**COAI Response to the TRAI Consultation Paper on 'Regulatory Framework for Promoting Data Economy Through Establishment of Data Centres, Content Delivery Networks, and Interconnect Exchanges in India'**

We thank the Authority for providing us the opportunity to provide the comments on the TRAI Consultation Paper on "Regulatory Framework for Promoting Data Economy Through Establishment of Data Centres, Content Delivery Networks, and Interconnect Exchanges in India".

**Our issue wise response is as follows:**

**Q.1: What are the growth prospects for Data Centres in India? What are the economic/financial/infrastructure/other challenges being faced for setting up a Data Centre business in the country?**

**COAI Response**

1. Following are the key drivers for the growth of Data Centres: -

   a. **Internet penetration**: India has an internet user base of over 834.29 million subscribers by the end of September 2021, which is expected to reach one billion by 2025

   b. **Cloud adoption**: India's public cloud services are expected to reach $5 billion by 2023.

   c. **Big Data and IoT**: India is expected to be a frontrunner in the Internet of Things (IoT) adoption in Asia-Pacific requiring huge Data Centre space.

   d. **Data Economy Factor**: OTT subscribers are 30 million as of July 2020. Mobile points of sale transactions are expected to rise from US$ 16 Bn in 2020 to US$ 44 Bn in 2024 (28% CAGR). Also, digital commerce usage is expected to rise from US$ 57 Bn in 2020 to US$ 94 Bn in 2024 (13% CAGR).

2. Following are few major challenges being faced for setting up a Data Centres: -

   a. Inadequate infrastructure: Unstable power supply and heavy reliance on generators is a major operational task for operators. Besides, India's current fixed broadband speed is relatively lower than global average and is an impediment to efficient data centre operations.

   b. Single Window Clearance: Even though few States have announced Single Window Clearance for Data Centers, however, it needs to be ensured that timely approvals are accorded and a Single Window Clearance framework needs to be put in place at National Level.

   c. Data Centers have yet not been recognized as a separate category of buildings under the National Building Code

   d. Location and land constraints: land is available at a high cost and there is lack of availability of land at suitable places within the city.

   e. High Initial setting up cost: requires tremendous investment at the preliminary stage due to costly real estate, power infrastructure, water requirement and improving

wide area network connectivity.

f.  Policy enablers required **–**With the presence of strong governments at the state and central level, concerted efforts are needed on several fronts, including creation of single-window clearances, uninterrupted power at affordable costs, 5G rollout, provision of financial incentives, efficient tax structures and stamp duty exemption on land purchase, amongst others.

g.  Lack of required skillset – At present, there is a shortage of skilled labour that is essential for a successful data centre operations.

## Q.2:    What measures are required for accelerating growth of Data Centres in India?

### COAI Response

1.  Below are some of the recommended measures required for accelerating growth of Data Centres in the country which should be applicable to both existing and upcoming data centers:

a.  **Tax incentives** for building infrastructure for large Data Centres and cloud services within the country should be allowed to encourage data localization.

b.  Land to Data centres should be allocated at the appropriate locations of their choice, wherever possible.

c.  **The Government should provide more concessional rate/subsidy in adopting the Sustainable Energy solutions** like Solar Panel system to fulfill the industrial power requirement of data centres. This will also give push to the renewable energy sector and help in reducing the carbon footprint

d.  **Provisioning of uninterrupted power supply with dual electricity connection**

e.  Recognize Data Centres as a separate category under the National Building Code

f.  Availability of dual Water Supply connections to ensure reliable data center operations

g.  Simplify clearances through a **single window, time-bound clearance system** by State Government/Union Territories. Government should allow the installation of DGs & UPS

h.  Need to set up Data Centre Economic Zones (DCEZ) in the country to create an ecosystem of Hyperscale Data Centres, cloud service providers, IT companies, R&D units and other allied industries.

i.  Government should give the Long terms loan to the Data Centers at concessional rate.

j.  Subsidy on Lease Rentals should be provided to data centres

k.  Government to consider taking co-location services from Data Centers to boost the Data Center business

l. Promoting manufacturing of critical mechanical and electrical equipment used in Data Centers under "Made in India" Policy. As part of Data center policy, a PLI scheme for manufacturing these equipment in India would bring significant cost efficiencies and enable India to attract global Data Center players.

**Q.3: How Data Centre operators and global players can be incentivized for attracting potential investments in India?**

**&**

**Q.4: What initiatives, as compared to that of other Asia Pacific countries, are required to be undertaken in India for facilitating ease of doing business (EoDB) and promoting Data Centres?**

**COAI Response**

1. In order to attract investment, Data Centers should be given following Non fiscal and fiscal incentives:

a. **Non-fiscal incentives**

   i. **DC industries are classified under essential/ critical services**

   ii. **24x7 water supply with dual water supply connections**, special provisions in building norms

   iii. **Open access system to purchase power**, deemed distribution license, deemed franchisee status, 24x7 power supply, etc.

   iv. Power and easy fiber connectivity through licensed entities to edge DCs

   v. **Single-window approvals** and permits for companies willing to establish captive firms

   vi. Special provisions in building norms

   vii. **Awareness (to all Stakeholders) about the importance of Data Centers and categorize Data Centers under special building norms as special purpose facilities and accordingly various public departments can be sensitized for prioritizing approvals and allocation of resources to data centers.**

   viii. Preference to Data Center providers for providing real estate & other public infrastructure

   ix. Promoting manufacturing of equipment used in Data Centers under Make in India Program.

