transparent MNP authorization framework that promotes competition, protects consumer interests, and fosters a sustainable MNP ecosystem in line with the 2023 Act's objectives.

Q-33. What financial conditions should be made applicable for the migration of the existing licensees/ registration holders to the relevant new authorisations under section 3(1) (b) of the Telecommunications Act, 2023? Kindly provide a detailed response with justifications.

IAFI Response:

We request you to refer to our response to Question No. 15-16.

Q-34. In case it is proposed for introducing certain new authorisations to establish, operate, maintain or expand telecommunication networks under Section 3(1)(b) of the Telecommunications Act, 2023, what should be the respective financial conditions for each of such authorisation(s)?

Please provide a detailed response with justifications in respect of each network authorisation, separately.

IAFI Response:

The Telecommunications Act, 2023 allows for authorizing various new types of networks, including those for the Internet of Things (IoT), private 5G, satellite-based broadband, and edge computing. Each type requires specific financial conditions to ensure responsible resource management, fair competition, and sustainable growth. These conditions may include authorization fees, spectrum usage fees, performance bank guarantees, and contributions to innovation funds.

For example, IoT networks might have moderate fees due to their large number of devices and diverse applications, while private 5G networks might have higher fees reflecting the value of exclusive spectrum access. Satellite networks would require substantial fees due to high capital expenditure, and edge computing networks might have moderate fees with a focus on promoting innovation and widespread deployment.

Overall, these financial conditions should be transparent, determined through consultation with stakeholders, and regularly reviewed to adapt to the dynamic telecommunications landscape. This tailored approach fosters a diverse and thriving ecosystem that benefits both industry and consumers.**Q-35. What should be the financial conditions for the merger, demerger, acquisition, or other forms of restructuring of the entities holding network authorisations under Section 3(1)(b) of the Telecommunications Act, 2023?**

Please provide a detailed response with justifications in respect of each network authorisation.

IAFI Response:

We request you to refer to our response to Question No. 14.

Q-36. In case it is decided to club the scopes of certain authorisations to establish, operate, maintain or expand telecommunication networks into a single network authorisation under Section 3(1)(b) of the Telecommunications Act, 2023, then, what should be the financial conditions for such authorisations? Please provide a detailed response with justifications for each network authorisation, separately.

Combining certain authorizations into a single network authorization under the Telecommunications Act, 2023 can streamline the regulatory framework. This could include unified licenses for access and service providers, converged licenses for fixed and mobile services, and integrated licenses for telecommunications and broadcasting services.

Each combined authorization would require carefully designed financial conditions, including substantial authorization and recurring fees, spectrum usage fees, and performance bank

guarantees. These conditions should reflect the broader scope of the combined licenses, ensure responsible resource use, and promote fair competition.

Transparency, stakeholder consultation, and regular reviews of these conditions are crucial to ensure they remain relevant and effective in a dynamic market. This approach fosters a more efficient and competitive telecommunications sector while encouraging innovation and consumer choice.

Q-37. Whether there are any other issues/ suggestions relevant to the fees and charges? The same may be submitted with proper explanation and justification.

IAFI Response:

The Telecommunications Act, 2023 should establish a framework for fees and charges that is not only fair and effective but also adaptable to the dynamic telecommunications landscape. This involves regular reviews of fees to account for factors like inflation and technological advancements, ensuring transparency in fee calculation methodologies, and implementing tiered fee structures based on company size and service offerings.

Furthermore, the framework should incentivize innovation and investment by offering reductions or exemptions for companies contributing to rural broadband deployment or developing new technologies. Consultation with industry players, consumer groups, and experts is crucial in ensuring that fees are fair and balanced.

Fees should cover administrative costs, ensuring the regulatory process is self-sustaining. The framework should also be flexible to accommodate emerging technologies and services, avoiding stifling innovation. Finally, a clear appeals mechanism should be in place to ensure fairness and transparency in resolving fee disputes.

By considering these factors, the Act can create a fee structure that supports a dynamic and innovative telecommunications sector while protecting the interests of all stakeholders.

