

RJIL/TRAI/2023-24/266

29th December 2023

To,

Anand Kumar Singh,

Advisor (CA&IT)

Telecom Regulatory Authority of India,

Mahanagar Doorsanchar Bhawan,

Jawaharlal Nehru Marg, New Delhi - 110002

Subject: RJIL's comments on TRAI's Consultation Paper on "Digital Inclusion in the Era of Emerging Technologies".

Dear Sir,

Please find enclosed the comments of Reliance Jio Infocomm Limited (RJIL) on the Consultation Paper dated 14.09.2023 on "**Digital Inclusion in the Era of Emerging Technologies**".

Thanking you,

Yours Sincerely,

For **Reliance Jio Infocomm Limited**

Kapoor Singh Guliani

Authorized Signatory

Enclosure: As above

**Reliance Jio Infocomm Limited's comments on TRAI's Consultation on
"Digital Inclusion in the Era of Emerging Technologies" dated 14th September 2023.**

Preface:

1. Reliance Jio Infocomm Limited (RJIL) thanks the Authority for giving an opportunity to offer comments on the important consultation paper on Digital Inclusion in the Era of Emerging Technologies.
2. The Authority has done a wonderful job of analyzing the variations in Digital Inclusion across different sections of the society and uneven adoption of new technologies by various sections of the society. We submit that Digital Inclusion is a global concern, and we have many good examples of how large economies are trying to address the issue.
3. Digital inclusion is the building block for the modern digital economies as more and more of our daily interactions and transactions take place online. It is crucial that all citizens have the opportunity to participate in the digital world. The numbers on Digital Inclusion referred by the Authority are distressing and need special attention. **The impact of lack of Digital Inclusion can be much beyond the individuals and can impact villages, states, and nations. The adverse effects will go beyond the economic and educational opportunities for individuals and will even impact the national economy.**
4. For all its devastating impact on humanity, Covid-19 had the impact of propelling the individuals and enterprises towards digital technologies much faster than any other such movement at any time. The challenge is now to continue building on the momentum and take along all citizens and leverage the new technologies for bridging the digital divide, **while simultaneously ensuring that the pace of new technologies does not create new exclusions and the march towards Digital Inclusion is not slowed.** The global analysis on Digital Inclusion points towards following action points.

A. Delivering affordable broadband services

5. As noted by the Authority, the 1 GB mobile broadband plans are available at nearly 1.1% of Gross National Income (GNI) per capita (~₹150) which is below the target of less than 2% of monthly GNI per capita set by the Broadband Commission for 2025, whereas the same for fixed Broadband is at 3.32% of the GNI. Thus, the major challenge is to deliver Fixed Broadband at lower costs.
6. The major reason for **Fixed Broadband and fiberization not keeping pace is due to Right of Way (ROW) approvals and charges.** The delays caused by ROW in fiberization have been impacting the fulfillment of national goals under **"National Digital Communications**

Policy, 2018 (NDCP-2018)", "National Broadband Mission" and programs like **"Digital India"** and has the potential to impact all the Digital Inclusion goals.

7. It is imperative that effective steps are taken to streamline the ROW approvals and to fiberize the country to deliver true dividend of broadband to all citizens. **While the lack of uniformity of ROW implementation across the country and lack of enforceability is expected to be addressed by The Telecommunication Act 2023, multiple other issues are also being faced at multiple levels.** For instance:
 - a. **Exorbitant ROW Charges:** Currently the **ROW Charges are exorbitant and are the single largest entry barrier preventing investment in fiberization.** There is similar disparity in charges for using poles for aerial fiber and there is a **need for rationalization and uniformity.**
 - b. **Delays and Permission related issues:** Most Authorities do not follow a set procedure and/or timeline in granting permissions.
8. While the **Government is cognizant of these issues and has taken many steps in the form of provisions under The Telecommunication Act 2023, ROW Rules 2016, (as amended from time to time), and other initiatives. We understand that the inclusion in the Act will bring in the provisions for enforceability, however,** there remain many other issues that need Government's urgent attention. We are submitting issue-wise suggestions to improve fixed broadband penetration in the country in following paras:
 - a. **Compensation and ROW Charges:** The **concept of compensation for use of land in connection with the grant of RoW rights should be done away with, as utility of land is in no way adversely affected owing to the grant of RoW for Underground Cable (UGC).** The ROW essentially leads to delivery of public services and greater common good for populace, **therefore it should be always free on at least public land. At most there can be a nominal administrative charge.** There should be a strict prohibition on any other charges, in any form.
 - b. **Restoration Charges:** The restoration **should be done by the applicant as far as possible. This should be permitted also in the areas where self-restoration is still not allowed but Authority does not have availability of vendors to avoid delays.** No Bank Guarantee (BG) should be taken in case the restoration is being done by the concerned Authority. However, whenever done by local Authorities, **uniform rate card for restoration settled at central level should be applicable.**

9. **Public perception issues:** In addition to resistance to mobile towers, there is very stiff resistance on fiberization in residential areas, especially in dense urban areas like Noida and Ghaziabad.
10. In addition, the Government can look at the subsidy plans for targeted subscriber groups, in line with FCC's - Affordable Connectivity Program, that provides a discount of up to \$30 per month toward internet service for eligible households and up to \$75 per month for households on qualifying tribal lands.
11. The Authority in its Recommendations on "Delivering Broadband Quickly: What do we need to do", released on 17.04.2015 has recommended inter-alia "To promote fixed line BB, the license fee on the revenues earned on fixed line BB should be exempted for at least 5 years." This recommendation has been often repeated by the Authority. Further, the Authority, basis DOT reference, again on 31.08.2021 recommended LF exemption on fixed line broadband revenue, with eligibility criteria linked to 15% yearly subscriber growth comprising of min 20% rural connections. No time period for exemption was specified. We submit that this is an important measure and once implemented, this policy change will bring in quick deployment of the optical fibre for broadband services in the country.
12. There is an urgent need to substantially reduce the License fee obligations from current 8% of AGR (including USOF). The USOF contribution should be stopped till the current corpus is utilized.