b. **Fiscal Incentives and Exemptions**

   i. **Provide Power supply at industrial rates along with Power tariff subsidy for a initial period of 5-7 years**

   ii. Establish dual power grid networks, renewable energy under open access system, provide power at the cost of generation

iii. Registered IT/ITES units shall be exempt from octroi/Local Body Tax (LBT)/entry tax/escort tax or any other cess

iv. Allotment of Govt. land based on eligibility criteria

v. **Land provided at a subsidized rate**

vi. **Property tax is levied at par with residential rates**

vii. Lease rental subsidy for eligible players proportional to the number of people employed, for specific number of years

viii. **Up to 50% rebate should be given on building fees** as decided by State Government authorities.

ix. Waiver/fee exemption for using parts of existing industrial buildings, and tailor-made lease modifications of industrial lots for Data Centre use

There should be framework (like GST Council) to oversee the implementation of the framework. Data Center Readiness Index can be prescribed to rank various States on their policy and operational initiatives to facilitate Data Centers. The Data Center Policy should be reviewed periodically as done in other sectors like Telecom to bring it par with the relevant practices followed around the world.

c. **Some of the International Best practices as mentioned below**

i. **US**- sales tax exemption and property tax breaks

ii. **UK-**, Well established intercontinental fibrer connectivity, safe structured environment , ownership rights, EoDB, and ROI (return on investment) potentials

iii. **Singapore**- robust infrastructure, access to fiber, talented local workforce, low-tax environment, Zero GST tax rate for international services and exports.

Government also initiated a Next Generation Broadband Network (NGBN) plan in 2015 for a state-wide fiber-based network.

iv. **Malaysia**- Freedom to source funds globally for investments , Globally competitive telecommunication tariffs , Income tax exemption , Unrestrained employment of local and foreign knowledge workers

v. **Hong Kong**- low tax rate, well-established legal system, extensive business network, reliable energy supply, reliable network connectivity, blooming start-ups, and IP protection, land supply by industrial estates, availability of greenfield sites for sale, land earmarked specifically for Data Centres, facilitation units and thematic portal, waiver/fee exemption for using parts of existing industrial buildings

**Q.5:** **What specific incentive measures should be implemented by the Central and/or the State Governments to expand the Data Centre market to meet the growth demand of Tier-2 and Tier-3 cities and least focused regions? Is there a need of special incentives for establishment of Data Centres and disaster recovery sites in Tier-2 and Tier-3 cities in India? Do justify your answer with detailed comments.**

**COAI Response**

1. Following are some proposed incentive to expand Data center outreach to Tier-2 and Tier-cities:

a. Implementation guidelines for a **single-window clearance** to fast-track projects for smaller data centers can boost the development of data centers in the Tier-2 and Tier-3 cities

b. **Power can be made available on priority** and should be on **at industrial / economical rates.**

c. **Availability of reliable dual water supply**

d. **Lease Rentals** rates should be lower

e. **Stamp duty concessions** should be provided.

f. Fuel subsidies should be provided

g. Create demand for Data Centers by taking colocation services from Data Centers for various Government projects.

**Q.6:    Will creation of Data Centre Parks/Data Centre Special Economic Zones provide the necessary ecosystem for promoting setting up of more Data Centres in India? What challenges are anticipated/ observed in setting up of new Data Parks/zones? What facilities/additional incentives should be provided at these parks/zones? Do give justification.**

**COAI Response**

1. DC Parks and DC SEZs can pay an important role in ramping up DC growth across the country. DC Parks, with all requisite permits and infrastructure in place, can allow the stakeholders to lease and start the operations. The proposed Data Centre Economic Zones would create an eco-system of Hyper-scale Data Centres, Cloud Service Providers, IT companies, R&D units and other allied industries. DCEZ Scheme will be implemented by inviting proposals from the States.

2. As per MeitY draft on "Data Centre Policy 2020", Government of India also proposes to set-up at least four (4) Data Centre Economic Zones (DCEZ) in the country. We are supportive of such initiative and believe that Government should take leadership is setting up of such DC Parks. Private players should also be encouraged and incentivized to set up such DC Parks but required support should be provided for the same.

3. Three most important challenges **in setting up of new Data Parks/zones** are as follows:

a. **Power availability**

b. **Seamless connectivity** is a challenge since many areas. It can also be tackled with a focused plan.

c. **Real estate cost** and availability

4. Below are the facilities/ additional incentives required at Data Centre parks / Data Centre Special Economic zones

a. **Subsidized land acquisition cost** for large hyperscale data center parks

b. Ensure **zero power cuts** for data center parks

c. **Data Center parks to be treated as essential services**

d. **Location of SEZ should be decided in consultation with the Industry**

e. Renewable Energy farms: The DC Parks by default should have associated renewable energy farms dedicated to the data centers. It will give a push to the renewable energy sector in the country and reduce the dependency of the data centers on the conventional sources of electricity.


**Q.7:** **What should be the draft broad guidelines to be issued for Data Centre buildings, so as to facilitate specialized construction and safety approvals?**

**COAI Response**

1. National Building Code of India (NBC 2016) should recognize 'Data Centre' as a separate category so as to facilitate specialized construction and safety approvals. In absence of separate building norms, DCs are required to follow commercial office building norms. This unnecessarily raises costs as various requirements based on personnel presence that are relevant to other commercial buildings may not be relevant for DCs. Draft broad guidelines may include four elements for data center building designs[1]:

a. **Physical capacity**: These must be space for the equipment and the floor must be able to support the weight.

b. The Building design should be as per the Seismic Standards

c. **Power**: Connections to different part of the grid and/ or utilizing a UPS increases uptime. There must be physical capacity to have rooms for power and equipment that needs power.

d. Height and Crash resistance parameter of the wall,

e. Provision for approval for multi-level DG Stacking within the campus (5- 6 levels for DG stacking)

f. Restricting Parking norms as per the need (suggested one Car park for every 600 Square meter build)

g. Green Design considerations

h. Recommended Standardized FSI (Floor Space Index) Norms of >3 or 4

i. Prescribe Minimum Physical    and Electronic security standards that are required to be followed

---

[1] https://www.slideshare.net/mirfallah/data-center-building-general-specification

j.  Integration with nearest facilities like Police Station, Hospitals and Fire Station to deal with exigencies.

k.  **24x7 water supply**: Without cooling nothing will work for long. Having provision of 24x7 water supply in policy/guidelines will help to meet the cooling requirement of data centre. **Connectivity**: The buildings should provide for robust bandwidth connectivity.