Annex 1

Note on Private 5G networks

It has been estimated that by 2030, the business value resulting from manufacturing 5G use cases running on improved connectivity especially with the use of ultrafast 5G technology could generate from \$400 billion to \$650 billions of GDP impact (see Mckinsey report). That's because the enhanced bandwidth, higher speed, significantly lesser latency, improved security and device density that high-band 5G connectivity and private networks bring, can support manufacturing automation and numerous high-impact applications to achieve higher operational efficiencies. Apart from manufacturing, many other industries / sectors are also looking at 5G as the backbone for their equivalent of the Fourth Industrial Revolution.

It is also pertinent to mention that the enterprise connectivity would require utmost customer centric approach where network's reliability, speed, latency, efficiency, density each need to be defined by the Enterprises and can vary for each Enterprises depending on their operational requirement. For example, 5G network for a manufacturing plant with large assembly line would be completely different from the one being used by an educational institution for R&D. It would immensely be difficult for a Telecom service provider to customize its network for each Enterprises and fulfil the desired network with specific values of different connectivity parameters of such enterprises.

Several regulators, particularly in developed countries around the world have realized the importance of captive private 5G communications by their industries and enterprises and have been proactively working towards

making the necessary spectrum resources available directly for their captive needs, keeping in mind importance of these users in nation building and economic growth.

Internationally, there were over 1500 private mobile network customers by November 2023 in 72 countries, led by the US, China and Germany. Manufacturing, education and mining are the leading user sectors and 5G is used by 41 percent of the customers. Many Countries are already implementing rules and have started allocating spectrum directly for the vertical markets/private broadband/local area licensing. In fact, most industrial countries have already allocated mid band spectrum for deployment of private 5G Networks. Please see enclosed annexure with details of countries who have made regulatory decisions in this regard. As an example, Mercedes-Benz Cars has implemented the world's first 5G mobile network for automobile production in its "Factory 56" in Sindelfingen in Germany as a part of an innovation project. 5G is being implemented for the first time to automate vehicle production, for which the German government has already allocated the necessary dedicated mid band spectrum. Another example of private mobile solution can be seen at the new terminal at the Port of Rotterdam, Europe's largest port which envisioned an automated system to handle the increased volume of goods and ships. From day one, they had a lot of issues with the Wi-Fi connectivity and a private 4G network enabled the port to continue operating the Europe's largest automated terminal.

The Industrial competitive advantage for the post covid-19 era depends on the Integration of Information technology (IT) to build automation, agility and intelligence across key manufacturing sectors. Today's industries

generate and consume a huge amount of data in manufacturing, supply chains and ancillaries. For Smart automated factories of today, it is critical that this data is moved and consumed in real time to harness the advantages of digital technologies. For this, the smart factories of the future must send this gigantic amount of data up and down with minimum delay and superfast speeds as well as maximum privacy. Until now, connectivity has remained a critical barrier to realizing the full potential of what is collectively known as Industry 4.0. Even the most advanced factories of today still largely depend on unlicensed Wi-Fi networks that have several drawbacks, such as interference in dense settings and complex fixed connections that are difficult to manage in large industrial settings.

The emergence of ultrafast 5G technology in higher frequency bands provides manufacturers with this much needed reliable connectivity solutions, enabling critical communications for wireless control of machines and manufacturing robots, and this will unlock the full potential of Industry 4.0. Research has shown that manufacturers can expect to see a tenfold increase in their returns on investment (ROIs) with 5G, while warehouse owners can expect a staggering fourteenfold increase in ROI.

Apart from manufacturing, many other industries are also looking at 5G as the backbone, for their equivalent of the Fourth Industrial Revolution. A key factor influencing the uptake of wireless solutions is the question of how to handle spectrum for industrial purposes. Many countries have already provided spectrum dedicated for private 5G to address connectivity needs of a range of industries, including diverse segments of the economy with diverse needs. As an example, for mining exploration sites, the drilling productivity could be increased by 40 percent through automation of its

drills alone. Additional savings from increased usage of equipment could also lead to lower capital expenditures for mines (CapEx) as well as a better safety and working environments for their personnel. Unfortunately, these Industries and enterprises are not as well organised to lobby for their needs of radio frequency spectrum. Many governments, particularly in developed countries around the world have realised the importance of captive 5G communications by their industries and enterprises, and have been proactively working towards making the necessary spectrum resources available for their captive needs, keeping in view the importance of these users in nation building and economic growth.