B. Making available compatible devices at affordable prices

13. As is evident from the data shared by the Authority in the Consultation Paper, the device affordability is a global problem and even the leading economies are adopting the subsidy route to overcome this issue.
 - a. **FCC – under the Emergency Connectivity Fund (ECF)** is providing reimbursement of upto \$400 for each laptop or tablet and \$250 for Wi-Fi hotpots to the beneficiaries that include students, teachers, and library patrons.
 - b. **Singapore, under The Data for All Initiative** is enabling all segments of society to access digital connectivity through the partnership and support of Private-Public-People (3P) partners.
 - c. **Malaysia, under Jaringan Prihatin Programme** rolled out a subsidy programme in 2021 for the Bottom 40 economic group (B40) with affordable access to smartphones

through telecom service providers by providing the eligible individuals a smartphone bundled with a data plan to stay connected during lockdown periods.

- d. **Argentina, under Plan Mobile Internet Access** provided asset financing for eight million individuals to move from 2G feature phones to 4G enabled smartphones. Individuals could purchase these smartphones on a 12-month installment plan provided by the government with a potential investment of 80 billion pesos.

14. In India, we have over 300 million wireless telecom subscribers that are not broadband subscribers, and hundreds of millions that are not yet connected. **We understand that the device cost is a major hindrance in Digital Inclusion and the only way to address the same is to utilize the USOF corpus for a subsidy-based device upgradation scheme.**

15. This scheme is very much feasible, and the Government can align with the Original Equipment Manufacturers (OEM) to make available 5G devices at affordable prices like Rs.5000 or around. The 80% of the cost can be subsidized by the Government through e-Rupi solution, while the customer will be required to meet the remaining 20% cost.

16. **The TSPs can be aligned to provide data plans that are subsidized by the Government in the beginning to these targeted customers for initial 1-2 years.** There can be device binding to Aadhaar, and bank account linked mobile number to ensure that only the targeted beneficiaries continue to avail the benefits.

C. Ensure availability of digital literacy programs

17. Digital literacy is another critical ingredient for Digital Inclusion. In the modern age it is important to have knowledge, skills, and confidence to connect with the digital economy. Digital literacy is most critical part of any approach to skill development. The Government should customize the Digital literacy toolkits available globally to meet the Indian requirements and make the same available in Indian languages to help address Digital Inclusion.

D. Involving students and corporates in digital literacy

18. The most important part is preparing Indian specific Digital Literacy curriculum and to impart Digital literacy all across the country. We believe that this can only be done with the help of the students.

19. The first step will be to develop India specific Digital literacy frameworks and toolkits in Indian languages to train the citizens. The next level would be to identify the volunteers

to impart the digital literacy to the targeted population. This can be done by involving the students and incentivizing them with stipends and additional grades.

20. The Government should create an enabling framework for Public Private partnerships (PPP) for promoting digital literacy across the country. This will be a mutually beneficial arrangement that can accelerate citizen participation in digital government services and create new markets for businesses.

E. Leveraging technology to deliver inclusive digital environment.

21. **The Authority and Government need to nurture an inclusive digital environment that ensures that no one is left behind.** As noted by the Authority, Artificial Intelligence (AI) and associated technologies have the potential to foster accessibility and inclusivity, particularly for individuals with disabilities or limited physical mobility. Similarly, G20 leader's declaration also focusses on leveraging technology to provide inclusive growth for all disadvantaged sections that have been left behind due to physical, social or economic reasons.

22. **The technology should be used to deliver affordable, inclusive, equitable, safe, and quality education for all children from early childhood through higher education to lifelong learning.** The digital education would be a key constituent as well as enabler for this.

F. Proactive investments in digital infrastructure

23. The Government has taken many good initiatives like BharatNet and other USO related schemes to make broadband available all across the country. However, these steps fall short at many levels and the true potential is not realized. We believe that the Government should involve the State Governments and local bodies to proactively create digital infrastructure by direct investments in last mile connectivity, wherever the services are not available currently. This investment can be in laying fiber to connect the village schools and most frequented areas like markets or choupals to support installing towers to support mobile broadband. **This infrastructure can be offered free of cost to service providers to further invest and make services available to the consumers.**

24. Once the telecom penetration and a minimum level of usage is achieved, then the Governments can start to monetize their infrastructure, instead of current practice of planning revenue much before investments in such public infrastructure.

25. Another critical element would be to generate economic opportunities from the DPis created in remote areas. For this the Government should promote digital

entrepreneurship in newly connected areas. This can be in the form of loans, grants, and awards.

G. Digital Inclusion for Micro, Small and Medium Enterprises (MSME).

26. We submit that the data Digital inclusion of MSMEs, as highlighted by the Authority is alarming and demand immediate attention. There is a need to create momentum and tailwind on MSME digital inclusion and their usage of DPIs to increase their economic contribution to the nation, as well as increase their employment creation potential. The Digital Inclusion needs to be taken a step further than use of mobile banking and to bring the MSMEs on digital marketing and selling platforms.

27. This will require dissemination of the benefits of digital marketing and online selling to these enterprises. **We propose adopting the German example of creating enhanced Competence Centres to assist the MSMEs become digital.** Further, the affordability related measures should be equally applicable on the MSMEs as well. Additionally, there is a need of greater thrust for extending fiber connectivity to MSMEs to digitally enable them. The micro industries with least digital penetration should be provided the connectivity in a subsidized manner alongwith the necessary training to improve the digital skills. The MSMEs can be provided discounted software and devices in line with the British efforts in this regard.

