



01 August 2024

**Shri Sanjeev Kumar Sharma,
Advisor (Broadband and Policy Analysis),
Telecom Regulatory Authority of India
Mahanagar Doorsanchar Bhawan
Jawahar Lal Nehru Marg
New Delhi – 110 002**

Subject: Tata Communications Ltd. comments to TRAI Consultation Paper on 'Revision of National Numbering Plan'

Dear Sir

This is with reference to the TRAI Consultation Paper dated 06-06-2024 on '**Revision of National Numbering Plan**'.

In this regard, please find enclosed herewith Tata Communication Limited's comments for your kind consideration as Annexure-I.

We request you to kindly consider our submissions while finalizing the recommendations and would be happy to provide any additional information, if required.

Thanking You,

Yours Sincerely,
For Tata Communications Limited,

A handwritten signature in blue ink, appearing to be 'As'.

**Alka Selot Asthana
Vice President and Head Regulatory
(Authorized Signatory)**

Enclosed: As mentioned above

TATA COMMUNICATIONS

Tata Communications Limited

YSB Bangla Sahib Road New Delhi-110 001 India . Tel + 91 11 66505200 Fax : +91 11 66501140
Regd Office : VSB, Mahatma Gandhi Road, Fort, Mumbai 400 001 India. CIN No.: L64200MH1986PLC039266
Website: www.tatacommunications.com

**Tata Communications Limited's response to TRAI Consultation paper on
'Revision of National Numbering Plan'**

Preamble

At the outset, we thank TRAI for providing us an opportunity to share our comments/inputs on this important paper considering paradigm shift in the telecom sector with the evolution of newer technologies and services building telecommunications fabric empowering businesses and individuals enabling them to leverage the power of real-time data exchange, automation and intelligent decision-making, revolutionizing industries across sectors such as healthcare, transportation, agriculture, and manufacturing. In this interconnected world, there is an immense importance of the numbering resources which ensures uniquely identification and distinguish each end-user, regardless of the device or technology they employ, guarantees the smooth flow of information, seamless service provisioning, and optimal utilization of resources. TRAI in its paper has also mentioned that *in this interconnected landscape, where billions of devices and users are seamlessly integrated, the allocation and utilization of unique numbers become instrumental in ensuring efficient communication and effective management of the network*. Therefore, numbering resources play an important role in the delivering services to Enterprises and Individual users.

The National Numbering Plan being one of the fundamental plans, depicts the structured method for identification of numbering resources to be used for offering different types of services. The plan establishes general principles for managing telecommunication identifiers resources, including allocation, assignment, and management guidelines with an aim for ensuring optimal use. With the advancement of technologies and evolution of newer business models to cater various segments of the telecom market, there is need to align numbering plan with these developments and also ensure consistency with the global practices in order to have optimal, standardized and efficient uses of the numbering resources. For instance, M2M Service Providers use devices fitted with foreign e-SIMs on international roaming which work on ITU allocated global IMSI series of 901.xx., a global IMSI series, not tied to any country, and have the capability to provide network-agnostic, cross-border connectivity seamlessly. This helps manufacturers to build equipment in any part of the globe and deploy anywhere. The ITU has reserved the 901 IMSI series specifically for cross-border M2M use-cases and directly allocates the same to service providers, typically to M2M service companies. 901 IMSIs series is a recognized IMSI series as per telecom standardization and many of the operators and IoT service providers around the world have been allotted this series by ITU for global IoT deployments.

The aim of the paper is to examine all aspects impacting the allocation and utilization of numbering resources along with proposing modification (if any) towards currently in vogue SDCA based fixedline numbering scheme and pinpoint strategies for effectively managing constraints in its allocation policies and utilization procedure to ensure availability of ample numbering resources. Thus, in our view, while reviewing the national numbering plan to meet future requirements in a sustainable and transparent manner, it is proposed that following principle-based systematic approach should be considered for ensuring optimal use of numbering resources allocated under such numbering plan -

- Technological advancements and evolving business models
- Global best practices adopted for allocation of numbering resources for various services
- Flexibility to quickly accommodate additional numbering resource demand arising due to expansion of existing services and service providers.
- Minimum disruption in existing numbering resources while meeting new numbering requirements.

