

DIPAs Response to TRAI CP on Introduction of Digital Connectivity Infrastructure Provider (DCIP) Authorization under Unified License(UL)

PREAMBLE

1. At the outset, **DIPA acknowledges the efforts of the Regulator for highlighting the importance of Digital Connectivity Infrastructure and its emphasis in the National Digital Communications Policy (NDCP) 2018.** Connectivity is an important policy goal – it enables economic development and access to education and fosters entrepreneurship and innovation. Connectivity has transformed societies, economies and governance systems, shifting priorities for policy-makers and regulators, markets and users. It will underpin every development path from this point forward.
2. Digital transformation is a once-in-a-generation opportunity to leverage digital technologies and Internet access as an equalizer of global development, providing every country and individual with access to new economic and social opportunities. Digital transformation requires commitment by governments and institutions, as well as businesses to move more fully towards “pure digital” processes and services to the extent that this serves the best interests of customers and citizens.
3. **COVID-19 magnified existing digital gaps. While the divide in broadband connectivity between developed and developing countries has existed for years, the pandemic put this into sharp focus** as many people, mainly in low- and middle-income nations, were unable to work or learn from home. Further the quality of broadband networks has taken on new importance. Businesses were caught off guard—particularly micro and small enterprises—as they had no online presence. **Governments made pandemic-related support payments**

adding to their debt with implications for future support for access to digital infrastructure.

4. The shutdowns around the world due to the pandemic, **highlighted the need for robust communications infrastructure to continue economic and social activities.** The ability for workers to continue employment during the pandemic differed significantly on the basis of the nature of the employment (for example between informal in-person, manufacturing, services or knowledge activities, among others) **and the robustness of the communications infrastructure workers have access to.**
5. According to **Build back Better with Broadband¹ published by the ITU** *“Barriers faced during the pandemic can be addressed by putting in place resilient digital infrastructure and achieving meaningful connectivity. Ubiquitous and reliable network infrastructure, as well as affordable and accessible services, are essential to deliver digital solutions such as telemedicine, e-education and e-business services”.*

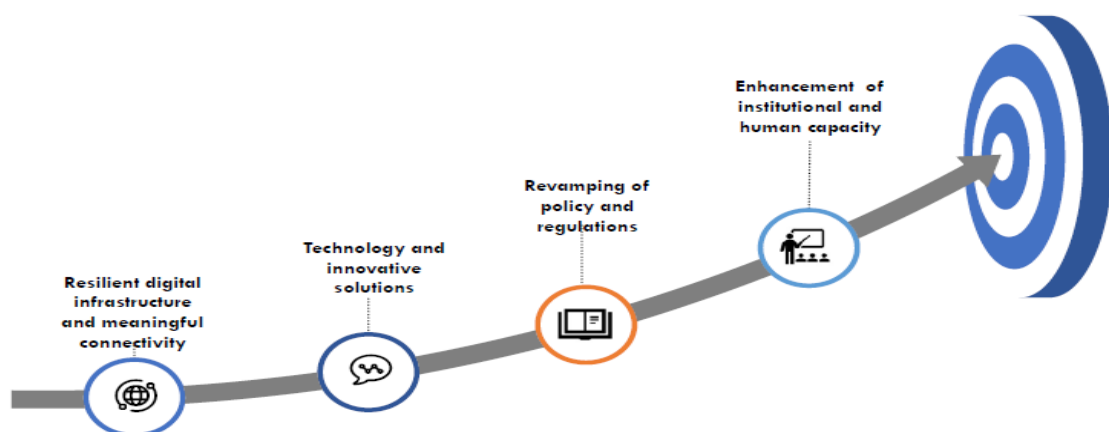


Figure 1: Four Enablers for Digital Inclusion and Digital Connectivity and Resilience As shown in the figure, it lists four enablers. **The first and foremost enabler is resilient digital infrastructure and meaningful**

¹ Build back Better with Broadband: Research Stories from the Frontline. 2022/ITU

connectivity. Digital solutions require that the network and infrastructure are ubiquitous and reliable, and that the services are affordable and accessible by all. There are two aspects to digital resilience:

- a. ensuring that digital infrastructure and systems have sufficient “headroom” to accommodate unexpected peaks in demand due to unforeseen circumstances such as future pandemics.
 - b. ensuring that digital infrastructure and services are able, with little warning, to contribute to responding to unforeseen circumstances and rapid social and economic recovery.
6. The latest ITU data show that uptake of the Internet accelerated during the pandemic. In 2019, 54 per cent of the world’s population were using the Internet with this figure growing to an estimated 66 per cent in 2022, representing 5.3 billion people. **In 2020, the first year of the pandemic, the number of Internet users grew by over 10 per cent, the largest increase in a decade; in LMICs Internet use went up 15 per cent.** A significant part of this growth was driven by the need to use quarantine-related applications such as videoconferencing for work and education as well as online shopping, access to public services and remote health consultation. **It is also clear that the countries who made more investment in digital infrastructure before the pandemic managed to respond more quickly.**