28. Conclusions

1. **Digital Inclusion is a major requirement for India's and its citizen's growth and requires special attention.**
2. **We understand that The Telecommunication Act 2023, has brought enforceability to the ROW Rules, however, there is a need for further reforms in ROW approvals and costs to address the fixed broadband affordability issues.**
3. **To promote fixed line BB, the license fee on the revenues earned on fixed line BB should be exempted.**
4. **A subsidy scheme from USOF is required for handset migration and low cost 5G handset availability to address device affordability issues.**
5. **The device upgradation scheme should be subsidized upto 80% by government.**
6. **The TSPs can also be looped in to provide low-cost plans for these customers in initial years.**
7. **Digital Inclusion is not possible without Digital literacy.**
8. **The corporates, students should all be included in Digital literacy programs using modern communication technologies.**

9. The MSMEs need special attention for Digital Inclusion, that will include training and subsidized software and services.

Issue wise response:

Status of Digital Inclusion

1. What should be the definition of Digital Inclusion? What all parameters should it include to highlight disparities across different segments of society to have a realistic assessment from a policy perspective? Please provide your answer with suitable justification.

RJIL Response:

1. We agree with the Authority's view that simply put 'Digital Inclusion' as the process of bridging Digital Divide. The achievement of Digital Inclusion would imply that all Indians have access to Digital services and digital technologies. The definition by United Nations is most apt in Indian context.

"equitable, meaningful, and safe access to use, lead, and design of digital technologies, services, and associated opportunities for everyone, everywhere".

2. We also agree that understanding of Digital Divide and all contributing factors to it is imperative before finding solutions that will deliver Digital Inclusion. The parameters noted by the Authority in Consultation Paper are all relevant and we need to focus on the Broadband penetration (both fixed and mobile).

3. In addition, the following parameters on the availability of Digital Services may also be considered:

- a. Availability of services
 - Mobility (4G / 5G / 6G)
 - Wireline network – broadband
- b. Affordability of Digital Services (on purchase Power Parity)
- c. Per capita data consumption of population above 15 years
- d. Smart Infrastructure ratings for infrastructure establishment's such as – smart schools, smart metering for water/electricity/ gas pipelines etc., smart traffic monitoring solutions.
- e. Digital records of essential services such as medical history of population / police records / vehicle records

4. While it is necessary to identify the unconnected citizens, it is also necessary to identify the citizens that live in connected areas but are unconnected, which is defined as Usage Gap by GSMA. It is important to note that GSMA's assessment of reasons for Usage Gap points **towards handset costs, data costs and lack of literacy and digital literacy as well as awareness of the benefits of digital services**. The other gaps like Rural-Urban gap and Gender Gap are also relevant factors, however we believe that a lot of these issues can be addressed by bringing down the handset barriers, freeing customers from the clutches of 2G technology and making available affordable data plans to all customers.
5. As mentioned before, the data prices are already very low and to further reduce the same while simultaneously keep investing in networks would involve additional revenue sources. **One of these sources can be the reduction in taxes and levies, which can contribute to almost 15%-20% cost reduction and another is the network contribution by large traffic generating content providers.**
6. To promote fixed line BB, the license fee on the revenues earned on fixed line BB should be exempted, in line with the Authority's recommendation.
7. To overcome the handset barrier, RJIL has made numerous efforts on its own by making available 4G devices at a cost as low as Rs.1000. However, our efforts alone will not be sufficient, and Government needs to chip in with direct handset subsidy to the consumers.

2. Do you agree that the indices mentioned above and developed by various international organisations for assessment adequately represent the status of Digital Inclusion in the country? What other indices and factors need to be considered to identify the gaps in Digital Inclusion in the country?

And

3. Are Digital Connectivity, Digital Affordability and Digital Literacy the main factors responsible for Digital Inclusion in the country? Do you agree that by addressing these, Digital Inclusion can be achieved in the country? If not, please suggest any other factors responsible for Digital Divide that need to be addressed to ensure Digital Inclusion?

RJIL Response:

1. We submit that while the international indices have lot of value and can be useful to formulate the measure for Digital Inclusion in Indian context, however, these are not sufficient and do not reflect the digital inclusion in India in a comprehensive manner.
2. There are many parameters that are unique to India and are not factored in these indices. For instance, one of India's major technology enabled innovation has been India's own instant real-time payment system i.e. Unified Payments Interface (UPI) that helps transfer

cash immediately via a mobile interface between the two bank accounts. Similarly rating indices on smart infrastructure are currently not well established and the global indices need to be customized for India.

3. Nevertheless, even when we believe that India's ranking on the global indices referred by the Authority is not accurate, it is indisputable that there persists a digital divide that needs to be bridged. The common factors in these international indices are built around the availability of infrastructure and affordability of broadband services.
4. A lot of effort is going into developing the digital infrastructure and to ensure availability of mobile internet coverage in the region with sufficiently high performance, including access to electricity. **However, there is still a need for Government intervention in increasing the network expenditure outlay by reducing the overbearing cost of doing telecom business in the country.**
5. We submit that there is a need to review the regulatory levies applicable on TSPs. The current stage of highly regulated sector with massive taxes and levies, inhibiting investments needs to change. As we are on the cusp of 5G and 6G revolution, a sizable reduction in levies will lead to positive dividend in the form of increased investments in the networks. There is an urgent need to substantially reduce the License fee obligations from current 8% of AGR (including USOF). The USOF contribution should be stopped till the current corpus is utilized. Wireline revenue should be exempted from License fee to promote wireline services. The proposal has already been recommended by TRAI, and approved by DCC, but has not been implemented yet. We request an early implementation of the same.
6. The Affordability of broadband services has two aspects. We believe that the major affordability hindrance, especially in rural India is the cost of devices. Despite 7 years of 4G and one year of 5G, over 300 million wireless telecom subscribers are not broadband subscribers, leave alone the unconnected citizens. While the TSPs like RJIL have made massive efforts to make available the affordable 4G devices, there is a need for Government to invest in handset technology migration.
7. The prevailing substantial device upgradation cost in migrating from 2G to 4G/5G deprives a large portion of rural population and urban poor from Digital Inclusion. **The Union Government needs to come up with a targeted device subsidy program to bridge this divide. The corpus of USOF should be utilized in providing handset technology upgradation for rural Indians.**
8. Another aspect relating to affordable broadband is not to put additional cost burden on the users. We have already submitted to the Authority that for this purpose, it is

important that the major beneficiaries of broadband availability contribute to the cost of networks.

