ITU-APT Foundation of India (IAFI)

Comments on the

TRAI Consultation Paper on

The Framework for Service Authorisations

to be Granted Under the Telecommunications Act, 2023

IAFI Response No. IAFI/TRAI/20240808 dated August 8, 2024

About IAFI

The ITU-APT Foundation of India (IAFI) is a registered non-profit and non-political foundation registered under the Cooperative Societies Act of India. IAFI has been recognized by the International Telecommunication Union (ITU) as an international/ regional Telecommunications organization and has been granted the sector Membership of the ITU Radio Communications Bureau (ITU-R), ITU Development Bureau (ITU-D) and ITU Telecommunication Standardization Bureau (ITU-T). IAFI is also an affiliate member of the APT. IAFI has been working for the last 21 years to encourage the involvement of professionals, corporate, public/private sector industries, R&D organizations, academic institutions, and other agencies in the activities of the ITU and APT. IAFI has submitted more than 100 contributions to Various ITU and APT committees during last two years and have physically participated in all major ITU and APT conferences and meetings. IAFI also organises various national and international events. The two Flagship annual events of IAFI are ISMC (India Spectrum Management Conference) and ISPC (India Space Policy Conference). IN addition, IAFI also organises 5-6 preparatory meetings for each World Radio Conference.

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Comments on the TRAI Consultation Paper on

The Framework for Service Authorisations to be Granted Under the Telecommunications Act, 2023

Introduction and Executive Summary

IAFI strongly welcomes the long overdue process for overhaul of the licenses for the provision of telecommunication services, which were, hitherto, being granted in the form of license s between the Government of India and the licensee under the previous Indian Telegraph Act 1885.

While the government has done a fabulous work in resolving many long standing issues of the Telecommunications services by approving and notifying the Telecom Act 2023, a few areas that need immediate attention from a service authorizations part are highlighted below:

(i) **Make the authorisations for the TSPs under the** Telecom Act 2023 easy and business friendly (see our response to Q 1, Q2, Q18, Q22 and Q25)

(ii) **Minimum disruption:** The transition to the new authorisation regime should ensure minimum disruption and should serve the need of protecting existing investments as well as attract new investments into the sector.

(iii) **Uniform Application to Licenses issued under ITA 1885:** As a general comment to the consultation paper, we suggest that scope changes that are made under the Telecom Act 2023 to the authorizations should be uniformly applicable to licenses/authorizations issued under the Indian Telegraph Act (ITA). This will ensure equality in effect for like services between new

applications authorized under any new regime and all existing licensees/applicants under the existing regime that will be migrated from the extant framework. This parity will benefit consumers and operators by introducing regulatory certainty.

(iv) **Resolve long outstanding issues of NGSO (Non-Geostationary Orbit) satellites** as these are crucial for enhancing global connectivity by providing Satellite communication and ubiquitous coverage. NGSO satellites offer low latency and high data throughput resulting in faster and more reliable internet access, even in remote or underserved areas, enabling seamless connectivity for mobile devices, supporting applications such as IoT, emergency response, and telemedicine, delivering consistent and widespread coverage that bridges the digital divide, foster economic growth, educational opportunities, and improved quality of life worldwide. Pending issuance of Rules, spectrum for SatCom should be assigned to NGSO-based operators on provisional basis. Operators may provide an undertaking that the spectrum charges would be applicable from the date of assignment as decided under the final policy. This will avoid any delay in launch of services. Further our response makes it clear that the GMPCS and VSAT should remain separate authorisations as these relate to two different services under the ITU Radio Regulations.

(v) **Urgently resolve the issue of Captive 5G and Captive Enterprise Networks:** These networks are set to revolutionize the Indian industry and economy by providing tailored connectivity solutions that enhance efficiency, security, and innovation across various sectors. Captive private 5G and enterprise networks are key to India's Industrial growth and local manufacturing. CNPN networks dedicated to specific enterprises or industries, offering customized capabilities that address unique operational needs are important to the Indian industry and economy and are critical for:

- Enhanced Industrial Automation and Efficiency
- Boosting the Digital Transformation
- Enhanced Security and Data Privacy
- Economic Growth and Job Creation
- Supporting the Start-up Ecosystem
- Improved Connectivity for Remote Areas

Captive 5G and captive enterprise networks represent a transformative opportunity for the Indian industry and economy. In our response we have proposed that the captive networks where there are no commercial transaction should be exempted from Authorisation under the Telecom Act 2023.

IAFI General comments on the in Consultation Paper

1. **As a general comment** to the consultation paper, we suggest that scope changes that are made under the Telecom Act 2023 to the authorizations should be uniformly applicable to licenses/authorizations issued under the Indian Telegraph Act 1885 (ITA). This will ensure equality in effect for like services between new applications authorized under any new regime and all existing licensees/applicants under the existing regime that will be migrated from the extant framework. This parity will benefit consumers and operators by introducing regulatory certainty.

2. **Satellites** hold immense potential for the Indian industry and economy, offering solutions that can bridge the digital divide, enhance connectivity, and spur economic growth across various sectors. The integration of satellite technology with terrestrial communication is set to revolutionize how industries operate, improve service delivery, and drive innovation in India. India, with its vast and diverse geography, faces significant challenges in providing reliable internet connectivity to remote and underserved areas. Satellites play a critical role in bridging this digital divide. Unlike terrestrial networks, which require extensive infrastructure and are often impractical in remote regions, satellites can deliver high-speed internet access directly to devices anywhere in the country, including both urban and well connected areas as well as remote unconnected areas. This capability ensures that rural and remote communities can access educational resources, healthcare services, and economic opportunities, contributing to more inclusive national development and availability of access services through alternate media in urban areas thereby increasing competition and consumer choice. **Satellites can help in Enhancing Connectivity for Various Sectors of the economy as summarised below**:

i. **Agriculture:** Satellite technology can transform Indian agriculture by enabling precision farming techniques. Satellite communication allows farmers to receive real-time data on weather conditions, soil health, and crop status. This information empowers them to make informed decisions, optimize resource use, and increase crop yields. For

instance, satellite-based sensors can monitor large agricultural areas and provide actionable insights to farmers, enhancing productivity and sustainability.

(ii) **Healthcare:** Satellites can improve healthcare delivery, especially in remote areas with limited access to medical facilities. Telemedicine services, supported by satellite connectivity, enable remote consultations, diagnostics, and even surgeries. Satellite communication ensures that healthcare providers and patients can communicate seamlessly, regardless of their location. This reduces the burden on urban healthcare centers and ensures timely medical intervention in rural areas.

(iii) **Education:** Education in remote and underserved regions can benefit significantly from satellite connectivity. Satellite technology allows students to access online learning platforms, participate in virtual classrooms, and access educational content. This democratization of education ensures that students in rural areas have the same opportunities as their urban counterparts, fostering a more equitable education system.

(iv) **Innovation** The deployment of satellite technology and Satellite communication can drive economic growth by fostering innovation and creating new business opportunities. For example: Satellite-based internet services can complement existing telecommunications infrastructure, providing reliable backup and extending coverage to areas where traditional networks are inadequate. Further, the satellite based networks also serve as an alternate means for communication (to terrestrial communication) and thus enhance both reach and capacity of the telecommunication services in all the areas (urban as well as remote). This enhances overall network resilience and supports the growth of the digital economy. Reliable connectivity is crucial for the growth of e-commerce and logistics sectors. Satellites can ensure seamless communication and tracking of goods, improving supply chain efficiency. Businesses can reach a wider customer base, including those in remote areas, driving economic activity and job creation.

(v) **Disaster Management:** Satellites play a vital role in disaster management by providing real-time data for early warning systems, monitoring affected areas, and coordinating relief efforts. Satellite

communication ensures that information reaches individuals and agencies promptly, enabling effective response and minimizing the impact of disasters. Satellite technology enhances national security by providing robust surveillance and monitoring capabilities.

(vi) **National Defence:** Satellites can monitor borders, track movements, and provide critical data for defence operations. Satellite communication ensures that this information is relayed swiftly to relevant authorities, enabling timely and informed decision-making. This enhances the country's ability to safeguard its borders and respond to security threats. Satellites are pivotal for the growth and development of the Indian industry and economy. By bridging the digital divide, enhancing connectivity, driving economic growth, and supporting innovation, these technologies hold the key to a more inclusive and prosperous future for India. As the country continues to invest in and embrace these advancements, it stands to reap significant benefits in terms of improved service delivery, enhanced productivity, and sustained economic progress.

(vii) **Support to start up Ecosystem:** India's start-up ecosystem can leverage satellite technology and Satellite communication to develop innovative solutions across various sectors. Start-ups in areas such as agritech, healthtech, and edtech can harness satellite data to create impactful products and services. For instance, an agritech start-up could use satellite imagery to provide farmers with real-time insights into crop health, optimizing their practices and boosting productivity.

3. **Private and Captive 5G and Enterprise Networks:** These networks are set to revolutionize the Indian industry and economy by providing tailored connectivity solutions that enhance efficiency, security, and innovation across various sectors. Captive private 5G and enterprise networks are key to India’s Industrial growth and local manufacturing. CNPN networks dedicated to specific enterprises or industries, offering customized capabilities that address unique operational needs are important to the Indian industry and economy and are critical for:

i. **Enhanced Industrial Automation and Efficiency** - Private 5G networks enable advanced industrial automation, which is crucial for sectors such as manufacturing, mining, and logistics. With ultra-low latency and high reliability, these networks support real-time monitoring and control of machinery, leading to increased operational

efficiency and reduced downtime. For instance, smart factories can leverage private 5G to connect robots, sensors, and other devices, facilitating seamless communication and coordination. This results in optimized production processes, higher output, and improved product quality.

ii. **Boosting the Digital Transformation** -India's push towards digital transformation across industries is significantly bolstered by the deployment of captive and private 5G networks. These networks support the integration of emerging technologies such as the Internet of Things (IoT), artificial intelligence (AI), and augmented reality (AR). For example, in the agricultural sector, private 5G can enable precision farming techniques, where IoT devices collect data on soil health, weather conditions, and crop growth, allowing farmers to make data-driven decisions. Similarly, in healthcare, private 5G networks can support telemedicine and remote surgeries, ensuring high-quality medical services even in rural areas.

iii. **Enhanced Security and Data Privacy -** Security and data privacy are paramount for industries dealing with sensitive information, such as finance, healthcare, and defense. Private 5G networks provide a controlled environment where data traffic is confined within the enterprise, significantly reducing the risk of cyber-attacks and data breaches. This enhanced security framework is crucial for industries that require stringent data protection measures. For instance, financial institutions can use private 5G networks to securely process transactions and manage customer data, ensuring compliance with regulatory standards.

iv. **Economic Growth and Job Creation -** The deployment of captive and private 5G networks is poised to stimulate economic growth and create jobs in India. By enabling new business models and services, these networks can attract investments and foster innovation. The telecommunications sector itself will see growth through the development and maintenance of these networks. Moreover, industries adopting private 5G will require skilled professionals for network management, cybersecurity, and data analytics, leading to job creation and workforce development.

v. **Supporting the Start-up Ecosystem -** India's burgeoning start-up ecosystem stands to gain significantly from the advent of private 5G

networks. Start-ups in sectors such as fin-tech, health-Tech, and agri-tech can leverage these networks to develop and deploy innovative solutions that require reliable and high-speed connectivity. For example, a health-tech start-up could use a private 5G network to support remote diagnostics and patient monitoring solutions, improving healthcare access and outcomes. This supportive environment for start-ups can drive entrepreneurship, innovation, and economic diversification.

vi. **Improved Connectivity for Remote Areas -** India's diverse geography includes many remote and rural areas with limited access to reliable connectivity. Private 5G networks can bridge this digital divide by providing dedicated connectivity solutions for specific regions or communities. This improved connectivity can enhance educational opportunities, healthcare access, and economic activities in these areas, contributing to overall national development. For instance, educational institutions in remote areas can use private 5G networks to facilitate e-learning and virtual classrooms, ensuring that students have access to quality education regardless of their location.

vii. Captive 5G and captive enterprise networks represent a transformative opportunity for the Indian industry and economy. In our response we have proposed that the captive networks, which are for self-use of individuals or enterprises involving no commercial transaction, should be exempted from Authorisation under the Telecom Act 2023. This is already working for WiFi networks at homes, factories and offices. The same needs to be extended to cases which use licensed spectrum.

IAFI comments on the specific questions in Consultation Paper

Q1. For the purpose of granting authorisations under Section 3(1) of the Telecommunications Act, 2023, whether the Central Government should issue an authorisation to the applicant entity, as is the international practice in several countries, in place of the extant practice of the Central Government entering into a license

agreement with the applicant entity? In such a case, whether any safeguards are required to protect the reasonable interests of authorized entities? Kindly provide a detailed response with justifications.

IAFI Answer: Yes, the Central Government should issue an authorization to the applicant entity instead of the current practice of entering into a license agreement in accordance with the provisions of Telecom Act 2023. This approach aligns with international practices and offers several advantages. We are also of the view that the transition to new authorisation regime should ensure minimum disruption and should also serve the need of protecting existing investments as well as attract new investments into the sector.