**Q.8:   Is there a need to develop India-specific building standards for construction of Data Centres operating in India? If yes, which body should be entrusted with the task? Do provide detailed justification in this regard.**

     **&**

**Q.9:   Till India-specific standards are announced, what standards should be followed as an interim measure?**

**COAI Response**

1.  Yes, there can be India specific standards to facilitate the data centres and there should be nodal agency to coordinate for these activities. However, Govt. should initiate a consultation with concerned stakeholders before finalizing any building standards for construction of Data Centres

2.  Government can consider **adopting the global standards (like TIA 942 & Uptime Institute standards), guidelines** and benchmarks to develop India-specific building standards for construction of Data Centres.

3.  DoT and MeitY with coordination of Ministry of Housing and Urban Affairs **should be entrusted for the enablement of the above framework & Standardisation Testing and Quality Certification (STQC) can be entrusted for the audits** as they are already into evaluation & certification of public cloud & Government Cloud Computing (GCC).


**Q.10:  Should there be a standard-based certification framework for the Data Centres? If yes, what body should be entrusted with the task?**

     **&**

**Q.11:  Should incentives to Data Centres be linked to the certification framework?**

**COAI Response**

1.  Yes, there should be a standard-based certification framework which can be linked to incentivize Data Centres.

2.  We submit that TIA 942 & Uptime Institute standards can be used as both are mature standards and are prevalent in India and worldwide.


**Q.12:  Are there any specific aspects of the disaster recovery standard in respect of Data Centres that needs to be addressed? If so, then provide complete details with justification.**

**COAI Response**

1. DCs **already have Disaster mitigation plans** which include provisions to address earthquakes, floods, tsunamis, or any other natural/ technological/ man-made disasters for the setting up of Data Centers. **Hence, there is no additional requirement to address disaster recovery standards for Data Centers.**

2. However, through policy interventions, reliable and dual water and power supply should be facilitated to ensure uninterrupted data center operations. Further, RoW issues need to be resolved for laying fiber connectivity for Data Centers.

3. Specifically, all RoW issues need to be resolved for connecting TSP's fiber POP to Data Center and approvals to accorded on priority for laying fiber for telecom connectivity.

**Q.13: Whether trusted source procurement should be mandated for Data Centre equipment? Whether Data Centres should be mandated to have security certifications based on third-party Audits? Which body should be entrusted with the task? Should security certifications be linked to incentives? If so, please give details with justifications.**

**COAI Response**

1. Most of the critical/strategic services (ex: banking and financial services, government services, etc.) have been made online and there is an upward trend of usability of smart and connected devices/services. All this data resides in the DCs. Hence the role of the selection of hardware equipment and deployed software becomes critical in relation to maintaining digital security of the stored data.

2. There is a need for testing and certification of hardware equipment as well as software used in DC facilities in India. This will ensure that there is no data breach owing to malicious content of hardware equipment sourced from dubious origins. We understand that the ISPs are already mandated by their license arrangement to purchase equipment which has been approved by Government and we submit that the same approach of approved equipment/software purchase should be applicable for DCs too. However, there should be time-bound approvals considering the dependencies on Global Supply Chains. In order to faster deployments, we recommend that rather than going through the entire process of trusted source, it would be prudent to declare the OEM's and their manufacturing locations from where products can be obtained.

3. An industry body should be formed in consultation with industry stakeholders. Such body should continuously monitor the established and emerging applicable DC standards globally. Such industry body can be entrusted with the responsibility of security certification based on audit of hardware equipment and software deployed by DCs operating in India.

**Q.14: What regulatory or other limitations are the Data Centre companies facing with regards to the availability of captive fiber optic cable connectivity, and how is it impacting the Data Centre deployment in the hinterland? How can the rolling out**

**of captive high-quality fiber networks be incentivized, specifically for providing connectivity to the upcoming Data Centres/data parks? Do justify.**

**&**

**Q.15:** **What are the necessary measures required for providing alternative fiber access (like dark fiber) to the Data Centre operators? Whether captive use of dark fiber for DCs should be allowed? If so, please justify.**

**COAI Response**

1. The present limitations that the DCs are facing with regards to the availability of fiber connectivity are on account of external factors related to approvals and permissions for RoW, and associated charges and timelines. Therefore, to improve the situation it requires an enabling regulatory environment so that the players responsible/licensed to lay the fiber get the required support from the relevant Authorities.

2. Fiber connectivity to DCs should be provided only by licensed entities authorized to do so. Any unwarranted regulatory interference will result in regulatory uncertainty, threat to national security, wastage of resources leading to market distortions, litigations, and economic inefficiencies for the sector. Allowing DCs to establish their own fiber connectivity without an appropriate authorization under the Act, as one of the suggested measures, is not only a revenue loss to the exchequer but will also lead to all enterprises establishing their own captive fiber networks thus making the TSPs business case unviable for establishing fiber networks. Further such captive connectivity will remain outside the lawful interception and monitoring framework established by TSPs.

3. Data Center companies keen to set up captive fiber connectivity can be achieved by them by taking relevant registration/license under the provisions of Indian Telegraph Act.