9. Large Traffic Generators (LTGs) comprising of a handful of Internet companies are responsible for generating over 70% of the total internet traffic. They use and increase the load on TSPs networks by their service model without contributing to TSPs network costs. With the ever-increasing traffic load with technology changes and higher definitions of content, inelastic consumer prices, the TSPs alone cannot bear the burgeoning costs for the development, upkeep, and sustenance of robust and quality telecom networks.
10. Globally, the laws are moving towards bringing the TSPs and LTGs to agree on Fair Share contribution. A similar initiative is also required in India. The Fair-Share contribution is compliant with Net Neutrality as these are two different issues altogether. The Fair-Share does not envisage any paid prioritization or throttling or blocking or differential pricing based on content, which is the essence of Net Neutrality. It will be start-up friendly, as only LTGs above a certain predefined traffic threshold will pay the fair-share, while all content providers including the smaller players will enjoy the advantages of improved network quality. **The lack of fair share and unbridled increase in traffic by a few content providers may degrade the quality for all customers and impact the Government's objective to provide ubiquitous connectivity without any digital divide.**
11. It is therefore requested that the **Authority should provide a framework for LTGs to share the network costs borne solely by the TSPs on mutual agreeable basis to ensure sustainable networks capable of meeting consumer demand.**
12. There is no doubt that Digital Inclusion is achievable in the country. In addition to measures suggested in the previous paras to deliver the Digital Connectivity and Digital Affordability, efforts are also required in ensuring Digital Literacy.
13. This would involve increasing the awareness about the benefits of digital services. While UPI is one killer app for broadband inclusion, more such killer apps will appear alongside and address this gap. However, in the meanwhile, dedicated and focused digital awareness campaigns will help especially in far flung and remote areas of rural India.
14. The awareness campaign in uncovered areas will generate the inherent demand of broadband services, making it a useful business case for TSPs to expand without the need for USO support.
15. In addition, there is a safety apprehension on the digital ecosystem where threats are real and current ecosystem and laws are not comprehending the issues. **A legal framework to**

address the threats and risks will enhance the digital inclusion as the population will feel more comfortable in adoption of it.

Digital Connectivity

4. Apart from efforts made by the Government through various Projects for provisioning of broadband connectivity under NDCP 2018 and NBM 2019 and other schemes, what additional measures are required to fulfil the objectives of universal connectivity in India?

RJIL Response:

1. We appreciate all the efforts made by the Government over the years to bridge the digital divide through multiple measures, not the least through NDCP 2018 and NBM 2019, however, still a lot needs to be done. Besides the above discussed measures on reducing handset and data cost, many Ease of Doing Business (EODB) measures are still required.
2. The ROW approvals remain biggest hurdle in fiberization and proliferation of wireline and wireless broadband in the country. Despite efforts by DoT, prohibitive compensation and restoration charges remain major concern and bottleneck. These vary widely from authority to authority in many states.
3. Further, the current permission ecosystem as mentioned above is a multi-layered and the TSPs have to comply to various compliances making it a lengthy and tough process. A single window clearance system should be the way forward so that the TSPs can provide digital services to all citizens through Wireless / Wireline mode at a faster pace.
4. DoT's Right of Way rules 2022 (ROW Rules and GLs) and subsequent amendments have only been partially adopted/ not adopted by many states. With the implementation of The Telecommunication Act 2023, we believe that these Rules will become enforceable.
5. Wireless services are the fastest way to deliver high speed broadband experience and various digital technologies to rural areas as well as urban unconnected citizens. However, in order to provide the same, there is a need to ease the process of regulatory clearances and permissions especially with regards to Forest land and Electricity connections. There is a need to make EODB provisions to ease these pain areas. These inhibiting factors should also be considered, and mitigation action plan should be included in the policy documents like NDCP 2018 and NBM 2019. There is a need to include provisions on providing incentive to deploy renewable energy resources, as it would further help in ensuring these areas remain connected as always.

6. There is also a need for uniform policy especially regarding charges for the infrastructure built by Government agencies. For instance, NHAI is laying its own duct & is planning to sell the fiber pair. However, in order to have a positive impact on connectivity, this fiber pair needs to be affordable, and SLA's have to be as per Industry standards. The fiber pair resale should be debarred to ensure optimum utilization.

5. Whether connecting GPs/villages/village institutions through BharatNet has helped in improving digital connectivity in an effective manner? If not, what additional measures are required to ensure universal connectivity across all GPs/villages/village institutions in an efficient and time bound manner?

RJIL Response:

1. Currently the fiber cable laid by BBNL under this project is far from satisfactory. State run agencies have laid fiber connectivity to the village/GP and the policies of states differ from that of BharatNet leading to multiple issues for TSPs seeking to utilize the fiber. One of the major issues is that these state agencies offer the fiber at their own rates and SLA's that sometimes makes it prohibitive to use.
2. There remains the pendency to connect balance 45,000 villages. This should be done on urgent basis either through BharatNet or through other TSPs by providing additional incentives and infrastructure development grant or similar initiative to balance their capital expenditure.
3. In order to develop a sustainable digital ecosystem at GP level, broadband connectivity alone is not sufficient and there is a need for extensive in-village fibre and the delivery of G2C (government to Customer) services to all citizens. This requires a lot of work at Government level.
4. Another important measure would be to take the banking services to all these GP centres and making them e-Suvidha centres and ensuring smooth operations.

6. Will the schemes supported by USOF other than BharatNet suffice the need of universal connectivity in the country? If not, what additional measures or changes in strategy are required to ensure universal connectivity to all unconnected areas? Please provide your answer with suitable justification.