However, it is also recognized that the current regime of entering into license agreements that defines the contractual relationship between DoT and TSPs has been working effectively for the past three decades. Therefore, when the Government shifts to a different regime, the contractual rights of the TSPs under the existing licenses and spectrum (both access and backhaul) assignments should be fully protected.

Justifications:

1. Streamlined Process: Issuing authorizations simplifies the administrative process, reducing the time and resources required for both the government and the applicant. This efficiency can foster a more dynamic and responsive telecommunications sector.

2. Enhanced Flexibility: Authorizations provide a more adaptable framework, allowing for quicker adjustments to regulatory requirements in

response to technological advancements and market changes, ensuring the telecommunications sector remains competitive and innovative.

3. Consistency with Global Standards: Aligning with international practices promotes consistency and can facilitate better cooperation and integration with global telecommunications markets. This alignment can attract foreign investment and enhance India's standing in the global telecommunications arena.

4. Legal Clarity and Stability : Authorizations can provide clearer and more stable legal frameworks compared to license agreements, which may be subject to more frequent renegotiations and amendments. This stability is crucial for long-term investments and planning by telecom entities.

5. **Minimum disruption:** This is a least disruptive process as it aligns with the existing structure. The transition to the new authorisation regime should ensure minimum disruption and should serve the need of protecting existing investments as well as attract new investments into the sector.

6. **Protecting investments:** Ensuring contractual nature of authorisation agreement aligns with practice of protecting the investments made by service providers in the capital intensive sector where returns on investments are realized over considerable number of years. The contract nature of authorisation will ensure that service providers will be protected against any arbitrary changes.

7. **Attracting further investments:** The above will give confidence to investors about regulatory certainty, and will lead to further investments.

Safeguards:

1. Transparent Criteria and Processes : Establish clear and transparent criteria for granting authorizations to ensure fairness and prevent arbitrary decision-making.

2.Regulatory Oversight : Maintain robust regulatory oversight to monitor compliance with authorization terms, protecting consumers and ensuring service quality.

3. Dispute Resolution Mechanisms : Implement effective mechanisms for resolving disputes between authorized entities and the government, safeguarding their interests and fostering a stable operational environment.

4. By transitioning to an authorization-based approach, India can enhance its telecommunications sector's efficiency, adaptability, and global integration while ensuring adequate safeguards for authorized entities.

Q2. Whether it will be appropriate to grant authorisations under Section 3(1) of the Telecommunications Act, 2023 in the form of an authorisation document containing the essential aspects of the authorisation, such as service area, period of validity, scope of service, list of applicable rules, authorisation fee etc., and the terms and conditions to be included in the form of rules to be made under the Telecommunications Act, 2023 with suitable safeguards to protect the reasonable interests of the authorised entities in case of any amendment in the rules? Kindly provide a detailed response with justifications.

IAFI Answer: Please refer to response to Question 1 above, the authorizations under Section 3(1) of the Telecommunications Act, 2023 in the form of an authorization should ensure minimum disruption and should serve the need of protecting existing investments as well as attract new

investments into the sector. Similar to existing regime, such authorisation should include all terms and conditions applicable to authorised entity and would be akin to the current license . The rules under the Act would contain broad and terms and conditions that will contain broad terms and conditions and would be akin to existing guidelines for obtaining license.

We also recommend including broad aspects like application process, eligibility, and license transfer conditions in the Rules. The detailed terms and conditions should continue to form a part of the authorisation which should be in accordance with the Telecom Act 2023.

Justifications:

1. Please refer to our response to Question 1, the above suggested mechanism will be least disruptive, promote regulatory certainty and will protect existing investments and attract further investments.

2. Clarity and Transparency : An authorization document detailing the essential aspects could provide a clear and transparent information to the applicant entity. This clarity helps in understanding the scope and limitations of the authorization, ensuring compliance and reducing ambiguities.

2. Streamlined Regulatory Framework : By embedding the terms and conditions within rules made under the Telecommunications Act, 2023, the regulatory framework becomes more streamlined. This structure allows for easier updates and modifications to rules without the need to renegotiate individual license s, making the system more adaptive and responsive to industry changes.

3. Consistency and Predictability : Standardizing the authorization process ensures consistency across different entities and service areas.

Predictable rules and conditions foster a stable environment, encouraging investment and long-term planning by authorized entities.

4. Enhanced Regulatory Oversight : Placing the terms and conditions in the form of rules under the Act allows for comprehensive regulatory oversight. This approach ensures that all entities are subject to the same regulatory standards, promoting fair competition and protecting consumer interests.

Safeguards:

1. Transparent Amendment Process: Implement a transparent process for amending the rules and the proposed authorisation including stakeholder consultations and impact assessments. This ensures that authorized entities are aware of and can prepare for any changes, protecting their reasonable interests. TRAI's recommendations and consultation should be mandatory as per provisions of TRAI Act before any such proposed changes. DoT should also conduct a consultation and provide justification for proposed changes. Any changes in authorisation should be based on these consultations

2. Transition Provisions : Include provisions for a transition period when rules and authorisation are amended. This allows authorized entities sufficient time to adjust to new requirements, minimizing disruption to their operations.

3. Dispute Resolution Mechanisms : Establish clear mechanisms for resolving disputes arising from rule amendments. This ensures that authorized entities have recourse to fair and impartial resolution processes, maintaining confidence in the regulatory framework. The authorisation should ensure that authorised entities have legal remedy in case of any arbitrary changes,

4. Regular Review and Feedback : Regularly review and seek feedback from authorized entities on the effectiveness of the rules and the authorization process. This continuous improvement loop helps in addressing any concerns and refining the regulatory approach.

By granting authorizations in the form of a comprehensive authorisation document with clearly outlined rules and conditions, and incorporating suitable safeguards, the Central Government can create a continue transparent, consistent, and adaptable regulatory environment for the telecommunications sector in India. This approach ensures the protection of the reasonable interests of authorized entities.

Q3. In case it is decided to implement the authorisation structure as proposed in the Q2 above, -

a) ***Which essential aspects of authorisation should be included in authorisation documents?***
b) ***What should be the broad category of rules, under which, terms and conditions of various authorisations could be prescribed?***
c) ***Whether it would be appropriate to incorporate the information currently provided through the extant Guidelines for Grant of Unified License and Unified License for VNO, which included, inter alia, the information on the application process for the license, eligibility conditions for obtaining the license, conditions for transfer/ Merger of the license etc., in the General Rules under the Telecommunications Act, 2023?***
d) ***What could be the broad topics for which the conditions may be required to be prescribed in the form of guidelines under the respective rules?***

Kindly provide a detailed response with justifications.

IAFI Answer:

Response to Implementing the Authorization Structure

(a) Essential Aspects of Authorization to be Included in Authorization Documents

Detailed terms and conditions which are currently available in the Unified License must be included in the Authorisation. Further, following must be included in the authorisation:

1. Service Area : Clearly define the geographical area where the authorization is applicable to avoid any ambiguity and ensure coverage clarity.

2. Period of Validity : Specify the duration for which the authorization is valid, ensuring transparency and enabling long-term planning.

3. Scope of Service : Outline the specific services the authorization permits, ensuring that both the government and the entity have a clear understanding of the operational boundaries.

4. List of Applicable Rules : Include a comprehensive list of all rules and regulations that the entity must comply with, ensuring full legal compliance.

5. Authorization Fee : Clearly state the fees associated with obtaining and maintaining the authorization, ensuring financial transparency.

6. Terms and Conditions : Detail all the terms and conditions under which the authorization is granted, providing a clear operational framework.

(b) Broad Category of Rules for Terms and Conditions of Various Authorizations &

(c) Incorporation of Existing Guidelines into General Rules

It would be appropriate to incorporate the information currently provided through the extant Guidelines for Grant of Unified License and Unified License for VNO into the Rules under the Telecommunications Act, 2023.

Justifications:

1. Consistency and Uniformity : Including these guidelines in the Rules ensures a uniform and consistent approach to licensing across the telecommunications sector and ensures continuity of existing practices avoiding any disruption .

2. Transparency : Making the application process, eligibility conditions, and conditions for transfer/merger of the license part of the Rules enhances transparency and provides a clear framework for all stakeholders.

3. Efficiency : Streamlining these guidelines into the Rules reduces administrative burden and complexity, making the licensing process more efficient and straightforward.

Q4. In view of the provisions of the Telecommunications Act, 2023, what safeguards are required to be put in place to ensure the long-term regulatory stability and business continuity of the service providers, while at the same time making the authorisations and associated rules a live document dynamically aligned with the contemporary developments from time to time? Kindly provide a detailed response with justifications.

IAFI Answer:

The process currently being followed for amendment of Unified License and Guidelines may be continued for the amendment of authorisation and rules. TRAI's Recommendations must be mandatorily sought and TRAI must continue to conduct thorough and transparent consultation before

giving such recommendations. In addition, DoT should also conduct consultation and provide detailed justification and reasons for proposing any changes. Further, any proposed changes in the authorisation must be based on such consultations

Response on Safeguards for Long-term Regulatory Stability and Business Continuity: To ensure long-term regulatory stability and business continuity for service providers while keeping authorizations and associated rules dynamically aligned with contemporary developments, several safeguards can be implemented. These safeguards ensure a balanced approach that promotes both regulatory predictability and flexibility.

1 **. Clear and Transparent Rule-Making Process**

Justification: A well-defined and transparent process for creating and amending rules ensures that service providers are aware of potential changes and can prepare accordingly. This includes stakeholder consultations, impact assessments, and public disclosures of proposed changes.

Implementation:

- Conduct regular consultations with industry stakeholders before implementing new rules or amendments.

- Publish draft rules and invite comments from service providers and the public.

- Provide detailed impact assessments to highlight the benefits and potential challenges of proposed changes.

2. Predictable and Stable Regulatory Framework

Justification: Stability in the regulatory framework allows service providers to make long-term investments and business decisions with confidence. This predictability is crucial for fostering a conducive business environment.

Implementation:

- Establish long-term regulatory plans with clear timelines for review and updates.

- Avoid frequent and abrupt changes to core regulatory principles.

- Ensure that significant changes are implemented with adequate transition periods to allow service providers to adapt.

3. Mechanisms for Stakeholder Engagement

Justification: Regular engagement with stakeholders, including service providers, consumers, and industry experts, ensures that the regulatory framework remains relevant and responsive to market needs.

Implementation:

- Create advisory committees comprising representatives from different stakeholder groups.

- Organize periodic forums and workshops to discuss emerging trends and gather feedback.

- Maintain open channels of communication for ongoing dialogue between regulators and service providers.

4. Flexibility and Adaptability in Rules

Justification: While stability is essential, the regulatory framework must also be flexible enough to adapt to technological advancements and

market dynamics. This balance ensures that the rules remain current and effective.

Implementation:

- Incorporate provisions for regular review and updating of rules based on technological and market developments.

- Allow for pilot projects and experimental licenses to test new technologies and services before fully integrating them into the regulatory framework.

- Ensure that updates to rules are based on empirical evidence and industry best practices.

5. Robust Dispute Resolution Mechanisms

Justification: Effective dispute resolution mechanisms protect the interests of service providers and maintain confidence in the regulatory framework. This ensures that any conflicts are resolved fairly and efficiently.

Implementation:

- Provide clear guidelines for the dispute resolution process, including timelines and procedures.

6. Periodic Reviews and Sunset Clauses

Justification: Regular reviews and sunset clauses ensure that outdated regulations are phased out and replaced with more relevant ones. This keeps the regulatory framework aligned with contemporary developments.

Implementation:

- Implement sunset clauses for certain regulations, requiring periodic review and renewal based on current relevance and effectiveness.

- Conduct comprehensive reviews of the regulatory framework at predefined intervals to assess its performance and make necessary adjustments.

- Engage independent experts to conduct these reviews and provide unbiased recommendations.

7. Training and Capacity Building

Justification: Continuous training and capacity building for regulatory personnel ensure that they remain knowledgeable about industry trends and capable of making informed decisions.

Implementation:

- Invest in regular training programs for regulatory staff on emerging technologies and market practices.

- Facilitate exchange programs and collaborations with international regulatory bodies to share knowledge and best practices.

- Encourage participation in industry conferences and seminars to stay updated on global developments.

Conclusion

Implementing these safeguards will ensure that the regulatory framework under the Telecommunications Act, 2023, remains stable, predictable, and adaptable. This balanced approach will foster a supportive environment for service providers, enabling long-term business continuity and encouraging innovation and growth in the telecommunications sector.

Q5. In addition to the service-specific authorisations at service area level, whether there is a need for introducing a unified service authorisation at National level for the provision of end-to-end telecommunication services with pan-India service area under the Telecommunications Act, 2023? Kindly justify your response.

IAFI Answer: Yes, Pan India All Service Authorisation is long awaited must be introduced, This would facilitate optimal utilisation of infrastructure, easier compliance and efficient handling of traffic.

Q6. In case it is decided to introduce a unified service authorisation at National level for the provision of end-to-end telecommunication services-

I. *What should be the scope of service under such an authorisation?*
II. *What terms and conditions (technical, operational, security related, etc.) should be made applicable to such an authorisation?*
III. *Would there be a need to retain some of the conditions or obligations to be fulfilled at the telecom circle/ Metro area level for such an authorisation?*
IV. *Should assignment of terrestrial access and backhaul spectrum be continued at the telecom circle/ Metro area level for such an authorisation?*
V. *Any other suggestion to protect the interest of other authorised entities/ smaller players upon the introduction of such an authorisation.*

Kindly provide a detailed response with justification.

