



# ANNUAL REPORT

2022-2023



भारत 2023 INDIA

वयुधेव कुटुम्बकम्

ONE EARTH • ONE FAMILY • ONE FUTURE

TELECOM REGULATORY AUTHORITY OF INDIA





# Telecom Regulatory Authority of India

(IS/ISO 9001:2015 Certified Organisation)

## Annual Report 2022-23

Mahanagar Doorsanchar Bhawan,  
Jawahar Lal Nehru Marg,  
(Old Minto Road), New Delhi – 110002  
Telephone: +91-11-23664147  
Website: <http://www.trai.gov.in>



भारत 2023 INDIA

वयुधेव कुदुम्बकम्

ONE EARTH • ONE FAMILY • ONE FUTURE





## Letter of Transmittal

**To the Central Government through Hon'ble Minister of Communications and Information Technology**

It is my privilege to forward the 26<sup>th</sup> Annual Report for the year 2022-23 of the Telecom Regulatory Authority of India to be laid before both Houses of Parliament. Included in this report is the information required to be forwarded to the Central Government under the provisions of the Telecom Regulatory Authority of India Act, 1997, as amended by TRAI (Amendment) Act, 2000.

The Report contains an overview of the Telecom and Broadcasting sectors and a summary of the key initiatives of TRAI on regulatory matters with specific reference to the functions mandated to it under the Act. The Audited Annual Statement of Accounts of TRAI is also included in the Report.



**(MEENAKSHI GUPTA)**

**CHAIRPERSON IN-CHARGE**

Dated: November, 2023



## TABLE OF CONTENTS

Sl. No.	Particulars	Page No.
	<b>Overview of the Telecom and Broadcasting Sectors</b>	<b>1-12</b>
<b>Part-I</b>	<b>Policies and Programmes</b>	<b>13-54</b>
	A. Review of General Environment in the Telecom Sector	
	B. Review of Policies and Programmes	
	C. Review of General Environment in the Broadcasting & Cable TV Sector	
	D. Annexures to Part – I	
<b>Part-II</b>	<b>Review of working and operation of the Telecom Regulatory Authority of India</b>	<b>55-140</b>
<b>Part-III</b>	<b>Functions of Telecom Regulatory Authority of India in respect of matters specified in Section 11 of Telecom Regulatory Authority of India Act</b>	<b>141-154</b>
<b>Part-IV</b>	<b>Organizational Matters of Telecom Regulatory Authority of India and Financial performance</b>	<b>155-230</b>
	A. Organizational matters of Telecom Regulatory Authority of India	
	B. Audited Accounts of TRAI for the year 2022-23	
	C. Audited Contributory Provident Fund Accounts of TRAI for the year 2022-23	





## OVERVIEW OF THE TELECOM AND BROADCASTING SECTORS





## OVERVIEW

Since its inception in 1997, TRAI has completed 25 years of long journey in successfully regulating the Telecom and Broadcasting sectors. TRAI's mission is to nurture growth of these sectors in the country in a manner and at a pace which will enable India to become the global leader in the emerging global information society. One of the main objectives of TRAI is to provide a fair and transparent policy environment which promotes a level playing field and facilitates fair competition. TRAI has always been at the forefront of digital revolution of the country and has contributed enormously to the expansion of the Telecom and Broadcasting sectors making them key enablers of Digital India and Smart cities. It is a testament to the working of TRAI that both the sectors have witnessed remarkable growth in the past two decades, not only in terms of quantity and geographical reach but also the quality of service offered to the consumers. By keeping pace with the rapid changes in these fields and areas anticipating the impact of various developments and coming up with timely solutions, TRAI has promoted orderly growth in these fields and areas.

TRAI's interventions in Telecom and Broadcasting sectors have taken many forms, ranging from recommendations to the government on key issues like licensing, spectrum valuation and competition to regulations on tariff, quality of service and consumer protection. TRAI maintains a strong focus throughout the process of consultation on transparency, multiplicity of perspective and harmonisation of stakeholders' interests, which are the cornerstones of a good regulatory system.