4. Any type of fiber connectivity (for captive or commercial purposes) should be done under existing regulatory framework, which prescribes that any entity willing to lay dark fiber (across the buildings) should obtain IP-1 Registration and if it wants to operate a network (either for captive use or for commercial providing services) should obtain relevant authorization under Unified License (NLD or Access).

5. Obtaining timely and affordable RoW permissions continue to be faced by TSPs/IP-1 for rolling out optical fiber networks, either for Data Centers or for other purposes. The situation gets exacerbated due to challenges faced in the upkeep and maintenance of existing infrastructure due to damages caused during civil work. The exorbitant RoW fee charged by various bodies makes fiber deployment uneconomical for TSPs.

6. Following are some of the proposed measures to incentivise the rolling out of high-quality fiber networks

a. Simplified, timely approval process for RoW with a Single Window Clearance

b. RoW fee should be waived off

c. Govt. may consider providing incentives to licensed TSPs

**Q.16: What are the challenges faced while accessing international connectivity through cable landing stations? What measures, including incentive provisions, be taken for improving the reliable connectivity to CLS?**

**COAI Response**

1. There are no challenges in accessing the International Bandwidth as the International Bandwidth market in India is already very competitive. With the increase in the demand, market forces will take care of the cost of bandwidth and hence there is no requirement to have any further regulatory intervention.

2. Below are some challenges faced while accessing international connectivity through CLS.

a. Given the higher cost of pulling the cable inland, only two cities (Mumbai and Chennai) remain the favourites for most operators to locate their initial Data Centres.

b. The **non-availability of submarine cables and fiber networks** for international connections is the main drawback for the companies not establishing DCs in the north, central, and northeast regions.

c. For regular operations and maintenance of the submarine cables and restoration of submarine cable cuts TSPs are required to seek permission from DoT, who in turn seeks permission from the Ministry of Home Affairs (MoHA) & Ministry of Defense (MoD) so that the foreign cable ships & their crew are allowed to enter and carry out the repairs of submarine cables in the Indian territorial waters. **As different ministries are involved, it takes a lot of time to get the desired permissions which have a direct impact on the business continuity of the TSPs.**

3. Even though the market for International Bandwidth remains competitive due to presence of multiple ILDOs, Access facilitation charges, and co-location charges paid to CLS should be allowed as pass through expenses which would help the ILDO to make the connectivity charges more competitive. Additionally, RoW charges for connectivity to the CLS being established by the ILDO/Access Operator/ISP licensee should be waived off. This would allow them to build redundant paths to the CLS.

4. There should be a provision to ensure the safety of submarine cables in coastal areas

5. To further improve the international connectivity, the TSPs should be incentivized (rationalization in regulatory levies) and simplified approval process for setting up and maintaining the Cable Landing Stations.

**Q.17: Is the extant situation of power supply sufficient to meet the present and futuristic requirements for Data Centres in India? What are the major challenges faced by Data Centre Industry in establishment of Data Centres in naturally cooled regions of India? What are the impediments in and suggested non-conventional measures for ensuring continuous availability of power to companies interested in establishing Data Centres in the country? What incentivization policy measures can be offered to meet electricity requirements for Data Centres?**

**COAI Response**

1. Major challenges faced by Data Centre Industry with respect to electricity and power in establishment of Data Centres are

a. Despite making remarkable progress in electricity distribution over the years, India still faces challenges in meeting its growing power demand. In FY 2020-21, the country's energy supply deficit stood at 1,441 MU[2].

b. **North Indian states have suffered electricity cuts** and face further outages because of a **lack of coal**.

c. Rural areas in many northern and eastern states typically **receive less than 20 hours of grid supply**[3].

2. Some suggestions for ensuring availability of power to Data center companies are:

a. **Establishment of dual power grid networks** to ensure uninterrupted quality supply of electricity.

b. **Encourage Sustainable Energy solutions**.

c. **Fuel subsidies to run backup power sources**, in rural and Tier-2 cities

d. To promote green Data Centres, the **DC investors can be allowed to buy power from large generating/distributing companies** (DISCOMs) having RECs (Renewable Energy Certificates) directly **without any restrictions**. Open Access Systems should be encouraged and incentivized for procurement of renewable energy.

**Q.18: Should certification for green Data Centres be introduced in India? What should be the requirement, and which body may look after the work of deciding norms and issuing certificates?**

**COAI Response**

1. Yes, considering the high power consumption, green certification should be made must for Data Centers

2. To encourage the adoption of renewable energy, incentives can be rolled for Data Center Operators, in case they exceed the minimum percentage consumption of green energy.

**Q.19: Are there any challenges/restrictions imposed by the States/DISCOMs to buy renewable energy? Please elaborate. Please suggest measures to incentivize green Data Centres in India?**

**COAI Response**

1. Following are some measures to incentivize green Data Centres in India:

a. The DC players interested in setting up Green Data Centres can be given benefits

---

[2]  https://www.trai.gov.in/consultation-paper-regulatory-framework-promoting-data-economy-through-establishment-data-centres
[3] https://www.ceew.in/publications/state-electricity-access-india

like easy approvals and permits, ease of restrictions in availing existing **renewable energy resources, tax exemptions on capital investment etc.**

b. **Extend tax incentives** for facilities researching in or using certain renewable energy sources.

c. Government should provide **renewable energy under open access system**

d. No Surcharge (like **Cross Subsidy Surcharge and Additional Surcharge)** should be levied by States for sourcing of renewable energy by Data Centers.

e. Banking for renewable energy should be allowed throughout the year and settlement of energy should be allowed on monthly basis irrespective of Time of Day/15 Minutes settlement

## Q.20: What supportive mechanisms can be provided to Data Centre backup power generators?

**COAI Response**

1. Govt. should **allow the installation of DGs & UPS** for smooth operations of Data centres.

2. Incentives should be given for manufacturing of DGs within India.

3. Govt. should give **fuel subsidies** to run backup power sources,

4. Govt. to ensure uninterrupted/continuous fuel availability

5. Data Centres DGs should be kept out of ambit of shutdown of DGs in case of issuance of the order/guidelines by competent authorities pertaining to the High Pollution levels

## Q.21: Availability of Water is essential for cooling of Data Centres, how the requirement can be met for continuous availability of water to the Data Centres? Are there any alternate solutions? Please elaborate.