IAFI Answer:

We believe that the envisioned national unified service authorization promises several benefits, including simplification and efficiency by reducing the need for multiple licenses, seamless nationwide service provision, enhanced flexibility and innovation, fostering market competition, and improved regulatory oversight. These advantages are expected to benefit consumers with more choices and better services,

stimulate economic growth, and encourage investment in the telecommunications sector.

However, it needs to be factored in that the operators have made significant investments over the last 30 years in building up extensive networks and have designed all of their systems, business model, product offerings, etc. around the existing LSA-wise regime. The existing investments need to be adequately protected while considering any change in the regime.

Besides, the implementation of the proposed pan-India unified service authorisation would require multiple questions to be answered first – like, where would interconnection happen (one single point in the country or LSA/LDCA level)? Would spectrum continue to be assigned LSA-wise – and if yes, will SUC assessment also continue LSA-wise or a national weighted average rate will be prescribed? Would the various compliances and reporting requirements continue LSA-wise or only required to be fulfilled once at DoT HQ? etc.

The scope Pan India All service authorisations must encompass the scope of all services authorised under Section 3(a) of the Act. Broadly, all such services can be divided into three categories Access Services (including scope of Access Services, ISP, GMPCS, M2M etc.), Carrier Services (including scope of NLD and ILD) and all other services (including scope of services such as Audio conferencing, etc.). The terms and conditions of such authorisation may be derived from existing UL conditions.

We advocate for a detailed consultation on these aspects to refine the approach towards a unified service authorization at a national level.

Q7. Within the scope of Internet Service authorisation under the Telecommunications Act, 2023, whether there is a need for including the provision of leased circuits/ Virtual Private Networks within its service area? Kindly provide a detailed response with justifications.

and

Q8. In case it is decided to enhance the scope of Internet Service authorisation as indicated in the Q7 above,

(a) What should be terms and conditions (technical, operational, security related, etc.) that should be made applicable on Internet Service authorisation?

(b) Any other suggestion to protect the reasonable interests of other authorised entities upon such an enhancement in the scope of service.

Kindly provide a detailed response with justifications.

IAFI Answer:

No, the scope of ISP Authorisation should not be expanded. The scope of ISP license is to provide internet services and has nothing to do with the provisioning of leased circuits /VPN.

Currently, leased circuits/VPN services are allowed to be provided under Access and NLD authorisations. However, both these authorisations involve a much higher entry fee when compared to ISP authorisation. There are also minimum equity and minimum networth requirements of

2.5 Cr. each in both Access and NLD authorisations, whereas there is no such requirement in case of ISP authorisation.

Enhancing the scope of ISP authorisation would be unfair to existing Access and NLD operators who have become eligible to provide such services after paying a huge entry fee and meeting the stringent criteria.

In case a particular ISP operator has spare capacity and wished to provide leased circuits/VPNs, it may obtain the relevant authorisation after paying the higher entry fee and meeting the aforesaid criteria of minimum equity and networth.

Therefore, there is no need to enhance the scope of ISP Authorisation. We therefore do not support expanding the scope of ISP service authorisation.

we further suggest that a licensee after obtaining the VSAT authorization should be able to provide internet to its customers without having the need to obtain an ISP authorization. This will simplify the service authorization framework, place the authorization holders on an even footing, and align with international practices for VSAT services.

Q9. Whether there is need for merging the scopes of the extant National Long Distance (NLD) Service authorization and International Long Distance (ILD) Service authorization into a single authorisation namely Long Distance Service authorisation under the Telecommunications Act, 2023? Kindly provide a detailed response with justifications.

IAFI Answer: Yes, scope of NLD and ILD authorisation can be merged into a single Long distance Service Authorisation as this would simplify authorisation framework.

However, it should be ensured that the clubbing of NLD and ILD Authorisations into a single Long Distance Service Authorization does not result in imposition of any additional compliance requirements on a specific service. For instance, there should be no requirement of lawful interception on domestic traffic, as is the case currently.

Q10.In case it is decided to merge the scopes of the extant NLD Service authorization and ILD Service authorization into a single authorisation namely Long Distance Service authorisation under the Telecommunications Act, 2023, -

a) ***What should be the scope of service under the proposed Long Distance Service authorisation?***
b) ***What terms and conditions (technical, operational, security related, etc.) should be made applicable on the proposed Long Distance Service authorisation?***
c) ***Any other suggestions to protect the reasonable interests of other authorised entities upon the introduction of such an authorisation? Kindly provide a detailed response with justifications.***

IAFI Answer:

The scope of service of the proposed clubbed authorisation should be such that it **enables the provision of <u>all</u> the services currently offered by both NLD and ILD standalone operators under their respective services authorisations – without any reduction/dilution of services allowed presently**. The scope of Long Distance Service Authorisation can be taken from the scope of existing NLD and ILD Licenses

Further, stakeholders should be consulted again once the terms and conditions of the proposed clubbed authorisation is drafted, in order to review the consequences of each specific condition.

Q11. Whether there is need for merging the scopes of the extant GMPCS authorization and Commercial VSAT CUG Service authorization into a single authorisation namely Satellite-based

Telecommunication Service authorisation under the Telecommunications Act, 2023? Kindly provide a detailed response with justifications.

and

Q12. In case it is decided to merge the scopes of the extant GMPCS authorization and Commercial VSAT CUG Service authorization into a single authorisation namely Satellite-based Telecommunication Service authorisation under the Telecommunications Act, 2023, -

(a) What should be the scope of service under the proposed Satellite based Telecommunication Service authorisation?

(b) What should be terms and conditions (technical, operational, security related, etc.) that should be made applicable on the proposed Satellite-based Telecommunication Service authorisation?

(c) Any other suggestion to protect the reasonable interests of other authorised entities upon the introduction of such an authorisation? Kindly provide a detailed response with justifications.

IAFI Answer for Q11 and 12:

1. Questions 11 and 12 of the TRAI's consultation paper seeks inputs on the possibility of merging the GMPCS and Commercial VSAT CUG authorisation into a single satellite-based telecommunication service authorisation. IAFI **does not recommend** merging the scopes of the extant GMPCS authorization and Commercial VSAT CUG Service authorization into a single authorisation under the Telecommunications Act, 2023.

2. We strongly oppose the suggestion by TRAI to merge GMPCS and VSAT into a single authorization to be called Satellite based telecommunications authorization since these are two separate and distinct services, GMPCS pertains to providing access services whereas VSAT relates to provisioning of internet services using satellites. Even though both the services are provided using the satellite media, these are two distinct services and cannot be clubbed due to use of similarity of

media. In terrestrial domain also services are categorised as per their scope not on the basis of media used.

3. Our suggestion is to amend the scope of the authorizations in a way that GMPCS addresses the licensing of Mobile Satellite Services (MSS) and VSAT addresses the licensing of Fixed Satellite Services (FSS),

4. Further, the CUG condition associated with VSAT should be removed as this does not resemble today's satellite systems, however Backhauls, ESIMS, land mobility that are today allowed under the VSAT authorization should stay. VSAT can also provide backhaul for aggregation of IOT devices, but cannot provide direct connectivity to IOT devices – connectivity to IOT devices should fall under the scope of GMPCS.

5. The services provided under the VSAT authorization should be categorized as public and non-captive services. These recommendations, if applied, will ensure that there is alignment with international practices and would also eliminate the need for possible duplicate authorizations that satellite service providers may need to pursue today.

We further suggest that a licensee after obtaining the VSAT authorization should be able to provide internet to its customers without having the need to obtain an ISP authorization. This will simplify the service authorization framework, place the authorization holders on an even footing, and align with international practices for VSAT services. This has also been reiterated in our response to Questions 7 and 8 as well.

Additionally, we recommend removal of compliance requirements that have been set out for Internet Leased Lines (ILL) on VSAT authorization – today the license mandates compliance requirements such as routine inspection of customer sites for the ILL service and the compliance requirements uniformly applies to VSATs providing internet too. Instead,

a self-regulatory mechanism - in line with the OSP framework - may be considered. This will reduce the operational burden for both consumers and VSAT service providers

Q13. Whether there is a need for merging the scopes of the extant Infrastructure Provider-I (IP-I) and DCIP authorization (as recommended by TRAI) into a single authorisation under the Telecommunications Act, 2023? Kindly provide a detailed response with justifications.

And

Q14. In case it is decided to merge the scopes of the extant IP-I and DCIP (as recommended by TRAI) into a single authorisation under the Telecommunications Act, 2023,

(a) What should be the scope under the proposed authorisation?

(b) What terms and conditions should be made applicable to the proposed authorisation?

Kindly provide a detailed response with justifications.

IAFI Answer: We do not support introduction of DCIP and DoT has yet not taken any view of TRAI recommendations on DCIP and there is no mention of DCIP in DoT's reference to TRAI. Thus, DCIP may not be discussed within this Consultation Paper.

There is neither any need for introduction of a separate DCIP Authorisation, nor for clubbing it with IP-I registration, for the following reasons:

1. The existing regime is working well and is sufficiently disaggregated at infrastructure, network and service levels.

2. The Indian telecom industry has already made significant investments in network and have reached a tele-density of 85.15%, with

over 96% population under terrestrial coverage. To reach hitherto uncovered areas, the focus now should be on measures like rationalization of levies, faster and cost-effective RoW policies etc., instead of changing the licensing regime.

3. TRAI has proposed zero license fee for DCIPs. This will create arbitrage over TSPs wishing to offer their infrastructure for sharing with other TSPs.

4. Moreover, while DCIPs will not be subjected to any LF, TSPs will also not be allowed to claim pass-through deductions for charges paid to DCIPs. This amounts to unjust enrichment of one set of operators at the cost of others.

5. Introduction of DCIPs will make TSPs dependent on third parties, for major decisions like launch of new services, deployment of new technology etc. This will discourage innovation.

6. It is also proposed to exempt DCIPs from QoS compliances. This will make TSPs liable for consequences like financial disincentives, even when the failure to meet QoS benchmarks is due to the fault of the DCIP and not the TSP.

Q15. Whether there is a need for clubbing the scopes of some of the other authorisations into a single authorisation under the Telecommunications Act, 2023 for bringing more efficiency in the operations? If yes, in your opinion, the scopes of which authorisations should be clubbed together? For each of such proposed (resultant) authorisations, -

(a) What should be the scope of the service?

(b) What should be the service area?

(c) What terms and conditions (technical, operational, security, etc.) should be made applicable?

Kindly provide a detailed response with justification.

and

Q16. Whether there a need for removing some of the existing authorizations, which may have become redundant? If yes, kindly provide the details with justification.

IAFI Answer to Questions 15 and 16: We propose clubbing of all captive licenses **that do not involve any commercial transactions**, under one category of a **Class license (similar to unlicensed home/office WiFi). This will include CNPN, Private Enterprise Networks, Home WiFi networks, inhouse IOT services in homes, factories and enterprises, etc.**

Normally any inhouse Captive service should not require a license or authorisation. However in the past, DOT has been issuing captive network licenses to Police, Metro and other government agencies and Private users to support authorisation of frequencies to these users. Since the frequency spectrum authorisations has been delinked from the licensing, there should be no need for any other authorisation for captive use. Such usage is similar to WiFi usage a home for captive use by the household and has no commercial value. **As such, a general exemption authorization should be issued for any captive use which does not involve any commercial transaction.** However, such captive users could either use unlicensed spectrum or they could apply for a specific spectrum authorisation.

Wireless Private/ Captive Networks. Such a new policy framework for enterprises to obtain the much-needed spectrum directly from DoT for

establishing their own Captive Wireless Private Network to 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.

Private Enterprise Networks. Multinational digital services providers (Digital Enterprises) are progressively relying on interconnected backend ‘data centers’, ‘points of presence’ and ‘operations and control centers’ (DCOCs) across jurisdictions (including India) to manage their backend processing and delivering critical application features. For seamless operational control, many Digital Enterprises now own and operate captive, non-public DCOCs (Private DCOCs), which are also interconnected through backend captive, non-public networks (submarine or terrestrial fibers and bandwidth) for exclusive use by Digital Enterprises and which do not directly interface with end users (Private Enterprise Networks). Traditionally, licensed telecom service providers (TSPs) have been providing and managing such networks for Digital Enterprises. However, rising consumer needs and demands now necessitate control and scalability of Private DCOCs and Private Enterprise Networks for delivering world-class digital services to consumers in India. Accordingly, it is in the best interest of digital ecoystem in India and its consumers to allow and promote ownership, control, and management of these backend systems and private networks by Digital Enterprises.