RJIL Response:

1. The USO fund was created only to deliver universal connectivity, however, so far, the USO schemes have not delivered on the promise. In order to make USO schemes more effective, following steps are required.
2. As USOF schemes are covering very remote areas therefore the scheme should not be restricted only to provide the last site for wireless network, but all corresponding requirements to make these sites operational viz: additional Repeater sites needed to connect these sites where Fiber media is not feasible, must also be part of scheme. Additionally, support from USOF should be provided for FWA for last mile connectivity. This would help in faster reach to schools, Primary Health centres and individual homes etc. There is also a need for Uniform policy to be adopted for all state-run agencies or BharatNet from the aspect of EODB.
3. Forest permissions are the major hurdles for execution of USOF project. Even though there is some procedural ease established, still the final permission is taking very long time.
4. It should be mandatory that State Government be made party to these schemes wherein an active support with respect to availability of land/ROW/Forest permissions/Power connections for all network infrastructure and media including renewable energy resources are required. These resources should be made available by State Government in coordination with the Network Operator. The current process of operator demand basis approvals should be made more collaborative.
5. There should be tender based allocation of USO projects and USO Fund should only be used for proliferating telecom services in rural and remote unconnected areas.
6. We also take this opportunity to highlight our concerns on USO Fund being diverted away from Digital Inclusion, under the Digital Bharat Nidhi objectives under the Telecommunication Act 2023. We submit that the Act proposes major changes on utilization of a Fund solely funded by TSPs for proliferation of services. We submit that the purpose of USOF is not fully achieved therefore there is no case for such diversion of funds. If the government feels that the purpose has been achieved, there is a case that this levy should be stopped.
7. **The Government is requested to ensure that through the rules pertaining to Digital Bharat Nidhi, the fund should be solely used for expansion of telecom services in rural and remote areas.**

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7.What steps should be taken to encourage service providers for effective utilisation of the BharatNet infrastructure in provisioning of connectivity to Institutions/households/ individuals?

RJIL Response:

1. The major factor inhibiting the optimum utilization of BharatNet infrastructure is the costing of these services. These facilities should be made available on economical basis. This will ensure better adoption and would also ensure that the service providers are offering services in every village and GP.
2. The delivery of carrier grade services and compliance with Quality of Service (QoS) requirements is possible only if BharatNet maintains the SLA's at the highest level.
3. Local entrepreneurs should be incentivized by State Governments in collaboration with TSPs to rollout the last mile fibre networks across the BharatNet infrastructure. This will provide deeper penetration to digital connectivity with full gamut of services offered by TSPs.

8.Is there any need to take steps to make satellite internet a viable option for providing connectivity to remote/ inaccessible areas? If yes, please provide your answer with suitable justification. If not, what are the other alternatives for provision of connectivity in these areas?

RJIL Response:

1. Satellite Bandwidth is one of the fastest ways to establish Network in remote areas. This way even a Standalone Infrastructure can be created to connect the remote villages to Mainland network providing the latest communication/internet facilities to these villages.
2. This will also save on the long stretches required to lay the fiber media which need to struggle with multiple long lead permissions or multiple Infrastructure repeater sites, therefore this is an option worth looking at.
3. However, despite of the fact that providing Satellite bandwidth is easy and faster, currently Network operators are not considering the same as the cost of providing Satellite bandwidth is very high and also the subsidy provided under USOF schemes is also available for a limited period of two years making the business case unviable in longer run. One measure to address this would be to provide long term and sustainable subsidy on using Satellite bandwidth to encourage the adoption.

4. Additionally, an incentive-based scheme should be adopted to develop network in rural areas where accessibility and other constraints make the network economically unviable.

9. What measures are required for adopting a collaborative approach to utilise Digital Connectivity Infrastructure created by the service providers or through government-aided schemes to extend connectivity to the people in unserved areas? Please provide your answer with suitable justification.

RJIL Response:

1. The collaborative approach between service providers should be market driven and not a mandatory requirement. The TSPs investments in creating DCI is based on long term plans and projections, and excess capacities cannot be determined by a third party.
2. Therefore, any mandated collaborative framework will be counter-productive and anti-investment, as like the incumbent private players, all new entrants will only be interested in operating in already chartered territories and will try to limit the investments in only lucrative areas.
3. The open competition, on the other hand will facilitate venturing into new domains leading to death of digital divide and fulfillment of national broadband aspirations. As was seen in mobility, only an unhindered investment of resources and energy in an uncharted territory by a new player delivered the mobile broadband revolution, a bandwagon every incumbent operator joined as an afterthought and due to bottoms up pressure.
4. Therefore, instead of collaboration, the Authority should recommend that operators should be given financial incentives and long-term benefits for serving the people in unserved areas and to promote investment in DCI and to share DCI to address the adverse cost-benefit structure for DCI investments in difficult terrain/ remote area.
5. In addition to BharatNet initiative by the Government, the state Governments should also take a lead in creating state owned digital communication infrastructure under SPV models which can be leased / rented to the TSPs / local ISPs in unserved areas to address the coverage gaps.
6. Any capital investments by TSPs in the unserved areas should be allowed to be classified under Corporate Social Responsibility (CSR) and suitable benefits should be provided in the ESG (Environment Sustainability governance) / BRSR (Business Reliability and Sustainability Reports) to operators.

10. Please suggest the best practices being followed internationally that can be adopted in the country to provide universal connectivity to all individuals, households, and communities?