**COAI Response**

1. Government may consider **incentivizing rain water harvesting** by the data center companies which can supplement the water requirements for cooling purposes.

2. Govt. may also consider incentivizing the setup of water recycling plants

3. Govt should make available clean water supply to DCs via local authorities

4. Govt. to make mandatory provision for dual water supply connection for reliable Data Center operations

5. Bore Well construction should be allowed to meet any emergency requirement

6. **Further, below are some alternate solutions to water cooling system**

a. Basic fans

b. Complex heat transfer technologies like hot aisle containment

c. Incentives for New liquid immersion technologies

d. Data center cooling system that uses the exterior atmosphere to present cooler air to the servers instead of continually chilling the same air.

**Q.22: Whether the existing capacity building framework for vocational or other forms of training sufficient to upskill the young and skilled workforce in India for sustenance of Data Centre operations? What dovetailing measures for academia and industry are suggested to improve the existing capacity building framework, and align it with the emerging technologies to upskill the workforce in India?**

**COAI Response**

1. Provide large-scale training on Data Centre, Digital and Cloud technologies, in collaboration with Ministry of Skills Development and Entrepreneurship (MSDE) and leading academic institutes, and facilitate sector links for such trained workforce.

2. Promote initiatives to address the skills gap in trained manpower in order to meet the needs of Data Centers and Cloud Computing Platforms.

3. Introduction of **vocational-vendor neutral certification courses** in the field of Computing System, Data Centre Infrastructure Management, Certified Network Associate/Network professional.

4. Subsidizing the education for specialized cloud/data operations and training and certifications of Data Centre professionals

5. The Govt. & Private sector in collaboration, may be **encouraged to skill the students, conduct workshops, and upskill the existing workforce in India.**

**Q.23: Is non-uniformity in state policies affecting the pan-India growth and promotion of Data Centre industry? Is there a need for promulgation of a unified Data Centre policy in India, which acts as an overarching framework for setting Data Centres across India? What institutional mechanisms can be put in place to ensure smooth coordination between Centre and States for facilitating DC business? Do support your answers with detailed justification.**

**&**

**Q24: What practical issues merit consideration under Centre-State coordination to implement measures for pan-India single-window clearance for Data Centres?**

**COAI Response**

1. Yes, there is a need for a **Unified Data Center policy which could be a common umbrella policy adopted by all sates**. Various State Governments could take additional measures to attract and promote data centers in their respective states.

2. A unified online platform and digital process should be developed under a pan India single window approval system to ensure smooth coordination between various departments under Centre and States for facilitating DC business

3. **A Central agency (DoT/ MeiTY) can be designated for** Centre-State coordination to implement measures for pan-India single-window clearance for Data Centres.

**Q.25: Is there a need for Data Centre Infrastructure Management System (DCIM) for Data Centres in India? What policy measures can be put in place to incentivize Data Centre players to adopt the futuristic technologies? Elaborate with justification.**

**COAI Response**

1. **To optimize the cost of operation**, it is significant to create an efficient Data Centre Infrastructure Management System (DCIM) to correctly assess the requirements of the concerned Data Centres.

2. The **fiscal and Non-Fiscal incentives** as mentioned in the response to Q 3 can be considered to incentivize Data Centre players to adopt the futuristic technologies

**Q.26: What institutional mechanism needs to be put in place to ensure digitization of hard document within a defined timeframe?**

**COAI Response**

Any institutional mechanism will need to be scalable and reliable to ensure digitization in a sustained way. For this the digitization process should be easy for large scale adoption. The sustained value of digitization will lie in the quality of digitization.

Specifically, **to ensure digitization of hard document within defined timeframe, we suggest following:**

1. Drive adoption and ease of use where possible

a. Start digital first where possible so as to minimize document collection

b. Allow purging of hard copies where digital documents are available centrally

2. Key factors to ensure sustainability, usability

a. Maintaining imaging standards (quality, resolution, depth, compression mechanisms)

b. High quality of metadata collection like name, image description

c. Usage of industry standard data management practices

d. Ensuring document authenticity during collection, digitization

3. It must be noted that ensuring the security of digital data is bigger challenge than mere digitization of data, which is currently in form of hard document. India is still at early stages of recognition of need for development of requisite system and

framework for maintaining the security of data in possession of data fiduciaries, far from adoption of the same.

4. Development of requisite infrastructure and framework to ensure security of data will require time for many data fiduciaries, which may either be constrained by resources or may not have deployed sufficient resources till date. We submit that Government must pivot around development of a secure environment for processing of data at all fronts.

### Q.27: Would there be any security/privacy issues associated with data monetization? What further measures can be taken to boost data monetization in the country?

### COAI Response

1. Digitization will enable easy access to highly sensitive citizen's data. Misuse of this data can be catastrophic. Identity fraud, financial fraud are some examples. This makes the data a high potential target for attacks. Thus, securing this data at all stages from sourcing to storing to retrieval is very critical. It is equally critical to validate authenticity of the data.

2. Before pushing for the monetization of data, it is important to ensure that all the stakeholders have the requisite data security infrastructure and framework in place.