Countries like USA, EU, Singapore and Japan have recognised the immense potential for industry growth and investments and accordingly a regulatory approach with exemptions or light-touch regulations for Digital Enterprises to establish and manage their Private Enterprise Networks has helped development and investments in these jurisdictions. For instance, Singapore has attracted subsea cable investments as it offers a private use licensing exemption for those entities not looking to operate their infrastructure as a telecom service provider but for their own private use. At present, India's regulatory framework prevents non-licensed Digital Enterprises from owning or managing Private Enterprise Networks. Conversely, according to a Global Digital Inclusion Partnership study enabling policies can attract investments, which in turn drives economic upswings. It is found that both macroeconomic and individual benefits flow from increase in investments in backbone infrastructure like subsea cables. Increased data traffic competition and bandwidth availability causes the price for each gigabyte of data to decrease which in turn addresses the affordability barrier for individuals on lower incomes who are more price sensitive. (Source: https://globaldigitalinclusion.org/wp-content/uploads/2024/01/GDIP-Good-Practices-for-Subsea-Cables-Policy-Investing-in-Digital-Inclusion.pdf)

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 captive 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.

Q17. Whether there is a need for introducing certain new authorisations or sub-categories of authorisations under the Telecommunications Act, 2023? If yes, -

a) *For which type of services, new authorisations or sub-categories of authorisations should be introduced?*
b) *What should be the respective scopes of such authorisations?*
c) *What should be the respective service areas for such authorisations?*
d) *What terms and conditions (general, technical, operational, Security, etc.) should be made applicable for such authorisations?*

Kindly provide a detailed response with justifications.

IAFI Answer to Questions 17:

Yes, we propose the following types of new authorizations:

I. ***Public Protection and Disaster Related Mobile Satellite Service***
II. ***Class authorisation to exempt certain categories of networks from case-by-case authorisation required under Telecom Act 2023***
III. **Private Enterprise Networks for Digital enterprises authorisation:**
IV. **Local Area unified communications Service**

1. ***Public Protection and Disaster Related Mobile Satellite Service (PPDR-MSS):*** A new sub-category of service authorization should be introduced under the main authorisation category of GMPCS Satellite-based Telecommunication Service. The sub-category may be named "***Public Protection and Disaster Related Mobile Satellite Service" :*** This new type of satellite service (Emergency SoS) is emerging with recently introduced satellite features that provide end users with peace of mind and potentially life-saving communications when there is no mobile or Wi-Fi network available. In dire situations, if a user finds themselves in

danger while out of range of a terrestrial (mobile/Wi-Fi) network, their device can initiate emergency communications over satellite. This service can also benefit in scenarios where public networks may go down due to natural disasters viz. floods, earthquakes, tsunamis, etc. where citizens can communicate using emergency communication services through satellite.

a) The "*Public Protection and Disaster Related Mobile Satellite* service authorisation" are inherently different from the emerging Satellite arrangements between mobile network operators and commercial satellite operators under the CMTS/GMPCS authorizations. Both services differ substantially in the use of spectrum, capabilities and commercial approaches.
b) *Differences between the proposed "Public Protection and Disaster Related Mobile Satellite Service" and satellites using terrestrial mobile frequencies covered under GMPCS authorisation:*

    1. ***Spectrum:*** Satellite relies on the use of terrestrial IMT spectrum by satellites to extend mobile network coverage to areas that are uncovered by cellular towers. This new type of spectrum usage, emerging first in the United States under the FCC's new *Supplemental Coverage from Space* rules, relies on administration-by-administration rule makings because the usage is inconsistent with the ITU's Radio Regulations. Rules meant to govern Direct -to-Device usage of terrestrial Mobile spectrum are currently being developed by the ITU. By contrast, safety-related mobile satellite services rely on globally harmonized ITU allocations for Mobile Satellite Services (MSS) that operate under well-established rules.

2. ***Capabilities:*** Satellite services using terrestrial mobile spectrum are not specific for safety or emergencies and seek to extend the same terrestrial mobile network capabilities, including voice and data, that end users are accustomed to on their mobile network. By contrast, safety-related MSS services are specialized features that provide peace of mind and critical communications for users that are out of range of a terrestrial network, regardless of their choice of mobile network. Safety-related MSS services provide only limited communications as a public service.

3. ***Commercial Approach:*** Satellite using terrestrial mobile requires users to be subscribed to a specific mobile network operator that has an with a satellite operator to receive these services. By contrast, safety-related mobile satellite services are not tied to a particular mobile network operator.

c) **<u>Proposed scope and conditions of this new Authorisation</u>**

I. The scope of this new sub-category should be “Public Telephony Service” and “Public Internet Service”.

II. The Service area of the PPD-related mobile satellite service should be A.- National Level -Pan India.

III. Terms & conditions for the sub-category of PPD-related mobile satellite services may be as follows:

- Satellite Spectrum allocations for PPDR-MSS in the L and S bands for device to satellite leg.
- Nil or minimal administrative charges
- Direct communication from one device to another device through satellite to be restricted. All communication from a device will be to

the PSAPs through the Ground Station/Relay Centres ensuring communication from the device flows to and from to the established public safety network points across the country for handling SOS communication.

2. Class authorisation to exempt certain categories of networks from case-by-case authorisation required under Telecom Act 2023

a) Normally any Captive service should not require a license or authorisation. However in the past, DOT has been issuing captive network licenses to Police, Metro and other users to support authorisation of frequencies to these users. Since the frequency spectrum authorisations has been delinked from the licensing, there should be no need for any other authorisation for captive use. Such usage is similar to WiFi usage a home for captive use by the household and has no commercial value. As such a general exemption authorization should be issued for any captive 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 (see response to Questions 15 and 16 above). Such captive users could either use unlicensed spectrum or they could apply for a specific spectrum authorisation.

b) Such a new policy framework for enterprises to obtain the much-needed spectrum directly from DoT for establishing their own Captive Wireless Private Network to 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.

c) 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.

d) 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.

e) 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.

f) 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.

g) 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.

h) 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.

i) 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.

3. Private Enterprise Networks for Digital Enterprises authorisation:

a) 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.

4. 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.

Q18. In view of the provisions of the Telecommunications Act, 2023 and technological/ market developments, -

a) What changes (additions, deletions, and modifications) are required to be incorporated in the respective scopes of service for each service authorisation with respect to the corresponding authorizations under the extant Unified License?

b) What changes (additions, deletions, and modifications) are required to be incorporated in the terms and conditions (General, Technical, Operational, Security, etc.) associated with each service authorisation with respect to the corresponding authorizations under the extant Unified License? Kindly provide a detailed response with justifications.

IAFI Answer:

Changes required to be incorporated in the scopes of service for service authorisation

(i) <u>Changes required in view of MTCTE and NSDTS frameworks</u>

Clause 39.6 under Chapter-VI (Security Conditions) requires network elements to be tested against various standards – ISO, 3GPP etc. Further, there are multiple provisions – including clauses 39.9, 39.10(ii), 39.11(iv)(a) etc. – which require the licensees to maintain the record of the supply chain of equipment, include clauses allowing DoT the power to

inspect vendor premises, maintain a record of operation and maintenance command logs etc. **We submit that these provisions have now become redundant in view of the MTCTE and NSDTS frameworks being put in place. The objectives behind the above provisions are being very well served by the MTCTE and NSDTS frameworks. Therefore, these provisions may be done away with.** Further, **the requirement for NSDTS approval for CPE provided by TSPs should also be done away with**. This will bring parity between the CPE procured by customers directly from the market and the CPE provided by TSP.

(ii) <u>Uniformity in Infrastructure Sharing Provisions</u>

Clause 2.4 under Chapter-I (General Conditions) provides that licensees may share infrastructure as per the respective scopes of individual service authorisations. Thereafter, each individual service authorisation has separate clauses on infrastructure sharing. This leads to confusion and non-uniformity. **In the interests of simplification, the infrastructure sharing provisions should be deleted from the respective service authorisations. Instead, it should be provided under Part-I of the UL (applicable to all service authorisations), that sharing of both passive and active infrastructure (except core network) is allowed. Further, pass-through deductions should be allowed for infrastructure sharing charges.**

(iii) <u>Provisions for Subscriber Registration</u>

Clause 30 under Chapter-V (Operating Conditions) prescribes certain requirements related to subscriber registration and provision of service. For instance, it requires publication of telephone directory, provision of itemized bill to customers, consumer grievance redressal, etc. However, we submit that **most of these requirements have now become**

redundant in view of the change in nature of services and market dynamics. Moreover, TRAI regulations also take care of some of these requirements. Therefore, such requirements may be reviewed and done away with.

(iv) Changes in provisions relating to the costs incurred towards telecom security

With evolving technology, the security-related compliance conditions imposed on TSPs have also evolved. The measures now required to be taken by TSPs include installation of infrastructure for robust lawful interception of telecom traffic by the Law Enforcement Agencies (LEAs), monitoring of telecom traffic by various Government agencies as well as storage of Call Data Records (CDRs)/Exchange Detail Records (EDRs)/IP Detail Records (IPDRs), etc. While we remain fully committed to the primary aim behind these measures, i.e. ensuring National security, it needs to be highlighted that the elaborate infrastructure set up, required to provide the lawful interception and monitoring (LIM) facility at the premises of various LEAs/Government agencies and to store the huge amount of CDRs/EDRs/IPDRs generated due to the humongous traffic flowing through the networks these days, involves a huge CAPEX as well as OPEX. It is pertinent to highlight here that the traffic carried on TSPs networks is multiplying very rapidly. The overall traffic is growing on both counts – expansion in customer base as well as increase in voice and data usage per customer. As per TRAI's own reports, the volume of Indian telecom traffic in 2023 grew ~1.5x the traffic in 2021. It is estimated to grow by 300% by 2028, compared to 2021. Further, TSPs are subjected to new obligations, depending on the requirements of the LEAs. For instance, in 2021, the period for which CDRs/EDRs/IPDRs have to be stored, was doubled to 2 years. With the ever-increasing traffic, the

storage of these records for double the time is a herculean task, even without the substantial costs that the TSPs have to incur. On top of it, additional parameters relating to the destination IP and destination port have been included in the IPDR format, which again adds up not just to the storage, but also the extraction and computation obligations for TSPs.

Apart from these National security requirements, TSPs are also required to make significant investments into cyber security, to protect both their own networks as well as the data of their subscribers from different types of threats and attacks. Given the importance of such measures in the socio-economic resilience of the country as a whole, the TSPs alone must not be saddled with the entire responsibility of implementing the same. It is necessary for the Government to support the costs being incurred by TSPs towards security compliance, to bring about a balance in ecosystem. Appropriate budgetary support or contribution may effectively alleviate the (incremental) cost burden of meeting National Security requirements on TSPs. We submit that regulators and Governments in various countries around the world allow for financial compensation to TSPs to cover infrastructure costs for maintaining national security or for lawful interception and monitoring. For instance, in Australia, the Telecommunications (Interception and Access) Act 1979 (Section 207-208 and 210) puts the onus of bearing the costs on both Carriers and Interception Agencies. [1] In France, the Postal and Electronic Communications Code (Article L34-1) allows for financial compensation responding to LEA requests pertaining to national security.[2] In the United Kingdom, the Investigatory Powers Act, 2016 (Section 249) provides for

[1] https://classic.austlii.edu.au/au/legis/cth/consol_act/taaa1979410/s208.html; https://classic.austlii.edu.au/au/legis/cth/consol_act/taaa1979410/s209.html; http://classic.austlii.edu.au/au/legis/cth/consol_act/taaa1979410/s210.html
[2] https://www.wipo.int/wipolex/en/text/493345

Government contribution towards the compliance costs incurred by TSPs.[3] In the United States, the Communications Assistance for Law Enforcement Act includes Cost Recovery Regulations with reimbursement procedures. **Therefore, a process should be established whereby the costs of meeting the requirements of LEAs/various Government agencies for the purpose of maintaining National Security and enabling Law Enforcement, are reimbursed by the Government/ the respective agencies.**

(v) Approvals for Foreign Personnel and Remote Access

Clause 39.3 under Chapter-VI (Security Conditions) requires licensees to obtain security clearance from MHA for all foreign personnel deployed for installation, operation and maintenance of the network. Further, clause 39.23(xi) requires licensees to obtain DoT's prior approval for Remote Access (RA). **In the interest of ease of doing business, these prior approvals/clearances should be replaced with intimations. The licensee may be required to take appropriate action in case of any objection post intimation.**

(vi) Compensation for Suspension of Services

There has been a huge spike in the number of orders for suspension of services or data barring orders recently. **TSPs should be compensated for the duration of such orders, and no LF/SUC should be levied for such time period.**

(vii) Annual FDI Compliance

Clause 1.2 under Chapter-I (General Conditions) requires licensees to file an annual FDI compliance on the 1st of January every year. **We**

[3] https://www.legislation.gov.uk/ukpga/2016/25/section/249/enacted

recommend that licensees should be allowed adequate time, say one month, for such submission, instead of prescribing a specific date. Further, it should be allowed to be signed by the Authorized Signatory, instead of the current requirement of certification by the Company Secretary and countersign by a Director.

Q19. In view of the provisions of the Telecommunications Act, 2023 and technological/ market developments, -

a) ***What changes (additions, deletions, and modifications) are required to be incorporated in the respective scopes of service for each service authorisation with respect to the corresponding authorizations under the extant Unified License for VNO?***
b) ***What changes (additions, deletions, and modifications) are required to be incorporated in the terms and conditions (General, Technical, Operational, Security, etc.) associated with each service authorisation with respect to the corresponding authorizations under the extant Unified License for VNO?***

Kindly provide a detailed response with justifications.

IAFI Answer: Once the scope of main authorisations is finalized, the scope and terms and conditions of corresponding VNO authorisations may be drawn from the scope and terms and conditions of the main authorisations.