Private Enterprise Networks for Digital Enterprises authorisation:

If TRAI does not adopt the proposed class authorization exempting Private Enterprise Networks as described above, then it is requested that it should recommend a light-touch authorization allowing Digital Enterprises to own, establish and manage Private Enterprise Networks for their captive use, with minimal compliances. Such light touch regulations would lead to more investments coming into India and lead to overall growth of digitization in India which will be in line with Digital India vision of the Government of India which intends to ensure digital services, digital access, digital inclusion, digital empowerment and bridging the digital divide.

Local Area unified communications Service

In the recent years many advanced countries have introduced a new category of public broadband mobile services for local and small area 4G and 5G Licenses

I. United States

- **Spectrum Allocation** : The Federal Communications Commission (FCC) allocates spectrum for local and small area licenses, particularly through the Citizens Broadband Radio Service (CBRS) for 5G.
- **Priority Access Licenses (PALs)** : These licenses cover specific geographic areas and are auctioned to local entities, enterprises, and small operators.
- **License Period** : Typically, licenses are granted for a ten-year term.
- **Use Cases** : Used for private networks, enterprise connectivity, industrial IoT applications, and rural broadband expansion.

II. United Kingdom

- **Local Access Licenses** : Ofcom provides local licenses for spectrum use, including shared access in bands like 3.8-4.2 GHz.
- **License Duration** : Generally, licenses are granted for a three-year period with the possibility of renewal.
- **Application Process**: Simplified application process for enterprises and small operators to access spectrum for private 4G/5G networks.
- **Use Cases**: Includes smart manufacturing, agricultural applications, and localized high-speed broadband.

III. Germany

- **Private Network Licenses** : The Bundesnetzagentur (BNetzA) allocates spectrum in the 3.7-3.8 GHz band specifically for local private 5G networks.
- **Eligibility** : Available to industrial companies, research institutions, and other enterprises for specific sites.
- **License Period** : Licenses are typically valid for ten years.
- **Use Cases** : Predominantly for industrial automation, smart factories, and logistics.

IV. Japan

- **Local 5G Licenses** : The Ministry of Internal Affairs and Communications (MIC) issues local 5G licenses for regional deployment.
- **Spectrum Bands** : Local 5G operates in various bands, including the mm wave bands
- **License Period** : Licenses usually have a ten-year term.
- **Use Cases** : Focuses on smart cities, local community connectivity, and enterprise applications.

V. Australia

- **Area-Specific Licenses** : The Australian Communications and Media Authority (ACMA) offers area-specific licenses for localized 5G deployment.

- **Spectrum Access** : Includes spectrum in the 26 GHz and 28 GHz bands.
- **License Duration** : Typically spans five to ten years.
- **Use Cases** : Includes urban and rural connectivity solutions, enterprise networks, and local broadband services.

VI. South Korea

- **Private 5G Licenses** : The Ministry of Science and ICT (MSIT) provides private 5G licenses to enterprises and local governments.
- **Application Process** : Streamlined process for obtaining spectrum in the 28 GHz band for localized use.
- **License Period** : Licenses generally last for five years, with renewal options.
- **Use Cases** : Includes smart factories, healthcare, and public safety applications.

As seen above, most industrial countries support local and small area 4G and 5G licenses emphasizing flexibility, accessibility, and support for a wide range of use cases. These practices foster innovation, drive local economic development, and ensure that spectrum resources are utilized efficiently to meet diverse connectivity needs.

Based on the above, following is proposed for Local Area Licenses

1. **Simplified Application Processes** : A simplified application process for local and small area licenses to encourage uptake by enterprises and smaller operators.

2. Flexible Spectrum Access : Allocation of shared or dedicated spectrum for localized use, enabling diverse use cases from industrial automation to rural broadband.
3. Shorter License Terms with Renewal Options : Licenses should be granted for periods of about ten years, with renewal options to ensure long-term planning and investment.
4. Support for Private Networks : Focus on enabling private 4G/5G networks for enterprises, which drive innovation in specific verticals such as manufacturing, healthcare, and logistics.
5. Encouragement of Localized Innovation : Regulatory frameworks should be designed to promote innovation at a local level, leveraging the capabilities of 4G/5G technologies to enhance community services and enterprise operations.