3. Following are some of the key security/ privacy issues associated with data monetization:

a. Many times, the **end-user is forced to part with its personal data** with very little information about how the data is going to be utilized.

b. **End-user has no facilities to access, view, amend, or delete his submitted data.**

c. In case of any data breach, he may not even be informed about it till it gets reported.

4. We suggest to create authorized centers for digitization wherein current infrastructure (aadhaar kiosks, payments bank kiosks) could be used to digitize documents for the citizen.

5. To take care of security and privacy related concerns, an authorization/alerting mechanism should be put in place when a citizen's data is accessed e.g. message alerts and information of agency/ enterprise accessing the information.

6. In India, TSPs are operating under a well-defined, robust and stringent regulatory regime with regards to data privacy and security. Further, TSPs are subjected to stringent financial penalties if there is any failure to comply with the same. Their core business of telephony services is regulated and governed by the license accorded by Central Government under Section 4 of the Indian Telegraph Act and they are under license obligations to collect, maintain and share personal data as per the directives of the Government issued from time to time.

7. The Unified License conditions prevent misuse of the personal data collected by a licensee. TRAI direction of 2010 also mandates the TSPs to ensure confidentiality of information as provided in the license conditions and to put in place appropriate mechanisms so as to prevent breach of confidentiality of information of the subscribers and privacy of communication.

8. We submit that, presently there is adequate regulatory oversight to ensure data privacy and data security of customer data as well as customer communication for the licensed service

providers.

9. Further, we submit below measures that can be taken to boost data monetization in the country

    a. **Giving free, informed, specific, clear, and revocable consent to users**

    b. Empowering people to access their data and share it with third-party institutions seamlessly and securely.

    c. Designing an evolvable and agile framework for good data governance

    d. **Data Sharing API Standards** to enable an encrypted flow of data between data providers and users

    e. Applications should not include third-party code that collects and analyses personal information to target users with advertising, without the active consent of the user. If third parties will collect or have access to user information for their own purposes, the user must be made aware at the earliest that their data will be shared, indicating:

- With whom it will be shared and for what purposes, and

- Providing links to those third parties' and their privacy notices.

    f. Users must be allowed to choose whether to allow this collection, access and use by third parties. Users must be told about a material change to the way an application will collect or use their personal information, before such a change is implemented, so that they can make an informed choice about whether to continue to use the application.

    g. Businesses should get explicit recognition that anonymous data is not personal data and that pseudonymisation can provide genuine safeguards without the need for consent. Regulatory bodies worldwide have introduced strict compliance mandates to control how businesses collect and manage data.

**Q.28: What long term policy measures are required to facilitate growth of CDN industry in India?**

**&**

**Q.29: Whether the absence of regulatory framework for CDNs is affecting the growth of CDN in India and creating a non-level-playing field between CDN players and telecom service providers?**

**&**

**Q.30: If answer to either of the above question is yes, is there a need to regulate the CDN industry? What type of Governance structure should be prescribed? Do elucidate your views with justification.**

**&**

**Q.31: In case a registration/licensing framework is to be prescribed, what should be the terms and conditions for such framework?**

**COAI Response**

1. The CDNs have emerged under the market forces and benefit content providers, ISPs and customers and bring the content closer to the customers. Therefore, we believe that there should not be any regulatory intervention in the same and the relationship between the ISPs and CDNs should continue to proliferate under the market forces.

2. However, today CDNs are handling majority of the Internet Traffic and there is huge dependency on CDNs for maintaining quality of services to the customers. The recent internet outages are a testimony to the fact that there needs to be some obligations on CDNs for maintaining Quality of services to the customers.

3. Since, ISPs are already mandated to maintain quality of services to the customers, however CDNs operated by unlicensed entities continue to be outside the ambit of regulatory provisions. Therefore, we believe that there should be some framework to govern quality of services provided by CDNs of unlicensed entities.

4. Accordingly we submit that an appropriate legally binding and Regulatory framework should be put in place covering aspects relating to:

a. Net Neutrality

b. Security

c. QoS

d. Blocking of content

**Q.32: What are the challenges in terms of cost for growth of CDN? What are the suggestions for offsetting such costs to CDN providers?**

**&**

**Q.33: Do you think CDN growth is impacted due to location constraints? What are the relevant measures required to be taken to mitigate these constraints and facilitate expansion of ecosystem of Digital communication infrastructure and services comprising various stakeholders, including CDN service providers, Data Centre operators, and Interconnect Exchange providers expansion in various Tier-2 cities?**

**COAI Response**

1. Some of the challenges faced by the CDN providers are:

a. The performance of CDNs depends on the location of edge servers near to the target population

b. **Initial investment** for the basic infrastructure

c. **Costs of maintaining servers** (including power and cooling) and maintenance staff costs

d. Uneven implementation of Central ROW rules, high charges, delays in permissions

e. Post RoW permissions, TSPs face challenge in work execution due to delay/denial tactics by the local bodies/ RWAs

2. Suggestions to mitigate such challenges:

a. The Data Centres, and IXPs **must be strategically located** to provide access to multiple upstream providers (e.g., content providers or transit ISPs). The connectivity should be through licensed Service Provider only.

**Q.34: What measures can be taken for improving infrastructure for connectivity between CDNs and ISPs, especially those operating on a regional basis?**

**COAI Response**

1. Cabinet approval needed to enforce DoT RoW rules 2016 across Central departments, States and local bodies

2. Exempt RoW charges for next five years (i.e. from FY 2022-23 to FY 2027-28) for expeditious laying of common ducts and posts

3. Grant permissions in time-bound manner with written deemed approval

4. 'Dig once' and 'Call before you Dig' policy. Laying of OFC part of National Building Code to get completion certificate

5. Allow deployment of OFC using street furniture/ DISCOM assets e.g. electric poles, streetlights, bus stops, adv. hoardings.