Further, it is suggested that the TI resources for Fixed line services should also be migrated in 10-digit numbering resources as is being allocated for Mobile services. Further, the number portability facility should also be made available for Fixed line access services as provided for Mobile number portability. It is observed that lack of porting facility in fixed line services has limited the growth in the Enterprise sector and it also leads to monopoly and restricts customer flexibility to move to another service provider to use fixed line access services with same numbering resources. Thus, introduction of number porting facility in Fixed line access services should also be made available.

It is also suggested that to convert all fixed line numbers into 10-digit numbers and reallocate on a LSA basis rather than SDCA basis to TSPs basis their utilization level so as to cater to future requirements and efficient utilization of e spare SDCA codes.

There should also be a monitoring mechanism in place wherein TRAI / DoT should monitor the usage pattern of numbering resources allocated to TSPs for both mobile and fixed line periodically and withdraw up to the 70-80 percent of unutilized allocated number resources after a fixed period.

In view of above preliminary views, our issue wise comments / inputs are as follows:

Q1. Are there any TI resource shortages envisaged in the near future due to the presently adopted SDCA based fixed line Telecom Identifier scheme? Is there a need to revise the criterion prescribed by DoT for allocation of additional Telecommunication Identifier (TI) resources for fixed line access services? Please provide answers with detailed justification.

Tata Communications' Response:

As rightly observed by TRAI in the paper, that the National Numbering Plan plays a crucial role in the allocation and management of TI resources, ensuring efficient communication and network management. The Department of Telecommunications (DoT) manages telecom identifiers for both fixed and mobile networks. It primarily defines the numbering space and its evolution for existing and potential services, aiming to accommodate a wide range of services and facilitate efficient expansion without premature depletion.

The SDCA (Short Distance Charging Area) based fixed line Telecom Identifier (TI) scheme allocates TIs based on geographical areas (SDCAs), predefined for administrative and billing purposes. This system when adopted was aim to prevent resource shortage by allocating TIs in a manner that aligns with local demand and capacity. However, with the higher subscriber growth, technological advancements, and changes in consumer behaviour towards fixed line telephony leading to increase in the demand of fixed line services especially in Metros and Tier-1 cities

resulting in to supply constraints issues for TI resources thereby inhibiting the growth of the wireline access services.

Further, with the advent of 5G networks introducing unprecedented possibilities, including ultra-high-speed connectivity, minimal latency, extensive device integration, Enterprise specific use cases have also multiplied. Therefore, in this interconnected ecosystem, TI will play a pivotal role in ensuring efficient communication and network management. Hence, there is a need to revise the criteria prescribed by DoT for allocation of additional Telecommunication Identifier (TI) resources for fixed line access services.

In view of the above context, it is suggested that TI resources for Fixed line services should also be migrated in 10-digit numbering resources as is being allocated for Mobile services. Further, **the number portability facility should also be made available for Fixed line access services as provided for Mobile number portability.** It is observed that lack of porting facility in fixed line services has limited the growth in the Enterprise sector and it also leads to monopoly and restricts customer flexibility to move to another service provider to use fixed line access services with same numbering resources. Thus, introduction of number porting facility in Fixed line access services should also be made available.

Q2. How can the (a) Spare SDCA codes and (b) Unused sub-levels out of the levels allocated to TSPs be best utilized to cater for future requirements of TIs for fixed-line access services? Please provide a detailed answer.

Tata Communications' Response:

TRAI in its paper in table 2.1 has presented combined utilization of all TSPs in the 12 SDCAs, wherein it depicts that adequate numbering resources for fixed lines are available in these SDCAs if all TSPs are considered together, however, individually the TSPs are facing shortages due to poor utilization by some other TSPs who have been allocated telecommunication identifiers in these SDCAs. Out of 7 TSPs, only 3 TSPs have shown considerable utilization of allocated numbering resources in these SDCAs whereas rest of 4 TSPs have very low utilization of allocated numbering resources that too in maximum 3-4 SDCAs out of 12 SDCAs. Further, TRAI in the paper in para 2.17 has also mentioned basis its analysis of SDCA wise data that *out of the total 2645, 58 SDCAs have '0' subscribers and 275 SDCAs have less than 100 fixed line subscribers.* TRAI has further stated that *the additionally, approximately 1722 out of 2645 SDCAs exhibit a utilization rate of less than 1%. Moreover, the combined utilization of numbering resources of TSPs in rest of the SDCAs has not yet surpassed the 50% utilization mark.*

In view of above context, to effectively utilise the spare SDCA codes, it is suggested to convert all fixed line numbering resources into 10-digit numbers and reallocate such 10-digit numbers on a LSA basis rather than SDCA basis to TSPs basis their utilization level so that from existing numbering resources, future requirements of TI for fixed line access services can also be met up to large extent.