RJIL Response:

1. The global best practices for Digital Inclusion include the Sustainable Development Goals by United Nations focusing on building resilient infrastructure, promote inclusive and sustainable industrialization, and foster innovation. Many countries have taken varied paths to achieve digital inclusion starting from funding the rural networks by communication service providers in USA. The US Rural Digital Opportunity Fund (RDOF) of 2019 for digital inclusion in the rural areas, targets to provide \$20.4 billion in funding over a ten-year period to communication service providers to build broadband networks in rural areas and communities. On the other hand, the UK identifies and premises with inadequate broadband connection and provides them the right to request a decent broadband connection, up to a cost threshold of £3,400 per premises. In Australia, the Better Connectivity Plan for Regional and Rural Australia, is a five-year plan with a total funding of \$656 million. Canada aims to get 95% of Canadians connected by 2026 and 100% by 2030, with initial 5-year funding of up to \$750 million.
2. It is submitted that the original structure of USOF is already based on international best practices, however, over the time certain unhealthy practices like nomination-based assignment of USO projects have been introduced that are anti-competition and should be dropped. All USO projects should be awarded on the basis of a tender process only.
3. Further, instead at looking for more global inspiration, we should develop India's first model with Handset migration subsidy scheme to ensure that universal connectivity is available to all individuals, households, and communities.
4. On implementation side, uniform policies should be adopted in line with global best practices. Currently existing infrastructure like cables/ducts laid across National Highways and other roads are getting damaged by infrastructure related activities. There should be dedicated corridor for utilities so that even if there are any infra-activities, such damage should be averted.

Digital Affordability

11. Whether various measures taken by the Government such as focusing on local manufacturing are sufficient to bring down the prices of smartphones in India? If not, what

additional measures are required to be taken to make it more affordable? Please explain your answer with suitable justification.

And

14. Is there any need for policy interventions to increase Digital Affordability (digital devices and digital connectivity) among specific sections of society, for example, women, students, farmers, fishermen, economically weak, etc.? Please respond with suitable justification.

RJIL Response:

1. The measures taken by the Government to promote local manufacturing are no doubt positive and encouraging steps and in the long run, affordable mobile devices will be available in the country.
2. However, these measures will not affect the short-term affordability of the devices, and for the same, direct action is required. The International examples cited by the Authority in consultation paper irrevocably establish that even the developed nations are treating direct subsidy as a viable option for bridging digital divide and the same should be followed in India.
3. The Authority should recommend direct subsidy scheme for migrating to 4G or 5G devices for all economically weaker sections of the society. A minimum monthly income threshold should be decided, and all the citizens below this ceiling should be permitted to avail the benefits.
4. The figures on cost of new/refurbished smartphones by ICEA report seem to be on the higher side and considering the volumes of smartphones required and the competition in the market, we understand that the Government can negotiate the bulk smartphone devices somewhere in the range of Rs. 5000-6000. The Government should contract the OEMs to offer devices with suitable specifications to be made available at Rs 5000/- to the customer under the handset migration plan.
5. The customer should be required to bear 20% of this cost and remaining 80% of the cost i.e., Rs. 4000/- should be provided by the Government to OEM through e-Rupi redemption. In order to ensure that the customer uses the device for a minimum 2 years, there should be IMEI binding with the mobile number. Under this the device should not be permitted to be active with any other number for this duration.
6. This will enable device average cost to come down substantially. Additionally, the contract can also include 5G service providers to help deliver digital services in a seamless and economical manner to the marginalized customers.

12. Whether market for second-hand smartphones is a viable strategy for increasing the affordability of smartphones to the people? Please indicate the opportunities and challenges that may arise due to this strategy.

RJIL Response:

The second-hand market is already thriving in India with multiple options including app-based reselling. However, this has not been successful in delivering the devices directly to the consumers left out of digital revolution. The same can be addressed only by direct subsidy for handset migration, thus we do not see any use of intervention in second-hand market.

13. Whether schemes undertaken by various states for distribution of smartphones and laptops to students and support for the connectivity are effective mechanisms to increase Digital Affordability in the country? If yes, what are the measurable parameters to assess the effectiveness of such schemes? If not, what could be the alternative policy interventions/ schemes with measurable outcomes that can support affordability of the devices? Please support your answers with suitable information.

RJIL Response:

1. We believe that there was sufficient uptake of the schemes by various state governments, and major steps were taken in addressing the digital divide in affected areas by connecting more and more customers. The flaw, if any, with these schemes was that these were limited to certain states and areas only and did to cover all Indians. Additionally, there was no follow up on these schemes to facilitate device upgrades or plan upgrades.
2. The measure for the outcomes for these schemes can be found from the device manufactures basis the detail of active IMEIs. This will give the measure on how many devices are still in market. Though it will not be possible to identify whether all original beneficiaries are still using the service. This situation can be addressed in the proposed national device upgradation scheme.

15. What measures should be taken to make digital devices and digital connectivity affordable to the citizens for empowering them to maximize the benefits of an inclusive digital society? Please provide your answer with best practices being followed internationally in this regard.

RJIL Response:

1. We believe that there is a need for two-pronged approach to ensure that digital devices and digital connectivity is affordable for the citizens of India that will ensure Digital Inclusion and would deliver benefits of an inclusive digital society.
2. The first part of the action is to ensure that the Digital services and Fiber backbone is available across the country. For this, policy level interventions are required to make legally binding policies that will create a liberal and inclusive environment for delivering a positive eco-system for easy and faster Network development. All statutory permissions such as RoW, Building permission, Tower NOCs and restoration GLs should be more TSP friendly.
3. The second aspect is making available the digital devices at subsidized cost to the consumers left out of the 4G story. We can use the learnings from the Malaysian Government funded device subsidy program for Bottom 40 economic group (B40) to help users with affordable access to smartphones alongwith bundled plans.
4. In addition to the mobile handsets, this initiative should include measures for other devices as well. We can adopt learnings from the FCC's Emergency Connectivity Fund that supports schools and libraries for remote learning by subsidizing the equipment and services like laptops, tablet computers, modems, routers, etc. by providing direct reimbursement to beneficiaries. Similar learning can be imbibed from the FCC's Affordable Connectivity Program to subsidize broadband plans they need for work, school, healthcare and more.

Digital Literacy

16.What measures should be taken to engage the industry and academia in promoting Digital Literacy in India? Please provide your answers with suitable justification.