To commemorate the important milestone of completion of 25 years of existence of TRAI, Silver Jubilee function was organised at Vigyan Bhawan, New Delhi on the World Telecommunications and Information Society Day i.e., 17<sup>th</sup> May, 2022. It was graced by the esteemed presence of the Hon'ble Prime Minister of India, who attended the function virtually as the Chief Guest. Joining the celebration were the Union Minister for Railways, Communications, Electronics & Information Technology, the Minister of State for Communications, the Minister of State for Information and Broadcasting, as well as Secretaries and Senior officers from various government departments, and representatives from international and national organizations, service providers, and regulators. During this special function the Hon'ble Prime Minister also released the following:

- A Postal Stamp
- A souvenir narrating the 25 years of regulatory journey of TRAI
- A Short Film on TRAI



TRAI HQ and the Regional offices organised a number of seminars, special Consumer Outreach Programs, blood donation camps during the yearlong silver jubilee celebrations. Special Consumer Outreach Programmes (COPs) were organized by TRAI through its Regional Offices for various underprivileged/marginalized sections of society viz. Farmers, Fisherman, Specially abled persons (Divyang), Self Employed Rural Women, Weavers & Students from tribal area, Women working in Anganwadi's etc. In this connection, a Special COP for Specially Abled Persons (Divyang) was organized at Bhilwara on 11<sup>th</sup> October, 2022. This special COP has benefitted several hearing impaired, visually impaired, deaf and dumb persons who attended this special COP.

To mark the closing ceremony of TRAI's Silver Jubilee Year, a special event was organized on February 20, 2023, at Zorawar Hall, Manekshaw Centre, Delhi Cantt. The occasion featured a felicitation ceremony to honour former Authorities and Secretaries of TRAI for their invaluable contributions to the organization.

TRAI finalized its Recommendations on "Auction of Spectrum in frequency bands identified for IMT/5G" on 11<sup>th</sup> April, 2022. The recommendations made by TRAI included recommendations related to Auction of Spectrum for 5G/IMT such as Quantum of Spectrum to be auction, Band Plan, Block Size, Eligibility Conditions for participation in Auction, Interference mitigation in TDD bands, Roll-out obligations, Spectrum Cap, Surrender of Spectrum, and Valuation and Reserve Price of Spectrum. In addition, considering the importance of 5G in Industry verticals, recommendations relating to Spectrum for Captive wireless private networks and Identification, Development & Proliferation of 5G Use Cases were made. The recommendations were followed by successful auction of Spectrum by the DoT and then the commercial launch of 5G services on 1<sup>st</sup> October, 2022 by the Hon'ble Prime Minister of India.

TRAI had simultaneously initiated pilots at – Bhopal Smart City, GMR International Airport New Delhi, Deendayal Port Kandla and Namma Metro Bengaluru on use of street furniture for Small Cells and aerial fiber deployment. Based on the consultations process and learning from these

pilots, TRAI has prepared its comprehensive report and also gave recommendations to the Government on conducive regulatory and policy framework to ensure successful and rapid rollout of small cells and optical fiber using street furniture in all smart cities, other cities and towns, ports, airports, metro rails, Industrial parks, and estates etc.

The future of telecom looks promising as the evolution of 5G mobile technology would bring various new technologies such as Artificial Intelligence, quantum computing and virtual reality to the fore. 5G technology is also expected to bring positive changes in the governance of the country and promote ease of living and ease of doing business while boosting growth in every sector like agriculture, health, education, infrastructure, and logistics. The move towards 5G will also provide faster and more reliable connectivity, leading to the development of a variety of applications and services in areas such as healthcare, transportation, and education.

The demand for digital connectivity has increased manifold in the recent years. The crucial role of digital connectivity was acknowledged in the past few years during COVID-19, witnessing a surge in the demand across all segments of users, irrespective of their locations. Digital connectivity plays a vital role in the way we live and work.

Recently TRAI made recommendations to the Government on 'Rating of Buildings or Areas for Digital Connectivity'. The emphasis of these recommendations is on creating an ecosystem for making Digital Connectivity Infrastructure (DCI)- an intrinsic part of building development plan. It will facilitate collaboration among various stakeholders including Property Managers (owner or developer or builder etc.), service providers, infrastructure providers, DCI Professionals and Authorities at various urban/local bodies.

In order to implement the recommendations on improving digital connectivity inside buildings, TRAI is collaborating with Ministry of Housing and Urban Affairs (MoHUA), Town and Country Planning Organisation (TCPO), Bureau of Indian Standards (BIS), Council of Architecture (CoA), State Governments, Development Authorities, Original Equipment Manufacturers (OEMs), Telecom Service Providers (TSPs), Cellular Operators Association of India (COAI), Digital Infrastructure Providers Association (DIPA) and State Governments etc.