Alternatively, we also suggest implementation of the following for ensuring optimal utilization of spare SDCA codes and Unused sub-levels out of the levels allocated to TSPs:

- SDCA codes have been allocated to TSPs and not optimally utilized in the SDCA can be considered as spare and may be used to balance the network load by redistributing the subscribers from heavily loaded SDCAs to those with spare capacity, improving service quality and reducing congestion. In this manner, this can help TSPs in future expansion of fixed line services using the existing allocated SDCA codes. Technically, this should not pose any challenge.
- Allocate spare SDCA codes for new services or technologies, such as Machine-to-Machine (M2M) or other next-generation access technologies that may require distinct numbering scheme.
- Reserve some spare SDCA codes for disaster recovery, ensuring continuity of service in case of network disruptions in specific regions.
- Reserve unused sub-levels for future expansion and scalability, ensuring that the numbering plan can scale with the growth of fixed-line services. The unused sub-levels can also be used for service differentiation by creating specific numbering schemes for different types of services (e.g., business vs. residential, premium services, etc).
- Optimize the use of numbering resources by assigning unused sub-levels to TSPs that have exhausted their current allocations.

The above suggested strategies for ensuring effective utilization of spare SDCA codes and Unused sub-level can only be successfully implemented with the stakeholders (TSPs, regulator, licensor) collaboration and engaging with each other to align on the utilization strategy and gather input from stakeholders to address potential challenges and incorporate feedback into the planning process. The technology integration and advancement can also support effective utilization of numbering resources by adoption of advanced numbering management systems to handle the allocation, monitoring, and reassignment of SDCA codes/sub-levels and also leverage automation and AI to optimize the utilization and management of numbering resources.

Q3. As is the case currently with mobile numbers, in order to ensure availability of TIs for fixed lines, should 10-digit closed numbering scheme be made applicable to fixed line also? Please provide answers with detailed justification.

Tata Communications' Response:

As mentioned in the paper, the Private Land Mobile Network (PLMN) for mobile services adheres to a closed numbering system of 10 digits, as outlined in the National Numbering Plan (NNP) of 2003 which means that all 10 digits must be dialled for calls within India. Mobile numbers in this system are unique, non-repetitive, and can be categorized as a non-geographical numbering scheme.

We suggest that TRAI should recommend implementation of the closed numbering scheme of 10 digits for fixed line access services to DoT as it will optimize the routing efficiency and bring better network efficiency for the TSPs. This will also address the shortage of availability of telephone identifiers (TIs) for fixed line services, rising demand for numbers, and the potential impact on users and service providers.

Following is the justification for adopting a 10-Digit Closed Numbering Scheme for Fixed Line services:

- Number Availability and Exhaustion:
 - With the growing population of telecommunication devices (including IoT devices), the demand for telephone numbers is increasing. A 10-digit scheme would significantly expand the pool of available numbers.
 - Uniformity: Having a consistent 10-digit scheme for both mobile and fixed lines can simplify the management and allocation of numbers, reducing the risk of number exhaustion in the near future.

- Administrative Efficiency:
 - A uniform numbering scheme across all types of telephony services can streamline administrative processes, making it easier for DoT to manage and allocate numbers.
 - It allows for better regulatory oversight and planning, helping to ensure that numbers are available as needed for new technologies and services.

- Future-Proofing:
 - As technology evolves and new services emerge, a 10-digit scheme offers more flexibility and scalability. It accommodates future growth and technological advancements, such as smart homes and connected cities, which may require more fixed-line numbers.
 - IoT Integration: The integration of IoT devices into fixed-line networks may require a larger pool of numbers. A 10-digit scheme ensures there are sufficient numbers for these devices.
 - The migration of fixed line numbering resources to 10-digit numbering scheme with availability of number portability for consumers especially for Enterprise users, will make a way to future where a consumer can decide to use his number as mobile or fixed or multiplatform number.
 - With the advancement of technologies, the same number can be used as part of content consumption identifier also which will bring a lot more clarity on user consumption patterns.