And

17.How can the digital literacy toolkits developed by multiple industry players already available in the market be utilised to improve digital literacy levels in the country, especially for the rural citizens of the country?

RJIL Response:

1. The role of Industry is critical in promoting Digital Literacy in the country. The Government should support the industry to develop and modify the globally available digital literacy toolkits and make the same suitable for Indian public.

2. The industry should also be involved in developing an India specific toolkit in all major regional languages. We agree with the Authority that all stakeholders need to be engaged in promoting digital literacy. There is a need to include all sections of the society to form digital skill forums that will create communities of people in a region to learn specific digital skills.
3. The Corporates can be persuaded to include Digital literacy program under their CSR programs, while the college and University students can be persuaded to participate in the collaborative digital literacy programs by granting awards and additional grades.
4. We agree with the Authority that coalitions and councils are effective in organizing and sustaining stakeholders throughout the skilling process, taking on tasks such as policy review, monitoring technological developments, and identifying new partners.
5. Regional Task forces should be formed that will focus on first identifying digital skills gaps and develop solutions to address the same. This should be followed by relevant and effective digital skill development programs with a mixed force of paid and voluntary workers to help impart digital skills. The industry as well as industry associations in partnership with Government can also be involved in developing programs for mobile learning and online course and tutorials to be used by the Task Forces.

18. Please suggest the best practices followed internationally that can be adopted in the country to promote mass digital literacy for different segments of society.

RJIL Response:

All the international examples referred by the Authority are relevant and learning from these programs should be imbibed in Indian program. Further, the G20 declaration referred by the Authority should be a critical guiding force for Indian Digital Literacy strategy to address all gaps.

Digital Public Infrastructure

19. What steps should be taken to monitor the impact of DPIs on underserved and vulnerable segments of the society? Kindly indicate the key parameters that need to be monitored to assess such impact and actions required to promote adoption citizen centric services by these segments of the society.

RJIL Response:

1. There is no doubt on India's success in creating DPIs that actually affect and benefit all walks of the society. The impact of Aadhaar, UPI and smartphone availability is seen to be believed especially from the perspective of financial inclusion and transparent and targeted delivery of welfare subsidies.
2. Indian DPIs have played a large role in digital inclusion as well, however, a lot more needs to be done to bring citizens from less privileged socio-economic and regional backgrounds at par with the digitally connected citizens. However, for the same, we need to get out of the 2G centric mindset. We should plan for delivering smartphones to all citizens with an age of 15 and above. The upcoming Indian DPIs should be prioritizing all users' needs and simultaneously mitigate the technology-related risks. We agree with the Authority that embedding inclusion as a core policy objective within the regulatory framework of DPIs is essential and there is a need to prioritize inclusion from the outset. Further, as the business potential in the rural segments are limited, all available DPIs to be made available free of cost for establishing wired Networks in these areas.
3. An important aspect will be monitoring the impact of DPIs and recalibrate the focus if required. We submit that the simplest measures can be smartphone penetration, data usage and UPI usage in the targeted sections of the society.

Emerging Technology driving Digital Inclusion

20.How can emerging technology be leveraged to enhance the digital literacy programmes of the Government? Please give your input with reasons. Best practices being followed by other countries and private sector may also be referred to.

RJIL Response:

1. 5G, its applications and its use cases have the potential of being real game changers for Digital Inclusion. 5G use cases will impact all sectors by delivering immersive learning, remote healthcare access, remote work opportunities, financial inclusion, efficient transportation, cultural participation, and sustainable farming practices.
2. However, in order to beneficially harness these technologies, it is important that breakthrough use cases are developed in local language and awareness campaigns are conducted for better adoption, with the help of local Panchayat level bodies. Further, there is a need to Include digital education right from the beginning of child education. Compulsory provisions should be incorporated in new National Education policy.

21. What steps should be taken to ensure that AI and new technologies do not result into further digital divide and every section of the society has access to the new technologies and resultant economic opportunities?

RJIL Response:

The impact of AI-powered technologies on inclusion of marginal sections of the society is not lost on anyone and AI technologies enable voice commands, gesture recognition, and other interfaces will impact the accessibility of digital platforms and improve Digital Inclusion. AI's role in customizing education, and delivering localized information, immediate assistance through chatbots and virtual assistants will be useful besides its impact on Network optimization to cover uncovered areas and improving financial inclusion. The Authority has already made positive recommendations on "Leveraging Artificial Intelligence and Big Data in Telecommunication Sector" on 20th July 2023

Indicators and Dashboard for monitoring Digital Inclusion

22. What should be key performance indicators to measure, monitor and track the progress of the key factors of digital inclusion in the country mentioned below?

- a. **Digital Connectivity**
- b. **Digital Affordability**
- c. **Digital Literacy**

RJIL Response:

1. We submit that the indicators suggested by UN are sufficient to measure the digital connectivity. These indicators include the population coverage, rural coverage, median speeds, gender gap in broadband usage, household and school/business level penetration, active percentage of population using the broadband services (both fixed and mobile). One possible additional indicator can be mean and median values of per capita data consumption.
2. Digital Affordability is a unique challenge for India, wherein the mobile broadband costs are lowest in the world and still a large part of the population is not able to use the broadband services owing to device affordability issue. We have already suggested a viable mode of device subsidy to address this issue and the same should be considered in all earnest. The indicators suggested by UN also focus more on the device affordability aspects with additional focus on affordability of other digital devices like laptops etc. These indicators can be considered as a measure of digital affordability.

3. We also agree with the Digital Literacy measure of at least 70% of population above 15 years of age to have basic digital skills and at least 50% of the population above 15 years of age to have intermediate digital skills. As an action plan, we may also focus on digital literacy levels in regional languages.

23.What measures should be taken to provide high-speed broadband connectivity to schools in the country, especially in states with low number of schools having internet connectivity?