6. Expedite RoW permissions under Single Window Clearance online portal.

7. The Central Government should incentivise establishment of common ducts and posts, to be shared on non-discriminatory basis

8. Priority Electricity Boards (EB) connection to Telecom Towers at Industrial/ favorable rates, and exemption from schedule power load shedding be granted to Telecom sector

9. There should not be any Regulatory prescription on bandwidth charges as it will discourage the investments in Telecom Infrastructure.

**Q.35: Is there a need to incentivize the CDN industry to redirect private investments into the sector? What incentives are suggested to promote the development of the CDN industry in India?**

**COAI Response**

1. Overall objective of incentivization is to improve internet access in the country. It is suggested that, the incentive scheme should be directed towards the licensed service providers to improve the internet penetration.

2. Thus, the common umbrella policy at the Central level for Data Centers, proposed by us in previous Question No. 2 and 3 can also cover measures to incentivize CDN industry.

**Q.36: How can TSPs/ISPs be incentivized to provide CDN services? Please elucidate your views.**

**&**

**Q37.** **Are there any other issues that are hampering the development of CDN Industry in India? If there are suggestions for the growth of CDNs in India, the same may be brought out with complete details.**

**COAI Response**

1. The real policy objective should be to improve internet access penetration by incentivizing TSPs/ISPs which would automatically lead to investments in sub-components like CDNs.

2. TSPs/ISPs should be encouraged to provide CDN service as they are well placed to offer the users higher quality internet experience and they can store content on servers located at decentralized points in the network and potentially offer service that is superior to classic CDNs. Hence such investment by domestic players should be incentivized through fiscal and non-fiscal initiatives, in line with the incentives enunciated in our inputs for incentives for DCs.

3. We are of the view that similar regulatory framework, as applicable to the TSPs, to enforce secured networks should be prescribed for all CDNs.

4. There is regulatory uncertainty related to Adjusted Gross Revenue ('AGR'), which can lead to regulatory levies on revenue from CDNs operated by TSPs. This can lead to non-level playing field between TSP owned CDNs and CDNs operated by global players. Hence. We submit that the Authority should take up the issue of amending AGR definition in line with the union cabinet decision so as to ensure that definition of Gross Revenue (GR) will only include revenue actually received/ receivable directly from the customer on account of provision of telecom products or services licensed under Section 4 of the Indian Telegraph Act.

**Q.38:** **Do you think that presently there is lack of clear regulatory framework/guidelines for establishing/operating Interconnect Exchanges in India?**

**&**

**Q.39:** **What policy measures are required to promote setting up of more Internet Exchange Points (IXPs) in India? What measures are suggested to encourage competition in the IXP market?**

**&**

**Q.40:** **Whether there is a need for separate light-touch licensing framework for operating IXPs in India? If yes, what should be the terms and conditions of suggested framework? Do justify your answer.**

**COAI Response**

1. Some companies are operating IXPs under the Companies Act only, whereas others are operating IXPs under a Telecom License. Obligations of both these are very different.

2. Clearly, there is a lack of clear legal and regulatory framework/guidelines for establishing/operating IXPs in India. All the IXPs should be bound by same regulatory

framework as ISPs. Hence, for ensuring unbiased peering, interconnection and security, there is a need to bring IXPs under the ISP license.

**Q.41: What business models are suitable for IXPs in India? Please elaborate and provide detailed justifications for your answer.**

**COAI Response**

1. Decisions pertaining to Business models should be left to market forces.

**Q.42: Whether TSPs/ISPs should be mandated to interconnect at IXPs that exist in an LSA? Do justify your response.**

**COAI Response**

1. No, interconnecting with IXPs should not be mandatory for TSPs/ISPs and should be left to market forces, traffic volumes and other technical-commercial requirements. The business of IXPs should not be counter-subsidized through cost for TSPs/ISPs by mandating interconnect with IXPs in LSA.

**Q.43: Is there a need for setting up IXP in every state in India? What support Govt. can provide to encourage setting up new IXPs in the states/Tier-2 locations where no IXPs exist presently?**

**COAI Response**

1. The Indian telecom sector is a matured market now, hence we are of the view that there is no need to set **up the IXP in every state within the country.** Setting up of IXP is driven by Demand-Supply considerations. Thus the decision of setting up of IXP should be left to market forces.

2. As in the case of DCs, various State Governments can provide incentives and put in place policy measures to attract investments in setting up of IXP.

3. **The common umbrella policy at the Central level for DCs, proposed by us in response to previous Question No. 2 and 3 can also cover measures to incentivize IXPs.**

**Q.44: Whether leased line costs to connect an existing or new IXP is a barrier for ISPs? If yes, what is the suggested way out? What are other limitations for ISPs to connect to IXPs? What are the suggestions to overcome them?**

**&**

**Q.45: Is the high cost of AS number allocation an impediment for small ISPs to connect to IX? If yes, what is the suggested way out?**

**COAI Response**

1. No, there is no leased line costs barrier for ISPs to connect to an existing or new IXP.

2. Following are some of the RoW related challenges which will help:

a. Uneven implementation of Central ROW rules, high charges, delays in permissions

b. Fiber deployment is lagging due to archaic policies, complicated RoW permissions from multiple authorities.

c. Even where permissions are granted, the exorbitant ROW fee is charged making fiber deployment commercially unviable

d. Post RoW permissions, TSPs face challenge in work execution due to delay/denial tactics by the local bodies/ RWAs

3. Membership charges should be subsidized for the service providers who opt for the Indian registry to obtain the AS number

**Q.46: What other policy measures are suggested to encourage investment for establishing more number of IXPs? Any other issue relevant with IXP growth may be mentioned.**

**COAI Response**

1. Some of the policy measures suggested to encourage investment for establishing more number of IXPs are as below

   a. Fiscal incentives: Tax exemptions, investment benefits, and credit facilities, easy accessibility to bank loans at cheaper rates, i.e., with lesser interests and collaterals.

   b. Focus on priority regions: The priority areas need to be proactively identified. More incentives for such priority areas can be an option.