Q1. Comments of stakeholders are invited on the proposed DCIP Authorization under UL (attached at Annexure V). They may also offer their comments on the issues flagged in the discussions on terms and conditions and scope of the proposed authorization. Any suggestive changes may be supported with appropriate text and detailed justification.

DIPAs Response

7. **India's Telecom Infrastructure Provider Industry came into existence when the Department of Telecommunications invited applications for IP-I (Infrastructure Provider Category-I) and IP-II (Infrastructure Provider Category-II) registrations in the year 2000.** Prior to this, the entire infrastructure was to be owned, established and maintained by the licensed telecom service providers only.

8. **The Infrastructure Providers Category-I are those Infrastructure Providers who provide assets such as Dark Fibre, Right of Way, Duct space and Tower.** This was opened to private sector with effect from 13.08.2000. Indian companies registered under Companies Act 1956/2013 are eligible to apply. No license is issued for IP-I. The applicant company is required to be only registered with DoT. There is no restriction on foreign equity and number of entrants. **There is no entry fee and no bank guarantee.** The applicant company is required to pay Rs. 5000/- as processing fee along with the application. Infrastructure Providers Category I (IP-I) can establish and maintain the assets such as Dark Fibres, Right of Way, Duct Space and Tower for the purpose to grant on lease/rent/sale basis to the licensees of Telecom Services, licensed under Section 4 of Indian Telegraph Act, 1885 on mutually agreed terms and conditions. **In no case the company shall work and operate or provide telegraph service including end to end bandwidth as defined in Indian Telegraph Act, 1885 either to any service provider or any other customer.**

9. Department of Telecommunications also started issuing a category of license termed as Infrastructure Provider Category-II license with effect from 13.08.2000 but it was discontinued w.e.f. 14.12.2005. An IP-II

licensee could lease / rent out /sell end to end bandwidth i.e. digital transmission capacity capable to carry a message. All Indian registered companies were eligible to apply. However, the foreign equity of the applicant company was not to exceed 74%. The applicant company was required to pay Rs. 10,000/- as processing fee along with the application. There was no entry fee for IP-II. However, a Performance Bank Guarantees of Rs. 100/- crores was required to be submitted before signing the license agreement. The licensee was allowed to establish necessary network for the purpose so as to lease, rent out or sell end- to-end bandwidth i.e. digital transmission capacity capable to carry a message, to Telecom Service Providers. The licensee was not allowed to directly access or connect the subscribers through last mile linkages except for Other Service Providers where no license is required under Section 4 of Indian Telegraph Act, 1885.

10. There was a unique difference between the Infrastructure Provider-I and Infrastructure Provider-II categories. IP-II could provide active infrastructure and were supposed to pay a license fee of 10%; whereas IP-I being related only to passive infrastructure provisioning, did not attract any license fee since its inception. When IP-II category was discontinued w.e.f. 14.12.2005, the existing IP-II licensees were asked to migrate to NLD (National Long Distance) license which allowed the licensees to provide connectivity to end customers also.
11. **IP- I players have played key role in expanding affordable telephony in India. The faster deployment of shared tower infrastructure by the IP-I players led to widespread growth of mobile network. Furthermore, telecom infrastructure players by creating shared infrastructure for the telecom service providers have ensured**

drastic reduction of cost and time involved in roll-out, which in-turn have led to affordable services to end-users besides faster roll-out and improved accessibility to the remotest corners of the country.

12. Over the years, the telecom tower industry in India has emerged as the trendsetter in the telecom infrastructure segment. **The standalone telecom tower companies are registered under IP-I category. Some of the Telecom Service Providers have also hived off their tower business into separate entities and have taken registration under IP-I category.** Accompanied by one of the world's lowest tariffs & low handset prices, the number of towers has grown manifold since 2006 from 1,00,000 towers to nearly 7,50,000 towers. Telecom towers in India have fuelled the growth of telecommunication services and are providing services to 1.17 billion wireless subscribers. **It is needless to mention that telecom towers are the point of presence for establishing telecom services. The growth is attributed to the Tower Sharing Concept initiated by the tower companies.** The concept of sharing of towers is a unique concept developed by Indian Tower Companies and have found resonance world over. The concept has created a strong incentive for the tower industry which has led to unhindered growth of the telecom sector.
13. The DoT, vide its letter dated 9th March 2009 clarified that **the scope of IP-I category providers, which was till then limited to passive infrastructure, has been enhanced to cover the active infrastructure, if the active infrastructure is provided for and on behalf of the licensees**, i.e. they can create active infrastructure limited to antenna, feeder cable, Node B, Radio Access Network (RAN) and transmission system for and on behalf of UASL/CMSP licensees. Vide its letter dated 28.11.2016, DoT further clarified that "*IP-1 providers are not*