Q20. Whether the Access Service VNOs should be permitted to parent with multiple NSOs holding Access Service authorisation for providing wireless access service? If yes, what conditions should be included in the authorisation framework to mitigate any possible adverse outcomes of such a provision? Kindly provide a detailed response with justifications.

IAFI Answer:

No, Access Service VNOs should not be permitted to parent with multiple NSOs holding Access Service authorisation for providing wireless access service.

Such a provision would allow the creation of a super-operator, who would ride on the combined strength of the networks of all existing operators, to provide enhanced coverage than any of the individual existing operators – without making any investments on it own. This would be unfair to existing operators and disrupt the competition in the market.

In any case, TRAI has deliberated upon this issue multiple times – 2008, 2011, 2015, 2017 – and has come to same conclusion, i.e. multi-parenting should not be allowed in case of wireless access services due to the multiple complexities and risks involved with the same. There is no reason to disturb this settled position.

Q21. Considering that there are certain overlaps in the set of services under various authorisations, would it be appropriate to permit service specific parenting of VNOs with Network Service Operators (NSOs) in place of the extant authorisation-specific parenting? Kindly provide a detailed response with justifications.

IAFI Answer: .

No, there is no need to permit service-specific parenting. The extant approach of authorisation-specific parenting should be continued with.

Q22. In view of the provisions of the Telecommunications Act, 2023 and technological/ market developments, -

a. ***What changes (additions, deletions, and modifications) are required to be incorporated in the respective scopes of service for each service authorisation with respect to the corresponding extant standalone licenses/ authorizations/ registrations/ NOC etc.? (b) What changes (additions, deletions, and modifications) are required to be incorporated in the terms and conditions (General, Technical, Operational, Security, etc.) associated with each service***

authorisation with respect to the corresponding extant standalone licenses/ authorizations/ registrations/ NOC etc.?

Kindly provide a detailed response with justifications.

IAFI Answer: See our answers to Questions 1 to 19

Q23. In view of the provisions of the Telecommunications Act, 2023 and market developments, whether there is a need to make some changes in the respective scopes and terms and conditions associated with the following service authorisations, recently recommended by TRAI:

a. ***Digital Connectivity Infrastructure Provider (DCIP) Authorization (under Unified License)***
b. ***IXP Authorization (under Unified License)***
c. ***Content Delivery Network (CDN) Registration***
d. ***Satellite Earth Station Gateway (SESG) License***

If yes, kindly provide a detailed response with justifications in respect of each of the above authorisations.

IAFI Answer:

We have no comments on this question.

Q24. In view of the provisions of the Telecommunications Act, 2023 and market developments, any further inputs on the following issues under consultation, may be provided with detailed justifications:

a. ***Data Communication Services Between Aircraft and Ground Stations Provided by Organizations Other Than Airports Authority of India;***
b. ***Review of Terms and Conditions of PMRTS and CMRTS Licenses; and***
c. ***Connectivity to Access Service VNOs from more than one NSO.***

IAFI Answer:

a. Separate authorisation needs to be issued for Data Communication Services Between Aircraft and Ground Stations Provided by Organizations Other Than Airports Authority of India;

b. For CMRTS – please see responses to our earlier questions and for PMRTS – please see suggestions from the MTROA.

c. See our response to the earlier question on VNO parenting

Q25. Whether there is a need for introducing any changes in the authorisation framework to improve the ease of doing business? If yes, kindly provide a detailed response with justifications.

IAFI Answer: Our suggestion for changes to the authorisation frameworks from an ease of doing business perspective are:

- **Exemption for Captive Networks from Authorisation:** Captive Networks for self-use, where there is no commercial transaction involved, should be exempted from Authorisation through a Class or Authorisation. We have proposed a class Authorisation framework for captive wireless networks for their own captive use towards easing the onerous compliances burdens. See Questions 15 and 16.
- **Exemption for Private Enterprise Networks from Authorisation:** To the extent that TRAI does not adopt our proposal to create this new class license, we have proposed a class licensing framework for digital enterprises establishing Private Enterprise Networks for their own captive use towards easing the onerous compliances burdens.
- **NOCC Approval Requirement:** Remove NOCC frequency plan approvals. NOCC frequency plan approvals were relevant when ISRO was providing satellite capacity through the GSAT program.

For other satellite providers, the frequency plan and link budgets are well managed by the satellite operators themselves. DOT should have oversight on the compliance to the Telecom Engineering Center (TEC) Interface Requirements document. It is not optimal for DOT to approve frequency plan and link budgets for each network prior to deployment and during the lifecycle of a network.

- **Spectrum Methodology for Satcom:** Today, spectrum is assigned for satellite services on a carrier by carrier basis. Change this methodology to allow for a block of spectrum to be assigned. Carrier by carrier assignment is cumbersome and does not allow for dynamic carriers that adapt to change needs of customers.
- **Requirement of in-principle clearance from Inter-Ministerial Committee for SatCom Networks:** Even after obtaining the license/authorization, a satellite operator is still required to obtain in-principle clearance from IMC-SNC for establishing or making modification in any satellite-based communication network. We believe that these requirements are archaic and do not serve any purpose today, and hence, should be done away with. Moreover, there is no corresponding requirement of obtaining such a clearance from an Inter-Ministerial Committee even in the case of vast terrestrial networks deployed across the country, covering over a billion subscribers, operating in multiple spectrum bands (including sub-GHz, mid-band, mmwave etc.) and multiple technologies (2G/3G/4G/5G), and, managing interference with other operators at circle levels, as well as with Government users and unlicensed operators. As SatCom will remain a very niche segment relative to terrestrial, there is no point in continuing with such onerous requirements for SatCom. This will simplify the procedure and save time in launch of services, without affecting Government

requirements. **Therefore, the requirement of in-principle clearance of IMC-SNC for establishing/ modifying satellite-based communication networks should be done away with.**

Q26. In view of the provisions of the Telecommunications Act, 2023 and market/ technological developments, whether there is a need to make some changes in the extant terms and conditions, related to ownership of network and equipment, contained in the extant Unified License? If yes, please provide the details along with justifications.

IAFI Answer: There are provisions related to infrastructure sharing in the current license as well, and it is going on for more than a decade. Apart from some changes in the interests of uniformity and clarity (as suggested under Q18), there is no need for any change in provisions related to ownership of network and equipment.

Q27. Whether any modifications are required to be made in the extant PM-WANI framework to encourage the proliferation of Wi-Fi hotspots in the country?

If yes, kindly provide a detailed response with justifications.

IAFI Answer: We feel that in view of the urgent need for ubiquitous connectivity and availability of affordable mobile broadband, the WANI framework should be covered under the category of exemption from any authorisation.

Q28. What should be the broad framework including the specific terms and conditions that should be made applicable for captive authorisations, which are issued on a case-to-case basis?

Kindly provide a detailed response with justifications.

IAFI Answer:

Captive and private 5G networks represent a transformative opportunity for the Indian industry and economy. By enabling enhanced industrial automation, supporting digital transformation,

ensuring security and data privacy, and fostering economic growth and job creation, these networks are poised to play a crucial role in India's development. Additionally, they support the start-up ecosystem and improve connectivity for remote areas, contributing to a more inclusive and innovative economy. **Captive 5G networks** are set to revolutionize the Indian industry and economy by providing tailored connectivity solutions that enhance efficiency, security, and innovation across various sectors. In addition to the public 5G networks, captive 5G networks are key to India’s Industrial growth and local manufacturing. CNPN networks dedicated to specific enterprises or industries, offering customized capabilities that address unique operational needs are important to the Indian industry and economy. As India continues to embrace the potential of private 5G networks, it stands on the cusp of a new era of technological advancement and economic prosperity. Captive networks are critical for the Indian economy due to:

1. **Enhanced Industrial Automation and Efficiency** - Private 5G networks enable advanced industrial automation, which is crucial for sectors such as manufacturing, mining, and logistics. With ultra-low latency and high reliability, these networks support real-time monitoring and control of machinery, leading to increased operational efficiency and reduced downtime. For instance, smart factories can leverage private 5G to connect robots, sensors, and other devices, facilitating seamless communication and coordination. This results in optimized production processes, higher output, and improved product quality.
2. **Boosting the Digital Transformation** -India's push towards digital transformation across industries is significantly bolstered by the deployment of captive and private 5G networks. These networks

support the integration of emerging technologies such as the Internet of Things (IoT), artificial intelligence (AI), and augmented reality (AR). For example, in the agricultural sector, private 5G can enable precision farming techniques, where IoT devices collect data on soil health, weather conditions, and crop growth, allowing farmers to make data-driven decisions. Similarly, in healthcare, private 5G networks can support telemedicine and remote surgeries, ensuring high-quality medical services even in rural areas.

3. **Enhanced Security and Data Privacy -** Security and data privacy are paramount for industries dealing with sensitive information, such as finance, healthcare, and defense. Private 5G networks provide a controlled environment where data traffic is confined within the enterprise, significantly reducing the risk of cyber-attacks and data breaches. This enhanced security framework is crucial for industries that require stringent data protection measures. For instance, financial institutions can use private 5G networks to securely process transactions and manage customer data, ensuring compliance with regulatory standards.
4. **Economic Growth and Job Creation -** The deployment of captive and private 5G networks is poised to stimulate economic growth and create jobs in India. By enabling new business models and services, these networks can attract investments and foster innovation. The telecommunications sector itself will see growth through the development and maintenance of these networks. Moreover, industries adopting private 5G will require skilled professionals for network management, cybersecurity, and data analytics, leading to job creation and workforce development.

5. **Supporting the Start-up Ecosystem -** India's burgeoning start-up ecosystem stands to gain significantly from the advent of private 5G networks. Start-ups in sectors such as fin-tech, health-Tech, and agri-tech can leverage these networks to develop and deploy innovative solutions that require reliable and high-speed connectivity. For example, a health-tech start-up could use a private 5G network to support remote diagnostics and patient monitoring solutions, improving healthcare access and outcomes. This supportive environment for start-ups can drive entrepreneurship, innovation, and economic diversification.
6. **Improved Connectivity for Remote Areas -** India's diverse geography includes many remote and rural areas with limited access to reliable connectivity. Private 5G networks can bridge this digital divide by providing dedicated connectivity solutions for specific regions or communities. This improved connectivity can enhance educational opportunities, healthcare access, and economic activities in these areas, contributing to overall national development. For instance, educational institutions in remote areas can use private 5G networks to facilitate e-learning and virtual classrooms, ensuring that students have access to quality education regardless of their location.

In view of the above, IAFI has proposed:

1. Class license authorisation for Captive Networks: We have proposed a new class authorisation framework for establishing Private Enterprise Networks for their own captive use in response to question **to Questions 15 and 16**

2**. Captive Use Authorization (for Digital Enterprises).**

If TRAI does not adopt the proposal to club all captive licenses under one category and provide a general exemption authorization, we, in the alternative, suggest that DoT may consider a separate 'light-touch' framework allowing Digital Enterprises to own, establish and manage Private Enterprise Networks (subsea or terrestrial fibers and bandwidth) including to interconnect various Private DCOCs globally for their captive use and serve a closed set of commonly owned corporations (Captive Use Authorization).

The proposed class license for Captive Use Authorization for private and exclusive use by Digital Enterprises will further India's connectivity / digital economy priorities and will attract significant investments. Implementing flexible and enabling policies such as a light touch framework for captive networks in India will also facilitate the 'ease of doing business' initiative of DoT by reducing regulatory hurdles and encouraging private sector investment. It will also simplify processes and create a more predictable and business-friendly environment for the industry to grow. By adopting a framework that supports new technologies and offers flexibility in network operations, India can attract significant FDI in the digital sector. This, in turn, will enhance the country's global competitiveness, boost economic growth, and improve overall connectivity, contributing to India's 'Digital India' initiative as well as achieving the broader goal of the Indian government for India to become a $5 trillion economy by 2028.

The relaxations (and associated cost savings realized by no longer acquiring these services from traditional TSPs at a premium) will also significantly enable Digital Enterprises to invest in research and development, innovate new technologies for faster and more reliable backend connectivity, and foster experimentation with advanced

communication systems and testing of solutions for specific industrial needs, thus ultimately benefitting end users.

3. Scope & Exclusions. The Captive Use Authorization may allow the scope of activities outlined in 4(a) below; and prescribe necessary exclusions and apply only limited regulatory conditions and requirements from the UL, as described in 4(b) below.

(a) Scope of the Captive Use Authorization class license. Under the Captive Use Authorization, Digital Enterprises may undertake the following key activities (indicative list).

i. Authorization. Freely own, establish, operate, manage and maintain all elements in the Private Enterprise Networks (as private telegraphs).

ii. Connectivity.

A. Connect various locations including Private DCOCs using submarine or terrestrial dark fibers and bandwidth capacity transmission equipment, from Indian territorial waters to all territories within India, through such private networks.