We also echo with the concerns raised by TRAI in the paper on impact of migration of conversion of existing allocated SDCA based numbering resources to 10-digit numbering plan to the customer as it also entails to change the dialling pattern in the networks of all TSPs and needs synchronized implementation of change in fixed line dialling all over the country from a designated date. This activity can be implemented with the collaborative efforts and coordination among all stakeholders, timely communication to the existing consumers in change of numbering scheme to align their business activities for minimal impact. TRAI may recommend to DoT to form a working group comprising members from DoT, TRAI, TEC, and Industry players to work towards implementation of the 10-digit numbering scheme.

Q4. Will migrating to LDCA based TI scheme address the constraints in SDCA based fixed line TIs? Please provide answers with detailed justification.

Tata Communications' Response:

The aim of this paper is about bringing more efficiency in current allocation of numbering resources. We are of the view that transition from SDCA based numbering plan to LDCA based numbering allocation is an interim measure.

Therefore, we recommend that TI resources for Fixed line services should be migrated to 10-digit numbering resources akin to Mobile services. Further, number portability facility should also be made available for Fixed line access services as presently available for Mobile services without any geographical limitation.

Q5. What are the other possible options, if any, to address the currently envisaged constraints in TI resources for fixed lines in an efficient manner? Please provide your answers with a detailed proposition (including technical challenges, changes required in handling, routing, interconnection and termination of emergency services and other essential calls and associated cost benefit analysis). Supportive documents, if any, may also be provided to justify your answer.

Tata Communications' Response:

We wish to submit that other than the LDCA and SDCA schemes, there are several alternative approaches are available which can be explored to address the constraints in telecommunication identifier (TI) resources for fixed lines services and can bring more efficiency in optimal use of existing numbering resources.

Some of the alternatives are mentioned below along with their potential technical challenges and a cost-benefit analysis:

- **Geographic Number Portability (GNP):** GNP provides the capability for the customer of one communications provider (the losing CP, or LCP) to become a customer of another communications provider (the gaining CP, or GCP) whilst retaining the same geographic telephone number. When GNP was implemented in the UK, industry adopted the “onward routing” solution, which requires the Range Holder (RH) to route calls to the GCP for them to deliver the call on to the end user. However, IP porting is getting more common, enabling CPs to route calls via an IP link and avoiding the TDM network¹. Geographic Number Portability allows users to retain their telephone numbers when switching service providers or locations within a country. This approach can significantly reduce the pressure on TI resources by reusing numbers more effectively.
- **VoIP and E.164 Numbering:** E.164 defines a general format for international telephone numbers. Leveraging VoIP (Voice over Internet Protocol) technologies and E.164 international numbering plans can help in the efficient use of TI resources by utilizing IP-based numbers. E.164 is an international standard (ITU-T Recommendation), titled *The international public telecommunication numbering plan*, that defines a numbering plan for the worldwide public switched telephone network (PSTN) and some other data networks².

Q6. Is bulk allocation of TI by few TSPs for providing SIP and PRI based services likely to create TI resources shortage in near future? If yes, what are the suggested means to address this issue? Please, provide your answer with supportive data.?

¹ [Number Porting Quick Start Guide \(offta.org.uk\)](http://offta.org.uk)

² [E.164 - Wikipedia](http://en.wikipedia.org)

Tata Communications' Response:

We wish to submit that the nature of consumption of bulk allocation of numbering resources have changed over a period of time. Today, bulk connections are used for Unified Communications as well by Enterprise customers. Whenever these are used as captive resources by an Enterprise, the nature of calls are mainly inbound calls. On other hand, OSP players use such bulk connections for outbound calls.

As suggested in response to earlier questions, it is highly advisable to allow portability in fixed line services for optimal use of number resources and begin transition from SDCA number format to 10-digit numbering series is a first step towards providing flexibility for customers. In this manner, the TI resources shortage in future can be addressed while also benefitting the customers by providing full flexibility for optimal use of numbering resources.

Q7. Is there a need to introduce appropriate definition for 'inactive connection' for fixed-line services and the exact time duration after which, TIs associated with these inactive connections can be put to reuse? Is there also a need to revisit the definition of 'inactive connection' for Mobile services? Please provide your answers with detailed justification and suggested definition.