*permitted to own and share active infrastructure. **The IP-1 providers can only install the active elements (limited to antenna, feeder cable, Node B, Radio Access Network (RAN) and transmission media only) on behalf of Telecom licensees i.e., these elements should be owned by the companies who have been issued license under Section 4 of Telegraph Act, 1885.***

14. In the aforesaid clarification it has been stated that creation of active network infrastructure requires a license under Section 4 of Indian Telegraph Act. However, there is no distinction made between passive network infrastructure and active network infrastructure in the Indian Telegraph Act. The Act defines ‘telegraph’ as:

"telegraph" means any appliance, instrument, material or apparatus used or capable of use for transmission or reception of signs, signals, writing, images and sounds or intelligence of any nature by wire, visual or other electro-magnetic emissions, Radio waves or Hertzian waves, galvanic, electric or magnetic means.

As per the Section 4 of the Act, the Central Government shall have exclusive privilege of establishing, maintaining and working telegraphs within India. It is provided further that the Central Government may grant a license, on such conditions and in consideration of such payments as it thinks fit, to any person to establish, maintain or work a telegraph within any part of India.

TRAI Recommendations with regard to IPs-1

15. TRAI vide its recommendations on Infrastructure Sharing dated 11th April 2007 inter alia recommended that the active infrastructure sharing limited to antenna, feeder cable, Node B, Radio Access network (RAN) and transmission system only should be allowed among licensed telecom service providers. Sharing of the allocated spectrum may not be permitted. Based on these recommendations, the DoT issued guidelines for active infrastructure sharing in 2008 and permitted

sharing of active infrastructure amongst service providers based on the mutual agreements entered amongst them. Active infrastructure sharing was limited to antenna, feeder cable, Node B, Radio Access Network (RAN) and transmission system only. However, the license amendments to allow active sharing were made on 11th February 2016.

16. The Authority in its Recommendations on “Definition of Revenue Base (AGR) for the Reckoning of License Fee and Spectrum Usage Charges” dated 6th January 2015 recommended that the IP-I players should not be brought under the licensing regime. The Authority has made the following observations in these recommendations to justify the change in its view due to the global paradigm shift related to infrastructure sharing:

“2.62 *The Authority, upon careful consideration of the DoT’s position on the issue, is now inclined not to press its previous Recommendation for bringing IP-I under the licensing regime. In taking this view, the Authority is conscious of the particular trajectory of evolution of infrastructure service provision in the recent past wherein IP-I services have been hived off from TSPs. Globally, the new conventional wisdom is that infrastructure, both active and passive, need to be shared in the interests of better spectral efficiency, reduced capital expenditures and better quality of service delivery. As demand for data has grown exponentially, the strains on a fixed quantum of spectrum as well as other passive infrastructure have become apparent. It is in this background that the old received wisdom has undergone change: it is better to save capital costs on passive infrastructure (as well as active infrastructure) through sharing. The policy orientation promoting sharing of infrastructure requires to be followed up with concrete incentives in this direction.*

2.63 *The revealed preference for encouraging infrastructure sharing is also obvious from DoT’s own pilot scheme to promote sharing of towers. It is also pertinent to note in this context that non-licensees have invested into IP-I provision, and the present business model encourages sharing of infrastructure, leading to a reduction in the capital*

*expenditure requirements of the sector. The Authority is also conscious of the need to boost incentives for encouraging sharing of all active and passive infrastructure to prevent avoidable duplication. The NTP 2012 mandate to move towards sharing passive and active infrastructure and to a regime of virtual network operators is also relevant in this context. In the changed circumstances, **the Authority is now of the view that IP-I services may not be brought under the licensing regime.***

17. Enhancement of scope for IP-1 registration has been **recommended by TRAI also on numerous occasions in the past 5-6 years** including the recommendations dated 13-Mar-2020. Further, vide recommendations dated 31-Aug-2021, TRAI had once again emphasized for implementation of recommendations dated 13-Mar-2020 within 3 months.