B. Establish international private leased circuits (IPLC) for private / captive use.

iii. Ownership & Control.

a. Digital Enterprises may own and control all equipment including submarine and terrestrial fibers, bandwidth transmission equipment, and other associated equipment and infrastructure in the Private Enterprise Network.

b. For captive submarine cable connectivity, Digital Enterprises may (i) own the captive-use equipment including submarine fibers at the cable landing stations (CLS) in India, and (ii)

operate, configure and manage such fibers and the associated submarine line terminal equipment (SLTEs) at the CLS (separately from the common infrastructure, e.g., wet plant) from 'network operations and control centers' (NOCCs) and other systems located outside India.

c. For captive domestic terrestrial connectivity, Digital Enterprises may own the terrestrial fibers and bandwidth transmission equipment. Further, backhaul connectivity between Private DCOCs for such private telegraphs may be undertaken through fibers or microwave equipment. For this, DoT may permit the acquisition and allocation of microwave spectrum for establishing backhaul connectivity between various locations (in addition to fibers).

iv. Monitoring & Remote Access. For both submarine and domestic connectivity, Digital Enterprises may freely conduct network performance monitoring, configuration and restoration (through various devices, e.g., DWDM, and from NOCCs) located within and outside India. This should not attract any separate 'remote access' related conditions or requirements.

v. Public Networks. Private Enterprise Networks may remain separate from public networks and not be used by Digital Enterprises to provide telecommunications services directly to end users or other enterprises / TSPs.

vi. Equipment & standards. The equipment deployed by Digital Enterprises in such Private Enterprise Networks may comply with international industry standards (and not with any specific standards or approved sources pursuant to the UL), since such equipment and networks will not connect to public networks or directly serve end users.

vii. Sharing & Leasing. Irrespective of obtaining the Captive Use Authorization, Digital Enterprises may freely lease / avail (i) 'passive' telecom infrastructure such as fibers, ducts, towers and ROWs from Infrastructure Provider Category – I (IP-I) entities / Digital Connectivity Infrastructure Providers (DCIPs), and (ii) international submarine cable system (ISCS) and terrestrial capacity transmission / bandwidth from authorized TSPs, including in order to establish the Private Telegraph Networks (such IP-I, DCIP and TSP entities, referred to as 'authorized Telecom Entities'). In such cases, similar exemptions as set out in 4(b) below should apply to the TSPs / IP-I entities / DCIPs providing such infrastructure to Digital Enterprises for their captive use, such that those compliances do not indirectly flow down to the Digital Enterprises seeking captive networks.

viii. Serviced entities. Private Enterprise Networks established by Digital Enterprises may be used for the benefit of Digital Enterprises and a closed set of commonly owned corporations globally (i.e., group companies, subsidiaries and affiliates).

(b) Captive Use Exemptions. The following key provisions / requirements in the UL may be specifically excluded from the Captive Use Authorization (indicative list) (Captive Use Exemptions).

i. Quality of services (QoS) parameters. While QoS parameters ensure a certain standard of service for public networks, for Private Enterprise Networks, Digital Enterprises can internally manage and monitor quality to meet their specific needs. This exemption allows organizations to prioritize and allocate resources according to their operational requirements rather than standardized public metrics

that do not coincide with the nature and scope of the Captive Use Authorization.

ii. Subscriber verification. Applying subscriber verification requirements designed for public networks is unnecessary for Private Enterprise Networks established under the Captive Use Authorization, as there are no third-party customers involved. Removing these obligations simplifies the network's administration and operation

iii. Rollout obligations. Although rollout obligations ensure wide network coverage and service availability for public networks, since Private Enterprise Networks are intended for specific, limited internal use, such obligations for Captive Use Authorization are unnecessary.

iv. Interconnection and interoperability. Interconnection and interoperability requirements designed for public networks are not applicable as captive networks typically operate independently of public networks, focusing on internal communications. Exempting these obligations reduces the complexity and cost associated with ensuring compliance with compatibility standards applicable for public networks.

v. Remote access conditions and obligations. Since in the case of Private Enterprise Networks, the users are internal to the Digital Enterprise, the stringent remote access conditions (which are designed for access to public networks to protect consumer data) are not critical or applicable. At the same time, centralized network monitoring from outside India (including through strategic NOCCs and monitoring devices such as DWDM) is essential for Digital Enterprises / cables owners in order to maintain and provide uniform and world-class standards of services, across geographies. For effective monitoring, such remote access to performance data must

also be on a ‘real time’ or near ‘real-time’ basis. Relaxing these remote access obligations (especially by foreign parent or group company of the Digital Enterprise, or its nominated agents / contractors) can streamline operation of the Private Enterprise Network, reduce administrative processes and facilitate smoother operations. Further, since such private networks will not connect to public networks, there will be no security or confidentiality risk.

vi. LIS / LIM or central monitoring system obligations. As stated above, Private Enterprise Networks are not meant for access by (or carry traffic for) public at large and cater to the limited traffic of a single enterprise (or its affiliates / associated companies) within a closed network. Therefore, the lawful interception and monitoring conditions under the UL should not apply to Private Enterprise Networks. Additionally, implementing and maintaining lawful interception systems for private traffic can be costly and complex, an unnecessary burden for networks not providing public services.

vii. Encryption / decryption. In continuation of the above, the bulk encryption (and associated decryption) obligations in the UL should also not apply under the Captive Use Authorization. As above, since Private Enterprise Networks do not connect to public networks, the requirement for the government to conduct lawful interception and monitoring of such networks should not arise. Moreover, the end user traffic transmitted in the public networks established by traditional TSPs can already be intercepted and monitored by the government under the UL. Digital Enterprises using Private Enterprise Networks for internal traffic should be allowed to implement necessary security protocols tailored to their needs to safeguard the backend organizational data; and any encryption may be governed by the Information Technology Act 2000 (IT Act) and

the Digital Personal Data Protection Act 2023 (DPDP Act). Mandatory encryption / decryption obligations designed for public networks may interfere with the organization's existing security measures and meeting the compliance requirements pursuant to IT, data protection, and consumer protection laws in India.

viii. RIO charges. Exempting and substantially reducing 'reference interconnect offer' (RIO) charges for use of ISCS cables for Private Enterprise Networks under the Captive Use Authorization is crucial to mitigate high costs and access barriers to CLS for establishing such private submarine networks. In addition, Digital Enterprises using ISCS to establish Private Enterprise Networks should be allowed to freely negotiate the RIO charges with eligible TSPs providing CLS (or international submarine bandwidth) on a case-to-case basis. It should also be clarified that any such contractual price reduction or exemption negotiated between the Digital Enterprises and eligible TSPs in relation to ISCS Private Enterprise Networks (e.g., based on overall / holistic business portfolio between the Digital Enterprise and the eligible TSP) would not mandate the eligible TSP to offer the same reduced rates and terms (or exemptions) to other entities and would not be considered as discriminatory or violating the UL or applicable regulations of the Telecom Regulatory Authority of India (TRAI), as long as such charges are below the applicable 'ceiling rates'. Such policies promoting open access and interconnection can drive competition and promote innovation and investments.

ix. Fees & financial conditions.

a) No one-time or recurring license fees should apply for Captive Use Authorizations. The license fee under the UL is applicable as a levy on revenues of the relevant entity from its customers. However,

Private Enterprise Networks will not be provided to customers, nor will they generate any revenue.

b) Similarly, other financial conditions such as entry fee, bank guarantees, minimum net-worth, paid-up capital, etc., under the UL should not apply, as such conditions are designed to ensure that TSPs (providing services to end users / enterprise customers) have the necessary financial stability and resources to provide uninterrupted telecom services and perform the license fee and other obligations under the license. However, Private Enterprise Networks are meant for exclusive internal use by Digital Enterprise and not for customers at large. Therefore, these financial conditions and requirements are unnecessary for the Captive Use Authorization and impose a financial burden that is unrelated to the scope and nature of the authorization. Exempting these conditions can also encourage more Digital Enterprises to establish Private Enterprise networks.

x. Revenue reporting. Although revenue reporting is essential for public networks to ensure transparency and regulatory compliance, such reporting is inapplicable for Private Enterprise Networks, which will not generate revenues directly from users. Exempting these obligations reduces the administrative workload and allows the organization to focus on the private telegraph and other core business activities.

xi. Tariff reporting and billing requirements. Similarly, Private Enterprise Networks would not generate revenue through tariffs; thus, tariff reporting and billing requirements would also be inapplicable under the Captive Use Authorization.

Q29. What amendments are required to be incorporated in the terms and conditions of authorisations for providing telecommunications services using satellite-based resources in light of the policy/ Act in the Space Sector?

Kindly provide a detailed response with justifications.

&

Q30. Whether the provisions of any other Policy/ Act in the related sectors need to be considered while framing terms and conditions for the new authorisation regime? If yes, kindly provide a detailed response with justification.

IAFI Answer:

Satellites hold immense potential for the Indian industry and economy, offering solutions that can bridge the digital divide, enhance connectivity, and spur economic growth across various sectors. The integration of satellite technology with terrestrial communication is set to revolutionize how industries operate, improve service delivery, and drive innovation in India. India, with its vast and diverse geography, faces significant challenges in providing reliable internet connectivity to remote and underserved areas. Satellites play a critical role in bridging this digital divide. Unlike terrestrial networks, which require extensive infrastructure and are often impractical in remote regions, satellites can deliver high-speed internet access directly to devices anywhere in the country, including both urban and well connected areas as well as remote unconnected areas. This capability ensures that rural and remote communities can access educational resources, healthcare services, and economic opportunities, contributing to more inclusive national development and availability of access services through alternate media in urban areas thereby increasing competition and consumer choice. **Satellites can help in Enhancing Connectivity for Various Sectors of the economy as summarised below**:

i. **Agriculture:** Satellite technology can transform Indian agriculture by enabling precision farming techniques. Satellite communication allows farmers to receive real-time data on weather conditions, soil health, and crop status. This information empowers them to make informed decisions, optimize resource use, and increase crop yields. For instance, satellite-based sensors can monitor large agricultural areas and provide actionable insights to farmers, enhancing productivity and sustainability.

(viii) **Healthcare:** Satellites can improve healthcare delivery, especially in remote areas with limited access to medical facilities. Telemedicine services, supported by satellite connectivity, enable remote consultations, diagnostics, and even surgeries. Satellite communication ensures that healthcare providers and patients can communicate seamlessly, regardless of their location. This reduces the burden on urban healthcare centers and ensures timely medical intervention in rural areas.

(ix) **Education:** Education in remote and underserved regions can benefit significantly from satellite connectivity. Satellite technology allows students to access online learning platforms, participate in virtual classrooms, and access educational content. This democratization of education ensures that students in rural areas have the same opportunities as their urban counterparts, fostering a more equitable education system.

(x) **Innovation** The deployment of satellite technology and Satellite communication can drive economic growth by fostering innovation and creating new business opportunities. For example: Satellite-based internet services can complement existing telecommunications infrastructure, providing reliable backup and extending coverage to areas where traditional networks are inadequate. Further, the satellite based networks also serve as an alternate means for communication (to terrestrial communication) and thus enhance both reach and capacity of the telecommunication services in all the areas (urban as well as remote). This enhances overall network resilience and supports the growth of the digital economy. Reliable connectivity is crucial for the growth of e-commerce and logistics sectors. Satellites can ensure seamless communication and tracking of goods, improving supply chain efficiency. Businesses can reach a wider customer base,

including those in remote areas, driving economic activity and job creation.

(xi) **Disaster Management:** Satellites play a vital role in disaster management by providing real-time data for early warning systems, monitoring affected areas, and coordinating relief efforts. Satellite communication ensures that information reaches individuals and agencies promptly, enabling effective response and minimizing the impact of disasters. Satellite technology enhances national security by providing robust surveillance and monitoring capabilities.

(xii) **National Defence:** Satellites can monitor borders, track movements, and provide critical data for defence operations. Satellite communication ensures that this information is relayed swiftly to relevant authorities, enabling timely and informed decision-making. This enhances the country's ability to safeguard its borders and respond to security threats. Satellites are pivotal for the growth and development of the Indian industry and economy. By bridging the digital divide, enhancing connectivity, driving economic growth, and supporting innovation, these technologies hold the key to a more inclusive and prosperous future for India. As the country continues to invest in and embrace these advancements, it stands to reap significant benefits in terms of improved service delivery, enhanced productivity, and sustained economic progress.

(xiii) **Support to start up Ecosystem:** India's start-up ecosystem can leverage satellite technology and Satellite communication to develop innovative solutions across various sectors. Start-ups in areas such as agritech, healthtech, and edtech can harness satellite data to create impactful products and services. For instance, an agritech start-up could use satellite imagery to provide farmers with real-time insights into crop health, optimizing their practices and boosting productivity.

Therefore the new authorisation framework for GMPCS should resolve long outstanding issues of NGSO (Non-Geostationary Orbit) satellites as these are crucial for enhancing global connectivity by providing Satellite communication and ubiquitous coverage. NGSO satellites offer low latency and high data throughput resulting in faster and more reliable internet access, even in remote or underserved areas, enabling seamless connectivity for mobile devices, supporting applications such as IoT, emergency response, and telemedicine,

delivering consistent and widespread coverage that bridges the digital divide, foster economic growth, educational opportunities, and improved quality of life worldwide. Pending issuance of new authorisation for GMPCS, spectrum for SatCom should be assigned to NGSO-based operators on provisional basis. Operators may provide an undertaking that the spectrum charges would be applicable from the date of assignment as decided under the final policy. This will avoid any delay in launch of services. Further our response makes it clear that the GMPCS and VSAT should remain separate authorisations as these relate to two different services under the ITU Radio Regulations.