Tata Communications' Response:

We agree with TRAI that Introducing an appropriate definition for "inactive connection" for fixed-line services is necessary to manage and optimize the allocation of telecommunications.

TRAI in its paper has mentioned about the analysis of the numbering resources provided by Wireless Access Service Providers for wireless access services and indicated in the table 2.12 that huge amount of numbering resources are under '*service suspended pending disconnection*' category by the TSPs i.e. 19.03% of the total numbers (219.14 million numbers) are under 'service suspended pending disconnection,' out of which, 16.4% of the total numbers (188 million numbers) reported have been suspended for more than 6 months. TRAI has further stated that *given the restricted availability of numbering resources, there is a need to prioritize the efficient utilization of these resources. One of the possibilities to achieve the same is by withdrawing and promptly recycling numbers that have been suspended for more than 6 months.*

We are of the view that there is an immense need for introducing an appropriate definition for "inactive connection" for fixed-line services to manage and optimize the allocation of telecommunications infrastructure (TI) in an optimal manner.

An "inactive connection" can be defined as a fixed-line connection that has not been used for any voice calls, data transmission, or any other service for a period of 90 days for retail user and 180 days for Enterprise user"*

** Inactive here means any fixed line does not get any pulse whether inbound call or outbound call for a period of 6 months.*

It is also requested that while defining the 'inactive connection', there is a need to differentiate into two categories – (1) Retail users and (2) Bulk or Enterprise users. Any enterprise numbering

resource, which is inactive for a continuous period of 6 months, number resource allocated can be considered for re-use.

Q8. (a) Whether charges should be introduced for existing and newly allocated TI resources to ensure their efficient utilization? If yes, what should be the charging mechanism and applicable charges? Please provide detailed justification along with supportive documents, if any.

(b) Should a financial disincentive be imposed upon TSPs for retaining X% or more of the allocated TIs remaining as unutilized beyond a certain timeframe? If yes, please specify the X% with suggested disincentive mechanism and retention timeframe with detailed justification?

Tata Communications' Response:

It is submitted that no charges / financial disincentive should be recommended for existing and newly allocated TI resources. These numbering resources are being provided to TSPs to enable the services as per the scope of the license granted by the Government and are imperative to provide the services to the end users.

It is a business decision defined by market dynamics and hence additional disincentives of financial nature are not appropriate.

In this regard, we have suggested other means and ways to ensure optimal utilization of existing and new numbering resources for fixed lines services and same should be adopted. There should be monitoring mechanism in place wherein TRAI / DoT should monitor the usage pattern of numbering resources allocated to TSPs for both mobile and fixed line periodically and withdraw up to the 70-80 percent of unutilized allocated number resources after a fixed period. The suggested matrix is as follows:

Unutilized allocated numbering resources	Period post allocation of numbering resources, for withdrawal
30-40 percent	12 months
40-50 percent	18 months
50-60 percent	24 months
Entire unutilized numbering resources up to 80 percent of total allocated numbering resources	30 months

Q9. What is the minimum contiguous range of unutilized TIs which the TSPs should be allowed to surrender for mobile and fixed-line services?

Tata Communications' Response:

Please refer to our response provided in Q.8 above.

Q10. Are there any constraints envisaged in TI resources and its allocation for Machine-to-Machine (M2M) services? If yes, what changes should be incorporated to cater for its future requirements? Do support your answer with detailed justification.

Tata Communications' Response:

Although we do not foresee any TI resources constraint in using 13-digit numbering for the M2M Services, however, we would like to submit as follows:

- All the TSPs should ensure 13-digit numbering plan should be exclusively used for M2M type of communications. Further, the implementation aspects of the 13-digit numbering plan should consider both roaming and MNP scenarios.
- M2MSPs are regulated by DoT under its M2MSP registration which require inspections, security conditions etc. on M2MSPs, making them highly regulated entities, in line with National Security Interests. Thus, all M2MSPs who are registered with DoT should also be allowed to apply for M2M Mobile Numbers directly from DoT. This can provide greater flexibility to M2MSP and their dependence upon the Authorised Telecom Service providers will be reduced.
- It is also requested that there are cases wherein 10-digit M2M numbering resources which were allocated prior to introduction of 13-digit numbering resources, are still being used in various devices wherein it is practically not possible to replace the SIM having provisioned 10-digit numbering resources and any disruption of service would lead to significant outage and customer inconvenience. Therefore, it is requested that such devices having 10-digit numbering resources should continue to be allowed to use 10-digit numbering resources and migration to 13-digit numbering resources should not be gradual.