National Digital Communications Policy (NDCP-2018)

18. With a view to cater to the modern needs of the digital communications sector of India, **the Union Cabinet approved the National Digital Communications Policy-2018 (NDCP-2018) on 26th September 2018. Enhancement of the Scope of Infrastructure Providers (IP-1) registration has been enshrined in NDCP-2018 gazette notified in Oct'2018.** The policy aims to facilitate India's effective participation in the global digital economy. Under this policy, the government aims to provide universal broadband connectivity at 50 Mbps to every citizen. It has kept a target of providing 1 Gbps connectivity to all Gram Panchayats by 2020 and 10 Gbps by 2022. One of its objectives is to ensure connectivity to all uncovered areas and attract investments of \$100 billion in the Digital Communications Sector. The NDCP, 2018 in its strategy for "Establishing a 'National Broadband Mission – Rashtriya Broadband Abhiyan' to secure universal broadband access" envisages

enhancement in the scope of Infrastructure Providers in clause 1.1(f) reproduced below:

“Encourage and facilitate sharing of active infrastructure by enhancing the scope of Infrastructure Providers (IP) and promoting and incentivizing deployment of common sharable, passive as well as active, infrastructure.”

Economic Survey 2022-23

19. As per the Economic survey 2022-23² *“While the role of traditional infrastructure has been well recognised, in recent years, the role of digital infrastructure in socio-economic development of the country has assumed an increased importance. This was especially true during the Covid-19 period when the curtailment of physical interactions necessitated the utilisation of digital infrastructure already available for service delivery and remote work. In the coming years, the availability and spread of digital infrastructure will contribute significantly to economic growth. Recognising this, the government’s Digital India programme, which aims to transform India into a digitally empowered society and knowledge economy, envisions digital infrastructure as a core utility to every citizen. The focus areas include the availability of high-speed internet as a core utility for delivery of services to citizens, unique digital identity, enabling citizen participation in digital and financial space, shareable private space on a public cloud (citizens can digitally store their documents, certificates, etc. and share them with public agencies or others without the need to physically submit them), and a safe and secure cyber-space.*
20. The Economic survey further states that **“Reducing the Compliance Burden (RCB) on businesses and citizens is a continuous exercise to leapfrog to the next level of governance excellence and improve Ease**

¹ Economic Survey 2022-23/Ministry of Finance/January 2023

of Living. Ministries and States/UTs have reduced more than 39,000 compliances (as on 17th January 2023). Specifically, more than 3,500 provisions related to minor technical or procedural defaults have been decriminalised by Ministries and States/UTs based on details uploaded on DPIIT's Regulatory Compliance Portal as on 17th January 2023".

21. With the launch of commercial 5G services in the country by Hon'ble Prime Minister on 01 October 2022, **there is a paradigm shift from network expansion to network densification.** 5G requires massive addition of above and below ground infrastructure, both in passive and active categories. These range from backhaul radios, antennas, towers, street furniture, and ducts etc. 5G infrastructure densification can exceed 1,000 Base Stations per Sq. Km. To deliver the dense coverage and high capacity network required by 5G, service providers are now investing in the densification of their radio access network (RAN) – particularly in densely populated urban areas – by deploying small cells. Small cells, while serving a much smaller geographical area than a macro cell, increase network coverage, capacity and quality of service.

23. To summarize, in light of above discussions regarding the potential creation of a new category for IPs-1 and placing them under a licensing regime, it is imperative to clarify that such a proposal is unfounded and goes against the consistent support and emphasis placed on enhancing the scope of IPs-1. This support has been evidenced by regulatory bodies including TRAI and in NDCP-2018 which is a gazette notified document, and also highlighted in the Economic Survey.

It is important to note that PDOAs in the case of PM-WANI have been kept out of licensing regime for the purpose of achieving a larger gain, namely the massive proliferation of broadband service through WANI compliant Wi-Fi

networks. Similarly, IPs-1 are vital contributors to the deployment of digital infrastructure, which serves as the backbone for various networks. As such, it is essential to continue enhancing the scope of IPs-1 rather than subjecting them to a licensing regime that may hinder their contributions.

Therefore, any proposal to create a new category for IPs-1 and place them under a licensing regime should be strictly denied, as it would be detrimental to the progress and growth of digital infrastructure deployment, and contradict the consistent support and emphasis placed on enhancing the scope of IPs-1 by regulatory bodies.

Q.2 Are there any amendments required in other parts/chapters of UL or other licenses also to make the proposed DCIP authorization chapter in UL effective? Please provide full details along with the suggested text.