Incorporating amendments to the terms and conditions of authorizations for providing telecommunications services using satellite-based resources in light of the evolving policy or Act in the Space Sector involves several critical updates. These amendments should address regulatory compliance, spectrum allocation, security measures, environmental considerations, and technological advancements. Below are detailed suggestions and justifications for each amendment*:*

1. **Regulatory Compliance and Licensing:** Relevant terms and conditions are to be updated to ensure compliance with the latest national and international space regulations and policies.

Justification: Space policies and acts are regularly updated to reflect technological advancements and geopolitical considerations. Ensuring compliance with the latest regulations helps avoid legal conflicts and aligns operations with international norms.

2. Use of Gateways in India to serve neighbouring countries

We suggest that service providers in India should be allowed to use gateways in India to serve neighbouring countries.

Justification:

This would align with the Indian Space Policy 2023, and allow India to position itself as a leader in satellite communication services in the region.

Q31. What conditions should be made applicable for the migration of the existing licensees to the new authorisation regime under the Telecommunications Act, 2023? Kindly provide a detailed response with justifications.

&

Q32. What procedure should be followed for the migration of the existing licensees to the new authorisation regime under the Telecommunications Act, 2023? Kindly provide a detailed response with justifications.

IAFI Answer:

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.

Q33. Do you agree that new guidelines for the transfer/ merger of authorisations under the Telecommunications Act, 2023 should be formulated after putting in place a framework for the authorisations to be granted under the Telecommunications Act, 2023? Kindly provide a detailed response with justifications.

IAFI Answer:

Yes, new guidelines should be formulated and should factor in the following submissions:

1. The extant guidelines are limited to CMTS/UASL/UL (Access). Service authorizations other than Access, such as NLD, ILD, etc. should also be covered under the new guidelines. They should also provide for transfer/merger/demerger of authorisations between two VNOs or even a VNO and an NSO.

2. The extant guidelines allow transfer of licenses pursuant to an NCLT-sanctioned scheme of arrangement/demerger. Other methods, including slump sale and business transfer , should also be recognized under the new guidelines.

3. 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.

4. 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.

5. The requirement of submission of BG in respect of OTSC dues or any other related dues should be done away with.

6. 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 one year 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.

Q34. Whether there is a need to formulate guidelines for deciding on the types of violations of terms and conditions which would fall under each category as defined in the Second Schedule of the Telecommunications Act, 2023? If yes, kindly provide a detailed response with justifications.

IAFI Answer:

Yes, guidelines should be formulated for deciding on the types of violations of terms and conditions which would fall under each category as defined in the Second Schedule of the Telecom Act.

Section 32(3) of the Telecom Act lists down the factors which need to be taken into account by an Adjudicating Officer while deciding on the amount of penalty under the Second Schedule. However, the application of these factors should not be left to the discretion of individual officers; rather, detailed guidelines should be issued as to how the application of these factors may result in the classification of a breach as severe, major, moderate, minor or non-severe, along with examples.

We further submit that penalty should be imposed only when it is clearly established without doubt that there has been wilful conduct on the part of the licensee/authorised entity, which resulted in the breach.

Furthermore, the penalty amount should be charged only once per incident, irrespective of the number of authorisations held by the operator or the number of circles affected by the incident.

Q35. Are there any other inputs/ suggestions relevant to the subject? Kindly provide a detailed response with justifications.

IAFI Answer:

Pending issuance of Rules, spectrum for SatCom should be assigned to NGSO-based operators on provisional basis. Operators may provide an undertaking that the spectrum charges would be applicable from the date of assignment as decided under the final policy. This will avoid any delay in launch of services.

Q36. In case it is decided to introduce a unified service authorisation for the provision of end-to-end telecommunication services with pan-India service area, what should be the: -

(i) *Amount of application processing fees*

(ii) *Amount of entry fees*

(iii) *Provisions of bank guarantees*

(iv) *Definitions of GR, ApGR and AGR*

(v) *Rate of authorisation fee*

(vi) *Minimum equity and networth of the Authorised entity*

Please support your response with proper justification.

IAFI Answer:

As submitted under Q5-6, we advocate for a detailed consultation on these aspects to refine the approach towards a unified service authorization at a national level.

Nevertheless, as a starting point, UL (All Services) may be used as a benchmark for the financial conditions for the Unified Service Authorisation. Accordingly, we submit the following:

(i) Amount of application processing fees

Application processing fee of Rs. 10 lakhs, as prescribed for UL (All Services) may be adopted in the case of Unified Service Authorisation as well.

(ii) Amount of entry fees

Entry fee of Rs. 15 crores, as prescribed for UL (All Services) may be adopted in the case of Unified Service Authorisation as well.

(iii) Provisions of bank guarantees

The requirement of BGs should be done away with altogether. However, if retained, the PBG and FBG, as prescribed for UL (All Services) may be adopted in the case of Unified Service Authorisation as well.

(iv) Definitions of GR, ApGR and AGR

The scope of revenue should be limited to revenue from licensed activities only. The activities that do not require authorization under the Act should be excluded from the ambit of LF.

The scope of deduction should be increased to make it effective and should include charges paid by one TSP to another TSP to avoid the cascading effect of LF.

Co-existence of licensed telecom services with non-licensed services/products should not attract levy on composite product/service. DoT can protect its legitimate revenue by adopting a fair valuation approach.

(v) Rate of authorisation fee

First, USOF levy (5%) should be delinked the from license/authorisation fee (3%).

The license/authorisation fee should be brought down from 3% to 1%. The Government now earns significant revenues from spectrum auctions; and it is unlike the time when spectrum was bundled with license and LF was the only source of revenue for the Government. Thus, LF levy needs to be rationalized.

The USOF levy should be abolished altogether, or at least kept in abeyance till the unutilized corpus gets fully utilized. Alternatively, the rate should be immediately brought down from 5% to 3%.

(vi) Minimum equity and networth of the Authorised entity

The minimum equity and networth of Rs. 25 crores each, as prescribed for UL (All Services) may be adopted in the case of Unified Service Authorisation as well.

However, these are only initial suggestions, and we have proposed a separate consultation for this new UL framework.

Q37. In case it is decided to enhance the scope of Internet Service authorization as indicated in the Q7 above, what should be the:

(i) *Amount of application processing fees*

(ii) *Amount of entry fees*

(iii) *Provisions of bank guarantees*

(iv) *Definitions of GR, ApGR and AGR*

(v) *Rate of authorisation fee*

(vi) *Minimum equity and networth of the Authorised entity*

Please support your response with proper justification.

IAFI Answer:

As submitted under Q7-8, there is no need to enhance the scope of ISP Authorisation.

Q38. In case it is decided to merge the scopes of the extant NLD Service authorization and ILD Service authorization into a single authorization namely Long Distance Service authorization under the Telecommunications Act, 2023, what should be the: -

(i) *Amount of application processing fees*

(ii) *Amount of entry fees*

(iii) *Provisions of bank guarantees*

(iv) *Definitions of GR, ApGR and AGR*

(v) *Rate of authorisation fee*

(vi) *Minimum equity and networth of the Authorised entity*

Please support your response with proper justification.

IAFI Answer:

(i) Amount of application processing fees

The amount of application processing fees for the clubbed authoirsation should be the same as that for an individual authorisation under the UL currently, i.e. Rs. 1 lakh.

(ii) Amount of entry fees

The amount of entry fees for the clubbed authorisation should be Rs. 5 crores – the sum total of the entry fee currently prescribed for NLD and ILD Authorisations, which is Rs. 2.5 Crores each.

(iii) Provisions of bank guarantees

The requirement of BGs should be done away with altogether. However, in case it is retained, the PBG and FBG for the clubbed authorisation should be the sum total of the respective PBG and FBG under NLD and ILD Authorisations.

(iv) Definitions of GR, ApGR and AGR

Please refer to Q36 (iv).

(v) Rate of authorisation fee

Please refer to Q36 (v).

(vi) Minimum equity and networth of the Authorised entity

Currently, the minimum equity and networth for individual NLD and ILD Authorisations is identical, i.e. Rs. 2.5 crores each. The same should be used for the clubbed authorisation as well.

Q39. In case it is decided to merge the scopes of the extant GMPCS authorization and Commercial VSAT CUG Service authorization into a single authorization namely Satellite-based

Telecommunication Service authorization under the Telecommunications Act, 2023, what should be the: -

(i) *Amount of application processing fees*

(ii) *Amount of entry fees*

(iii) *Provisions of bank guaranteesDefinitions of GR, ApGR and AGR*

(iv) *Rate of authorisation fee*

(v) *Minimum equity and networth of the Authorised entity*

Please support your response with proper justification.

IAFI Answer:

As submitted under Q11-12, there is no need to club GMPCS and Commercial VSAT CUG authorisations.

Q40. In case you are of the opinion that there is a need for clubbing the scopes of some other authorisations into a single authorisation under the Telecommunications Act, 2023 for bringing more efficiency in the operations, what should be the:

(i) *Amount of application processing fees*

(ii) *Amount of entry fees*

(iii) *Provisions of bank guarantees*

(iv) *Definitions of GR, ApGR and AGR*

(v) *Rate of authorisation fee*

(vi) *Minimum equity and networth of the Authorised entity*

Please support your response with proper justification.

IAFI Answer:

As submitted under Q15, there is no need to club any authorisations other than NLD and ILD.

Q41. In case you are of the opinion there is a need to introduce certain new authorisations or sub-categories of authorisations under the Telecommunications Act, 2023, what should be the: -

(i) *Amount of application processing fees*

(ii) *Amount of entry fees*

(iii) *Provisions of bank guarantees*

(iv) *Definitions of GR, ApGR and AGR*

(v) *Rate of authorisation fee*

(vi) *Minimum equity and networth of the Authorised entity*

Please support your response with proper justification.

IAFI Answer:

No comments.

Q42. What should be the amount of application processing fees for the various service authorisations including VNOs, other than the merged/clubbed/new service authorisations? Please provide your response for each of the service authorisation separately.

IAFI Answer:

There is no need for change in the existing provisions with respect to application processing fees.

Q43. Whether the amount of entry fee and provisions for bank guarantee for various service authorisations including VNOs, other than the merged/clubbed/new service authorisations, should be:

i. *kept the same as existing for the various service authorisations under the UL/UL(VNO) license*

ii. *kept the same as recommended by the Authority for the various service authorisations under the UL/UL(VNO) license, vide its Recommendations dated 19.09.2023*

iii. *or some other provisions may be made for the purpose of Entry Fee and Bank Guarantees*

Please support your response with proper justification separately for each authorisation.

IAFI Answer:

The amount of entry fee should be kept the same as existing for the various service authorisations under the UL/UL(VNO) license.

The requirement of BGs should be done away with altogether. However, in case it is retained, the same provisions should continue as currently existing.

Q44. Whether there is a need to review any of the other financial conditions for the various service authorisations including VNOs, other than the merged/clubbed/new service authorisations? Please provide your response for each service authorisation separately with detailed justification.

IAFI Answer:

(i) <u>Chapter III (Financial Condition) of the UL:</u>

<u>LF Payment & Assessment</u>

Advance payment of License Fees

Clause 20.4 of the UL, which provides for the schedule of payment of LF, requires the payment for 4th quarter of the year by 25th March on the basis of expected revenue for the quarter, subject to a minimum payment equal to the revenue share paid for the previous quarter.

Clause for Reciprocal Interest

Further, clause 20.7 of UL prescribes interest in case of any delay in payment of LF. Since the payment for the 4th quarter is in advance and on an estimated basis, there may be some excess/ short payment of LF. Again, as per clause 20.8, the final adjustment of LF is to be done on the basis of the audited statement submitted by the licensee. Many a times, in order to avoid accumulation of penal interest, TSPs estimate by keeping additional margin leading to excess payment of LF.

However, despite being a contract wherein parties to contract have equal rights, while DoT has kept provision for charging interest on short/delayed payment, there is no reciprocal provision for interest in case of refund becoming due to the TSP. It is to be noted that even in case of Income Tax refunds, which is a statutory levy, there is provision to pay interest on Tax refunds for delay beyond a particular period.

<u>Special Audit of TSP</u>

Clause 22.5 and 22.6 of the UL provide for Special Audit of the TSP, appointment of Special Auditors, their powers, cost etc. and appear to be repetitive in nature. Additionally, at present the clause is one sided and does not allow right of representation against decision for such special Audit.

Therefore, we recommend the following provisions/modification under the financial conditions of the Authorisation:

A. <u>LF Payment & Assessment</u>

1. In case of advance payment to be made on 25th March, there should not be a mandate to pay minimum equal to the payment made for 3rd quarter of the year. Further, if it needs to be mandated, then interest should not be levied in case there is a shortfall in the payment which got actualized/paid at the time of final payout, i.e. on 15th April.
2. There should be provision for reciprocal interest in case of refund due to the TSP.

This will ensure timely assessment and no loss to TSP even if some excess payment has been made by the TSP, besides ensuring time value of money.

B. <u>Special Audit:</u>

1. Clause 22.5 and 22.6 may be combined into one.
2. The new clause should also provide for an 'opportunity of being heard' to be given to TSP before finalizing decision on Special Audit, and for a reasoned order against the TSP's submissions.