RJIL Response:

1. Delivering broadband internet to remote schools is essential for digital inclusion, as this will help provide the students and teachers access to global educational resources. One major step in this direction will be to increase fiber penetration. This will require addressing all the issues inhibiting the same as ROW permission and costs, which have been highlighted multiple times to the Authority.
2. Further, in order to make available affordable internet in this case will require local governments collaborating with TSPs to develop the related infrastructure. The TSPs should get free access and support to deliver the wireline and wireless broadband services to the schools and surrounding areas to have a viable business case. The Government can also build the relevant DPI and invite service providers to develop most suitable network to cater to broadband needs of schools. As this development will lead to long term positive impact on the community, it may be suitable to involve local communities to contribute in any possible way.

24.How effective is a dashboard as a measure for evaluating and tracking the progress made in respect of the various indicators of the three key areas of digital inclusion? What are the critical parameters and at what level (i.e., at state or district or towns/cities or block or Gram Panchayat levels), such parameters should be captured in the dashboard?

And

25. Who should be responsible to evaluate and track the progress of digital inclusion including development and management of the dashboard?

RJIL Response:

1. Dashboards are important tools to measure progress for any target-oriented project and should be encouraged as these provide valuable insights by visual representation of data, which is easier to comprehend, while at the same time enabling real-time monitoring and tracking which not only helps in effective decision making but also helps in unleashing competitive forces. Dashboards also help in increased transparency, data processing and

customization and promote accountability against predefined goals. Thus, dashboards are vital in data-driven decision-making and have positive impact.

2. The critical parameters for the dashboard for Digital inclusion will be the relevant aspects and targets of all the pieces of Digital Inclusion i.e., Digital Connectivity; Digital Affordability; Digital Literacy.
3. The dashboards can be maintained in a bottom-up manner, starting with the lowest units of local government, followed by the district and state level dashboards culminating into a national dashboard. The dashboard can also be linked with Gati Shakti program. Since DoT is part of PMGSY, this can be generated through portal on fortnightly / monthly basis to understand the progress status.
4. This will ensure availability of Digital Inclusion data at granular level that will help in gap assessment and will facilitate action plans. The maintenance of the dashboards can be entrusted with the State Governments and the national dashboard can be maintained by DoT or the Authority.

Digital Inclusion for MSMEs

26. What efforts are required to provide reliable digital connectivity to MSMEs at affordable costs to empower them through new technologies for effective participation in the digital economic activities?

RJIL Response:

1. Considering the scale, sheer volume, employment generation capacity and impact on economy by MSMEs, the numbers referred by the Authority from the Google-KPMG report, *indicating that well over 68% of SMEs in India are in Offline tier, 15% in Connected, 15% in Enabled and only 2% are in the Engaged tier of the digital pyramid*, are alarming and demand immediate attention.
2. The data showing that a large number of MSME owners have a preference for conducting transactions through mobile banking and engaging with digital technologies is encouraging. It becomes imperative that the interested MSME should be digitally included and remaining made interested by demonstrating the benefits.
3. In order to bring the MSMEs on digital platforms, it is important to disseminate the benefits of digital marketing and online selling to these enterprises. In addition to the existing programs, the government can create enhanced Competence Centres on the lines of German experience, where the MSMEs are provided learning, training, assistance in

identifying suitable digital technologies, and assistance in adopting these digital technologies is provided free of cost. Considering the rural nature of many MSMEs these competence centres can be mobile and enabled with 5G connections. Further support from USOF for last mile connectivity on FWA for such rural MSMEs should be considered to make connectivity economical for them.

4. The affordability issues are same for MSMEs as for most marginalized citizens. We have already suggested solutions for the same in previous sections and are not repeating the same for sake of brevity.

27. Whether the schemes of fibre connectivity in villages and rural areas such as BharatNet can be leveraged to provide the digital connectivity to MSMEs at affordable costs? If yes, please suggest the steps to be taken to extend such connectivity?

RJIL Response:

1. Yes, all the schemes to extend fiber connectivity should be leveraged to provide digital connectivity to MSMEs at low cost and even at Government cost. The State Industries Ministry should be involved in procuring the bandwidth from BharatNet and other possible sources and deliver connectivity to rural as well as urban MSMEs. The micro industries with least digital penetration should be provided the connectivity in a subsidized manner alongwith the necessary training to improve the digital skills.
2. In urban areas as well, the States should promote communication infrastructure to provide good quality digital experience to MSMEs. Special consideration to be given to TSPs to provide quality network in Industrial parks / zones / nodes / estates etc.
3. The international example of Help to Grow: Digital in United Kingdom can be a useful model. Under this the MSMEs can be provided discounted software and devices and free expert advice on utilization of these instruments. This will help the MSMEs improve their digital capabilities, and deliver increased efficiency, reduced costs, and help reach new customers.

28. How DPIs can be used to allow the marginalised communities and MSMEs to access new technologies?

RJIL Response:

As mentioned in the previous sections, the Indian DPIs have a continued massive role in digital inclusion and the same is equally applicable for MSMEs. The DPIs should be used

to understand and develop solutions for MSMEs requirements and allay all fears of technology.

29. What efforts can be made to increase awareness and digital literacy levels, especially in 5G, Big Data and AI/ ML, to the business owners and employees of the MSMEs? What kind of framework is needed in this regard? Please provide your answers with suitable justification.

RJIL Response:

We have already discussed the benefits of the AI-powered technologies in increasing Digital Inclusion, however we are also adding a cautionary note here as these technologies are in nascent stage, and despite of the huge potential in impacting digital inclusion and to meet the needs of MSMEs, it will be too early to provide regulatory frameworks for the same. We submit that the AI powered technologies should be permitted to grow organically. Additionally, the Government can incentivize developers to work on leveraging these technologies for Digital Inclusion.

30. Stakeholders may also suggest any other measures not covered in the consultation document to improve Digital Inclusion in the country with suitable justification.

RJIL Response: None