Q11. What constraints/issues if any, are currently envisaged in the procedure being followed for allocation of Level-1 short codes by DoT? Should the level-1 short codes be reserved for government entities only? Will allocation of level-1 short codes on chargeable basis solve the issues identified in aforementioned question? What are the other possible suggestions for judicious allocation and effective utilization of level '1' numbering resources? Please support your answer with detailed justification.

Q12. What are the global best practices being followed for judicious allocation and effective utilization of short codes (akin to Level-1 short codes in India)?

Tata Communications' Response to Q.11 & Q12:

TRAI in its paper has highlighted that how the users to whom level-1 resources are being allocated are having highly inefficient utilization of the same. It is mentioned that there are cases, where government organizations get a short code allocated for services and fail to intimate when the services cease to operate. As such, several services that had been allotted short codes have either ceased to operate or have merged with other service code. Certain codes have undergone migration to Free phone service starting with '1800' series. Further, TRAI has stated in its paper that *sometimes after the initial euphoria around a service fades with time, citizens forget the short codes. No calls are made on such codes and even the government organizations withdraw the resources allocated for the service. The non-operational short codes should be withdrawn and reallocated.*

In view of above instances, there is an immediate need to relook on all such allocation of level-1 resources undertaken and the non-operational short codes should be withdrawn after giving due notice and reallocated.

It is further suggested that no charges should be levied on Level-1 resources especially on the short codes which are allocated for Emergency and essential services in line with the terms of the license terms & conditions. Further, TRAI may recommend usage monitoring mechanism for level-1 short codes in line with our suggestions made in response to Q no. 8 above.

Q13. Are there any constraints/challenges envisaged with regards allocation and utilization of TI resources for Service Control Point (SCP) codes and Signaling Point (SP) codes respectively? If yes, what changes should be incorporated to cater to future requirements of the aforesaid codes? Do support your answer with detailed justification.

Tata Communications' Response:

As stated by TRAI in the paper for SCP codes that the *prospect of encountering any immediate constraints remains unlikely as per the present tabulation. Out of the 1000 available SCP codes, only 13.9% of them are utilized.* Similarly, for allocation of SP codes, TRAI is of the view that *TSPs are yet to utilize 1532 SP codes that have been allocated to them and the fact that there are ample number of SP codes that are with the licensor that can be allocated in future, the likelihood of facing any imminent limitation towards allocation of SP codes in near future seems unlikely.*

In view of the above, we recommend that existing practice of allocation and utilization of TI resources for SCP codes and SP Codes should be continued.

Q14. What constraints/ challenges are anticipated with regards TI resources for Location Routing Number (LRN) codes to cater for futuristic requirements? What changes, if any, should be incorporated to effectively address its future needs? Do support your answer with detailed justification.

Tata Communications' Response:

We do agree with TRAI's view states in the paper that *there is a possibility that 215 spare LRN codes might not be sufficient to cater to the future needs.* It is also anticipated that LRN codes may also be required if Government introduces number portability facility for Fixed Line Access Service.

Therefore, in order to address the future requirements, TRAI may consider introducing 5-digit LRN code which will ensure adequate availability of such resources. However, technical feasibility for migration from 4-digit LRN code to 5 digit-LRN code needs to be reviewed and discussed with all concerned stakeholders before implementation.

Q15. What constraints/ challenges are anticipated in the allocation of TI resources for Intelligent Network (IN) Services like Free Phone service, Premium services, International Toll-Free Service (ITFS), etc.? What changes, if any, should be incorporated to cater for its future requirements? Do support your answer with detailed justification.

Tata Communications' Response:

It is submitted that while the National Numbering plan defines allocation of TI resources for ITFS and other services, however, the handoff point between Access network to ILDO is not defined. The hand-off point should also be defined so that same will address the current inconsistency of handoff.

Q16. What constraints are envisaged towards TI resources for MCCMNC codes being used for Captive Non-Public Networks (CNPNS)? What changes, if any, should be incorporated to cater for its future requirements? Do support your answer with detailed justification.