**Q.47: How can the TSPs empower their subscribers with enhanced control over their data and ensure secure portability of trusted data between TSPs and other institutions? Provide comments along with detailed justification.**

   **&**

**Q.48: What is the degree of feasibility of implementing DEPA based consent framework structure amongst TSPs for sharing of KYC data between TSPs based on subscriber's consent?**

**COAI Response**

1. There is a need to adopt a nuanced approach which unlocks the immense potential of data for social/public/economic betterment of individuals but ensures that the agreed data sharing framework does not dilute or compromise the security of such shared data; it should uphold the protections afforded by the Personal Data Protection Bill 2019 ('PDP Bill'), among others.

2. At present, data protection regulations are not equally equipped for different sectors to maintain the security of personal data in control of the data fiduciary in the sector.

Hence implementation of DEPA cannot be done simultaneous for all the sectors, before creating a secure environment and suitable regulatory framework for sharing of personal data between data fiduciary and data consumer through Consent Manager. There are four different models that exist under DEPA[4]:

a. **Consent Management accounts or operators**: This model entails the operator to be an independent entity that just acts as a consent manager. They merely allow and manage data and consent flows to the data principal and data user. This is the model adopted by DEPA in the financial sector.

b. **In house model**: Here the operator and data user is combined. The data user understands the need for access to personal data and incorporates a consent manager along with the other services it provides to the data principal. This model has been adopted in the UK, but would not be suitable for the diversity of the Indian context, which would require constant innovation by consent managers to reach diverse user groups.

c. **Public Sector Model**: Public sector entities could offer a subsided, low cost consent management service. This model could be appropriate for some sectors.

d. **Privacy based model**: Some Consent Managers may offer additional services with regard to data privacy and security. This could be a future avatar of Consent Managers in the DEPA framework

**We recommend a distributed ledger managed by a consortium with a consistent taxonomy. This can have subscriber details, log of access and usage. This approach will balance privacy and control.**

**Q.49: Are there any other issues related to data ethics that require policy/regulatory intervention apart from the issues that have already been dealt with, in TRAI's recommendations on the issue of 'Privacy, Security and ownership of the Data in the Telecom Sector' dated 16th July 2018 and the draft PDP Bill? Provide full details.**

**COAI Response**

1. In India, TSPs are currently subject to stricter requirements than the internet companies that provide similar services over the telecom infrastructure. The license provisions regarding collection and maintenance of commercial records/ CDRs/EDRs/IPDRs and the requirements for traceability of subscribers and the instructions and procedures for sharing customer details with the Law Enforcement Agencies (LEAs), provide a definitive framework on sharing the subscriber's personal data.

2. Thus TSPs are operating under a well-defined, robust and stringent regulatory regime with regards to data privacy and security. Further, TSPs are subjected to stringent financial penalties if there is any failure to comply with the same.

3. However, the same rules are not applicable to other entities operating in the Internet ecosystem that provide similar services over the telecom infrastructure.

---

[4] Source: DEPA handbook

4. The current laws and regulations (including the Information Technology Act 2000 and the Information Technology (Reasonable security practices and procedures and sensitive personal data or information) Rules 2011 (the 'Reasonable Security Practices Rules') issued under the IT Act)) do not comprehensively safeguard the personal data of individuals. Therefore, the rules on privacy of customer data and its protection require a holistic review and should be uniformly applicable to all the players (both TSPs and other players) operating in the Internet ecosystem.

5. Any law pertaining to data protection should govern all the entities and individuals that collect and process the customer data irrespective of the technology and service being provided. A principle-based horizontal data protection law, in line with international best practices, will be the right approach to promote Digital Economy and Internet-based services. Such law will ensure non-discrimination and also become applicable to entities beyond the telecom sector.

6. Regulatory principles for the digital ecosystem should not single out TSPs by applying stricter requirements and should be based on applying the same principles for the same service, ensuring a single, consistently applied framework is in place covering all competitors/ecosystem players in the digital value chain regardless of technology or the type of provider.

7. There will be an opportunity to reassess this imbalance in the near future as the government considers the adoption of new Data Protection Act. However, in interest of overall policy objective of efficient regulation and the ease of doing business in the country, harmonization of laws is critical.

8. The Data Protection Bill as proposed is an omnibus legislation applicable across sectors. This poses significant challenges for closely regulated sectors like telecom, which already have established sectorial regulators such as the TRAI and who conduct business regulated by the license terms.

9. At present, the Bill requires consultation between the Data Protection Authority and such other regulator having jurisdiction. It is likely that the requirements under the Bill or any other prescriptions by the Authority may conflict with existing laws and regulation. This may also result in duplication of regulation and an unfair regulatory burden on such sectors.

10. The telecom being already a heavily regulated sector with numerous and several compliance requirements under various laws, which is further compounded by the pan India scope of the business and its status as critical infrastructure of national importance, requires deployment of large amount of resources and that incurs significant costs towards compliance. Indeed some of the existing regulatory requirements are essential for the purposes of national security and law enforcement.

11. It is therefore submitted that the jurisdiction of the Authority under the Bill be well define and existing regulators may be empowered to issue regulations and codes under this Bill with respect the sectors within their regulatory ambit.

**Q.50: Stakeholders may also provide comments with detailed justifications on other relevant issues, if any**

**COAI Response**

No Response