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Q3. Are any issues/hurdles envisaged in migration of IP-I registered entities to the proposed DCIP Authorization under UL? If yes, what are these issues and what migratory guidelines should be prescribed to overcome them? Please provide full text/details

DIPAs Response

24. As brought out in response to Q1

It is imperative to reconsider the concept of introducing a new category for DCIP, as the aims of such a proposal can already be achieved through the existing regime. Any consideration of introducing DCIP should be scrutinized with the utmost care and caution, given that it could result in unnecessary complexities and hinder the progress of digital infrastructure deployment.

Instead, it is more prudent to focus on enhancing the scope of IPs-1 to enable them to share active infrastructure, including Wireline Access Network, Radio Access Network (RAN), Wi-Fi systems, and Transmission Links. This approach is already proving successful and has the potential to drive significant progress in the digital infrastructure space.

Therefore, it is advisable to discourage any proposals that suggest the introduction of new categories or regimes.

Q4. What measures should be taken to ensure that DCIP Licensee lease/rent/sell their infrastructure to eligible service providers (i.e., DCI items, equipment, and system) on a fair, non-discriminatory, and transparent manner throughout the agreed period? Please provide full details along with the suggested text for inclusion in license authorization, if any.

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Q5. How to ensure that DCIPs lease/rent/sell out the DCI items, equipment, and system within the limit of their designed network/ capacity so that the service delivery is not compromised at the cost of other eligible service provider(s)? Please suggest measures along with justification and details.

25. Infrastructure **sharing is usually driven by two different factors:**
- a. **Economic interest**, which encourages operators to collaborate and/or to use alternative infrastructure due to the potential cost savings and accelerated time to market.
 - b. **Regulatory requirements**, where regulators seek to address imbalances in the market resulting from the power of dominant operators, and/or to require more efficient use of public resources such as land and radio spectrum, and/or to require or compensate the operators of alternative infrastructure to help ensure they make provisions to share among telecommunications operators.

26. In India, IPs-I provide assets such as Dark Fibre, Right of Way, Duct space, and Tower on lease/rent-out/sale basis to the licensees of the telecom services on mutually agreed terms and conditions.

The sharing is done on FRAND i.e. Fair, Reasonable and Non-Discriminatory basis and probably there are no instances of complaints being recorded in this regards. These IPs-I registered companies are not allowed to operate telegraph or provide telecommunications service, including end to end bandwidth, **as a result there is no conflict of interest.**

27. **IPs-I played a significant role in making affordable telecom services available in India. The deployment of shared tower infrastructure by IPs-I led to rapid growth of mobile networks. Some of the Telecom Service Providers (TSPs) hived off their passive infrastructure into separate entities; and these hived-off entities have obtained IP-I registration.**

Over the years, the telecom tower industry in India has emerged as a trendsetter in infrastructure sharing. Putting them under a licensing regime would be tantamount to interfering with a proven and established model.

28. As per a paper titled '**Accelerating Digital Connectivity Through Infrastructure Sharing**'³ "*an estimated 70 percent of countries reported mandated infrastructure sharing, and just 44 percent in the Asia-Pacific region, the lowest among regions worldwide. Sharing of mobile network elements, including towers and spectrum, is rising but at a slow pace*". **The paper further elaborates** "*Infrastructure sharing can be an essential*

*feature of the technology evolution toward 5G and may impact business models and regulation. Infrastructure sharing in light of 5G evolution is also justified by the de-emphasis of physical infrastructure as a competitive advantage, as network virtualization becomes a source of competitive advantage". It concludes "**Shared infrastructure should be complemented with the gradual removal of anticompetitive barriers to yield the greatest impact**". It is crucial to emphasize the urgent need to enhance the scope of work of IPs-1, in order to provide impetus to infrastructure sharing in the region. By doing so, we can drive significant progress in the digital infrastructure space and ensure that IPs-1 are better equipped to establish and share active infrastructure, including Wireline Access Network, Radio Access Network (RAN), Wi-Fi systems, and Transmission Links. It is crucial to emphasize the urgent need to enhance the scope of work of IPs-1, in order to provide impetus to infrastructure sharing in the region. By doing so, we can drive significant progress in the digital infrastructure space and ensure that IPs-1 are better equipped to establish and share active infrastructure, including Wireline Access Network, Radio Access Network (RAN), Wi-Fi systems, and Transmission Links.*

Therefore, it is essential to focus on expanding the scope of work of IPs-1, rather than introducing new categories or regimes, to ensure that digital infrastructure deployment is prioritized and streamlined. In fact, Telecom Infrastructure Sharing is a panacea for Sustainability, Cost and Network Performance.