Tata Communications' Response:

As mentioned by TRAI in its paper that *the 15-digit numbering series that is being is used for MCC-MNC Code for CNPN wherein six digits have been kept for identifying a CNPN, there does not appear to be any constraint as far as telecom identifiers for MCC-MNC for CNPN is concerned.* There should not be any change in IMSI structure. Numbering plans/ MSISDN are mapped to IMSI in the 5G core system. All the communication and traffic routing will be carried out based on IMSI.

Therefore, in our view, presently we don't observe any constraint to use 15-digit MSISDN and there is no need for any review in the present structure of 15-digit numbering resource earmarked for CNPN services using Cellular network. However, other challenges may arise once the actual production rollout begins, especially as we receive clear guidelines regarding the applicability of MNP for CNPN users.

Q17. Apart from the questions posed above, are there any additional issues being experienced by the TSPs regarding the aspects of the National Numbering Plan 2003 and TI resources allocation criteria? If yes, then the same may please be brought out in detailed elaboration with supporting documents.

Tata Communications' Response:

In response to this question, we would like to submit that 901.xx is a global IMSI series, not tied to any country, and has the capability to provide network-agnostic, cross-border connectivity seamlessly. This will help manufacturers to build equipment in any part of the globe and deploy anywhere. The ITU has reserved the 901 IMSI series specifically for cross-border M2M use-cases and directly allocates the same to service providers, i.e. typically to M2M companies. 901 IMSIs series is recognized by telecom standardisation and many of the operators and IoT service providers around the world have been allotted this series by ITU for global IoT deployments. Hence, it is our recommendation that 901 IMSI series needs to be recognized by TRAI/DoT for IoT/M2M usage by the M2MSPs. The 901.XX Global IMSI may be configured and permitted in the TSP network and may be considered as local for all technical and regulation purpose. It is recommended that 901.XX (Global IMSI) should continue to be allowed to be used in India. This will provide greater flexibility to end-users and will help in meeting global requirements. In the

Global scenario, where the devices and users would be moving across countries, this feature will be contributing a lot in this mobility of users.

We do understand that TRAI in para 2.92 of its recommendations dated 22-02-2024 had recommended that *“keeping in view the challenges in its implementation, the use of 901.XX IMSI series allocated by International Telecommunication Union (ITU) to Indian entities should not be permitted for providing M2M services in India, at this stage. TRAI will monitor the developments in the M2M communication services ecosystem and may review this recommendation at an appropriate time”*.

TRAI in its review had mentioned that presently there are several challenges which inhibit use of 901.XX global IMSI for IoT & M2M in India such as (a) globally, use of global IMSIs for eSIMs is still at an infant stage, only a few industry players have obtained global IMSIs from ITU to provide M2M and IoT services. (b) as per national numbering plan, only the licensed wireless access service providers in the country can obtain numbering resources such as mobile number series, and Mobile Network Code (MNC) from DoT. M2MSPs are not allowed to obtain such numbering resources directly from DoT. (c) By way of regulatory oversight, security conditions and technical conditions etc., imposed on M2MSPs under the M2MSP registration guidelines is much lighter than that on Unified Licensees. (d) Country has been divided into 22 LSAs for UL-AS licenses and DoT allocate MNC code LSA wise whereas M2MSP registration is granted on a national basis. Moreover, at present, ITU-TSB can assign only one Mobile Network Code (MNC) to an M2MSP. In the Indian scenario with 22 LSAs, the assignment of a single MNC by ITU-TSB to a M2MSP in India, will not work well with the service area-based licensing framework

It is submitted that ITU allocated shared 901.XX (Global IMSI) should continue to be allowed to be used in India. It provides greater flexibility to end-users and will help in meeting global requirements. A suitable light touch regulatory framework may be adopted for a collaborative ecosystem in line with Global practices, while keeping in mind the consumer and national interests. There is no reason for any Regulatory inhibitions for 901 series, if all the concerns can be addressed through suitable technological, regulatory, and commercial framework.

Therefore, it is recommended that ITU allocated shared Mobile Country Code 901.XX (Global IMSI) should continue to be allowed to be used in India under National Numbering Plan.

We request TRAI to suo-moto reconsider its above referred recommendation as it will provide greater flexibility to end-users and will help in meeting global requirements. In the Global scenario, where the devices and users would be moving across countries, this feature will be contributing a lot in this mobility of users.