(ii) **Pass-Through Deductions for Infrastructure Sharing Charges**

In case of a VNO, all charges paid to TSP through whose network the VNO's services are actually provisioned, is allowed as deduction from

GR/ApGR. However, if the TSP takes bandwidth from another TSP to complete its network, the same is not allowed as a deduction.

It is be understood that similar to VNO, TSP also takes services from another TSP to complete the gap in ultimate service to be rendered to end customer. For example, an Access Licensee establishes a network connection with an ISP to allow its customers access to internet or an NLD license takes last mile connectivity from other NLD/Access provider to serve its end customers etc.

Thus, the way amount paid by a VNO to TSP is an input cost for VNO, the charges paid by one TSP to another TSP is also an input cost for the TSP paying the same. Additionally, NDCP 2018, vide section 2.1(b)(ii), provides that the LF paid on any input services should be set off against the LF payable by an operator on output service, thereby avoiding double incidence of levies.

Therefore, the charges for infrastructure sharing paid by one TSP to another TSP should be allowed as deduction while computing the AGR of paying TSP and the conditions to that extent should be modified.

Q45. In case it is decided to merge the scopes of the extant IP-I Registration and the Digital Connectivity Infrastructure Provider (DCIP) authorization into a single authorization under the Telecommunications Act, 2023, what should be the: -

i. *Amount of application processing fees*

ii. *Amount of entry fees*

iii. *Any other Fees/Charge*

iv. *Minimum equity and networth etc. of the Authorised entity.*

Please support your response with proper justification.

IAFI Answer:

As submitted under Q13-14, there is neither any need to introduce separate DCIP authorisation nor to club it with IP-I registration.

Q46. For MNP license and CMRTS authorisation, should the amount of entry fee and provisions of bank guarantees be:

i. *kept same as existing for the respective license/authorisation.*

ii. *kept the same as recommended by the Authority vide its Recommendations dated 19.09.2023*

iii. *or some other provisions may be made for the purpose of Entry Fee and Bank Guarantees*

Please support your response with proper justification separately for each authorisation.

IAFI Answer:

No Comments.

Q47. For other standalone licenses/ registrations/ authorisations/ permissions, should the existing framework for financial conditions be continued? Please provide detailed justification.

&

Q48. If answer to question above is no, what should be the new/revised financial requirement viz. bank guarantee/ entry fee/ processing fee/ authorisation fees/ registration fees or any other charge/ fees? Please provide detailed justification in support of your response for each other license/ registration/ authorisation/ permission separately.

IAFI Answer:

Yes, the existing framework for financial conditions should be continued for other standalone licenses/registrations/authorisations/permissions.

However, as a principle, we suggest that in case any financial requirement is lowered, the same should be extended to all existing license/ registration/authorisation holders, in a non-discriminatory manner.

Q49. In case of the merged M2M-WPAN/WLAN service authorisation, what should be the processing fees or any other applicable fees/ charges. Please support your response with proper justification.

IAFI Answer:

As submitted under Q15, there is no need to club M2M and WPAN/WLAN registrations. However, in case it is clubbed, the same processing fees may be charged as applicable for either one of them currently. Other applicable fees/charges should be the sum total of the respective fees/charges under respective authorisations.

Q50. In the interest of ease of doing business, is there a need to replace the Affidavit to be submitted with quarterly payment of license fee and spectrum usage charges with a Self-Certificate (with similar content)? Please justify your response.

IAFI Answer:

In the interest of ease of doing business, the requirement to submit an Affidavit with quarterly payment of LF and SUC should be done away with altogether. There is no need to even replace it with a Self-Certificate with similar content, as Aadhaar-based verification is carried out at the

submission. In such a scenario, both Affidavit and Self-Certificate would only lead to time lag without adding any value.

Q51. Is there a need to revise/ modify/simplify any of the existing formats of Statement of Revenue Share and License Fee for each license/authorisation (as detailed at Annexure 3.2)? In case the answer to the question is yes, please provide the list of items to be included or to be deleted from the formats alongwith detailed justification for the inclusion/deletion.

IAFI Answer:

Yes, there is a need to revise/modify/simplify the existing formats of AGR Statement for each license/authorisation. The simplification should be carried out in line with our suggestions for the definitions of GR/ApGR/AGR under Q36 (iv).

Q52. In case of a unified service authorisation for the provision of end-to-end telecommunication services with pan-India service area, what should be the format of Statement of Revenue Share and License Fee for each of these authorisations? Please support your response with justification.

IAFI Answer:

As submitted under Q5-6, we advocate for a detailed consultation on these aspects to refine the approach towards a unified service authorization at a national level.

Accordingly, the format of AGR Statement for such authorisation may be finalized only after such detailed consultation.

Q53. In case the scope of Internet Service authorization is enhanced, what should be the format of Statement of Revenue Share and License Fee for each of these authorisations? Please support your response with justification.

IAFI Answer:

As submitted under Q7-8, there is no need to enhance the scope of ISP Authorisation.

Q54. In case of merged extant NLD Service authorization and ILD Service authorization into a single authorization namely Long Distance Service authorization, what should be the format of Statement of Revenue Share and License Fee for each of these authorisations? Please support your response with justification.

IAFI Answer:

The format of AGR Statement for the clubbed Long Distance Service Authorisation may be arrived at considering our suggestions for the definitions of GR/ApGR/AGR under Q37(iv)/ Q36(iv).

Q55. In case of merged extant GMPCS authorization and Commercial VSAT CUG Service authorization into a single authorization namely Satellite-based Telecommunication Service authorization, what should be the format of Statement of Revenue Share and License Fee for each of these authorisations? Please support your response with justification.

IAFI Answer:

As submitted under Q11-12, there is no need to club GMPCS and Commercial VSAT CUG authorisations.

Q56. In case you have proposed to club the scope of some of other authorizations OR introduce certain new authorisations/ sub-categories of authorisations, what should be the format of Statement of Revenue Share and License Fee for each of these authorisations? Please support your response with justification.

IAFI Answer:

As submitted under Q15, there is no need to club any authorisations other than NLD and ILD.

Q57. Whether there is a need to review/ simplify the norms for the preparation of annual financial statements (that is, the statements of Revenue and License Fee) of the various service authorizations under UL, UL(VNO) and MNP licenses? Please give detailed response with proper justification for each authorization/license separately.

IAFI Answer:

At present, the norms of accounting under the license do not allow to follow a consistent accounting policy which is a basic norm for the preparation of any financial statement. For instance, while Revenue is allowed on accrual basis, Expense is allowed on actual paid basis.

Further, as per the norms of preparation of Annual Financial Statement as prescribed under the license , there are many items of information that are not relevant today, e.g.:

- Service Tax/Sales Tax billed, collected and remitted to the Government

- Details of income from sale of goods indicating income and no. of units sold, method of inventory valuation, cost of goods sold etc.
- Increase /decrease in stock
- Details of reversals of previous years' debits to be shown component wise

Therefore, it is suggested that the AGR Statement should be prepared following a consistent approach adopted all across industry and the requirements should be aligned with the Companies Act.

Q58. In case of migration, how the entry fee already paid by the company be calculated/ prescribed for the relevant authorisation(s)? Please provide detailed justification in support of your response.

IAFI Answer:

Since existing licensees would have already paid the requisite entry fee at the time of obtaining the extant license, no entry fee should be applicable in case of migration.

Further, in case there is an overall reduction in the entry fees under the new regime, the benefit should also be extended to the existing licensees, to bring in a level playing field.

Q59. Should the application processing fee be applicable in case of migration. In case the response is yes, what should be amount of application processing fee? Please give reason(s) in support of your answer.

IAFI Answer:

A nominal application processing fee, say Rs. 50,000/- similar to that prescribed under UL guidelines, may be charged in case of migration.

Q60. What should be terms and conditions of security interest which Government may prescribe? Please provide detailed response.

IAFI Answer:

No comments.

Q61. Whether there are any other issues/ suggestions relevant to the fees and charges for the authorisations to provide telecommunication services? The same may be submitted with proper explanation and justification.

IAFI Answer:

No comments.

Attachment: Countries that have implemented spectrum for CNPN

Country	Regulatory links	Remarks
Australia	https://www.acma.gov.au/local-area-wireless-broadband-services https://www.acma.gov.au/sites/default/files/2021-08/Spectrum%20options%20optimised%20for%20local%20area%20wireless%20broadband%20services.docx	• Spectrum options optimised for local area wireless broadband services
Brazil	https://www.gov.br/anatel/pt-br/assuntos/noticias/anatel-aprova-requisitos-tecnicos-para-a-faixa-de-3-7-3-8-ghz https://sistemas.anatel.gov.br/anexar-api/publico/anexos/download/bea420272ee3745f8573d9d1cd220348	• Anatel approves technical requirements for the 3.7-3.8 GHz band • The Privative Network booklet
Chile	https://www.bcn.cl/leychile/navegar?idNorma=1139171	
Czech Republic	https://www.ctu.cz/tiskova-zprava-cesky-telekomunikacni-urad-vydrazil-kmitocty-v-pasmech-700-mhz-3400-3600-mhz	Blocks of 20 MHz in the 3400-3600 MHz band, associated with the obligation to lease frequencies for the support of Industry 4.0, were obtained by the companies
Finland	https://www.traficom.fi/en/communications/communications-networks/local-4g5g-networks	Local 4G/5G networks
France	https://en.arcep.fr/news/press-releases/view/n/5g-150322.html	The Government and Arcep introduce two new measures designed to facilitate manufacturers and other verticals' access to 5G
Germany	https://www.bundesnetzagentur.de/DE/Sachgebiete/Telekommunikation/Unternehmen_Institutionen/Frequenzen/OeffentlicheNetze/LokaleNetze/lokalenetze-node.html https://www.bundesnetzagentur.de/DE/Fachthemen/Telekommunikation/Frequenzen/	• Radio Frequencies – local networks. • Frequencies for operating regional and local wireless networks to provide telecommunications services

Country	Regulatory links	Remarks
	OeffentlicheNetze/LokaleNetze/lokalenetze-node.html	
Hong Kong SAR	https://www.info.gov.hk/gia/general/202112/10/P2021121000203.htm https://www.coms-auth.hk/en/licensing/telecommunications/lwbs_private/index.html	• Communications Authority creates new Localised Wireless Broadband System (Private) • Localised Wireless Broadband System (Private) Licences
Japan	https://www.soumu.go.jp/main_sosiki/joho_tsusin/eng/pressrelease/2021/7/27_01.html https://www.google.com/url?client=internal-element-cse&cx=017998645568075274792:lrqatnruwxq&q=https://www.soumu.go.jp/main_content/000760634.pdf&sa=U&ved=2ahUKEwjj0qGV7sn8AhWTcGwGHU60BLc4FBAWegQIExAB&usg=AOvVaw11h4TuC-nGPkxmGGbUlwig	• Release of Introduction Guidelines for Local 5G and Other Technologies at Manufacturing Sites • Guidelines for the introduction of local 5G etc. at manufacturing sites-Introducing basic knowledge of wireless communication, an overview of local 5G, introduction examples in factories, etc.-
Korea	https://www.kca.kr/boardView.do?pageId=www47&boardId=NOTICE&seq=3485969 https://www.kca.kr/fileDownload.do?action=fileDown&mode=&boardId=NOTICE&seq=3485969&fileSn=1	Distribution of guidelines for building and operating 5G specialized networks.
Malaysia	https://www.mcmc.gov.my/en/media/press-releases/final-report-on-allocation-of-spectrum-bands-for-m https://www.mcmc.gov.my/skmmgovmy/media/General/pdf/FINAL-REPORT_ALLOCATION-OF-SPECTRUM-BANDS-FOR-MOBILE-BROADBAND-SERVICE-IN-MALAYSIA_20191231.pdf	Apparatus assignment. The 26.5-28.1 GHz frequency band will be assigned on a first-come first-served basis and will be open to any party (including non-licensees) for the purpose of deploying localised and/or private networks.
New Zealand	https://www.rsm.govt.nz/licensing/licences-you-must-pay-for/managed-spectrum-park-licences/	The 2.5 GHz Managed Spectrum Park (MSP) licence is intended for local and regional services. It's designed to encourage a flexible, cooperative, low cost and self-managed approach to spectrum allocation and use.

Country	Regulatory links	Remarks
Sweden	https://pts.se/sv/bransch/radio/radiotillstand/lokala-tillstand-i-37-ghz--och-26-ghz-banden/	Local conditions (permits) in the 3.7 GHz and 26 GHz bands
United Kingdom	https://www.ofcom.org.uk/consultations-and-statements/category-1/enabling-opportunities-for-innovation https://www.ofcom.org.uk/__data/assets/pdf_file/0033/157884/enabling-wireless-innovation-through-local-licensing.pdf	Statement: Enabling wireless innovation through local licensing
USA	https://www.fcc.gov/wireless/bureau-divisions/mobility-division/35-ghz-band/35-ghz-band-overview	In 2015, the Commission adopted rules for shared commercial use of the 3550-3700 MHz band (3.5 GHz band). The Commission established the Citizens Broadband Radio Service (CBRS) and created a three-tiered access and authorization framework to accommodate shared federal and non-federal use of the band.