The Indian Government has launched several schemes aimed at improving broadband and internet/telecom connectivity for the common people using the Universal Service Obligation Fund (USOF). Considering the issues related to telecom connectivity situation in four districts of Himachal Pradesh namely Lahaul & Spiti, Chamba, Kullu and Mandi, TRAI initiated interactions with relevant stakeholders viz Department of Information Technology (DIT) of the Government of HP, Local State Government Officials, Telecom Service Providers, Bharat Broadband Network Limited (BBNL) and finalized its recommendations on "Improving Telecom Connectivity/ Infrastructure in far-flung areas of Himachal Pradesh" on 12<sup>th</sup> December, 2022 and sent to the Government for its consideration.

The Authority also recommended that National Capital Region Transport Corporation (NCRTC) be given 5 MHz (paired spectrum in the 700 MHz band) for use in RRTS corridors along the railway tracks, taking into consideration the spectrum requirements of NCRTC for their LTE technology-based Regional Rapid Transit System (RRTS) network.

During the year, while discharging various regulatory functions, TRAI has tried to address several issues and challenges that were being faced by the telecom consumers by issuing amendments to Telecommunication Tariff Orders (TTO). TTO (68<sup>th</sup> Amendment) was issued to revise the framework for USSD based mobile banking and payment services.

Subsequently, TRAI issued the Telecom Tariff (69<sup>th</sup> amendment) order 2022 on Tariff for SMS and Cell Broadcast alerts disseminated through Common Alerting Protocol (CAP) platform during disasters/non-disasters, wherein it was decided that no charges shall be levied for such SMS/Cell Broadcast Alerts or messages sent either during a disaster or prior to notification of disaster or after the expiry of disaster.

During the year, many consultation processes were initiated on wide range of subjects such as Regulatory Framework for Broadcasting and Cable Services, Spectrum Requirements of National Capital Region Transport Corporation (NCRTC) for Train Control System for RRTS Corridors, Embedded SIM for M2M Communications, Rationalization of Entry Fee and Bank Guarantees, Leveraging Artificial Intelligence and Big data in Telecommunication Sector, Introduction of Calling Name Presentation (CNAP) in Telecommunication Networks, Data Communication Services between Aircraft and Ground Stations provided by organizations other than Airports Authority of India, Licensing Framework and Regulatory Mechanism for Submarine Cable Landing in India, Regulating Converged Digital Technologies and Services – Enabling Converged Digital Technologies and Services - Enabling Convergence of Carriage of Broadcasting AND Telecommunication services, Telecommunication Infrastructure Sharing, Spectrum Sharing and Spectrum Leasing and Introduction of Digital Connectivity Infrastructure Provider (DCIP) Authorization under Unified License (UL), Draft Regulation on Review of the Quality of Service (code of Practice for Metering and Billing Accuracy), Issues relating to Media Ownership, Issues related to Regulatory Framework for Broadcasting and Cable Services, Renewal of Multi-System Operators (MSOs) Registration, Issues related to Community Radio Stations, Draft Telecommunication (Broadcasting and Cable) Services Interconnection (Addressable Systems) (Fourth Amendment) Regulations, 2022, License Fee and Policy Matters of DTH Services and Issues related to FM Radio Broadcasting.

With the arrival of new ICT Technologies, the regulation of ICT services is posing new challenges. The innovation in the sector is bringing new types of services. The technologies such as 5G, AI, M2M, AR/ VR, etc. will be extensively used in all sectors including, finance, health, agriculture, education, energy, etc. ICT innovations with new technologies will help in providing services efficiently in these sectors. Overlapping regulatory issues posed by these services will have cross-sectoral implications. Recognizing the importance of cross sectoral collaborative regulation, the International Telecom Union (ITU) has been advocating the need to implement a new approach to ICT regulation, called G5 collaborative regulation. ITU has developed a G5 benchmark index to measure how countries transition to a holistic digital collaborative regulation and policy making in the digital economy. Due to the regulatory initiatives taken in India, it has been categorized as a country having advanced stage of collaborative regulation of G5 Benchmark, which is the highest category. TRAI has taken numerous initiatives to promote cross sectoral collaboration in the digital space at the national level some of which are mentioned in the following paras.



TRAI has been collaborating actively with other sector regulators such as Electricity Regulators (CERC & SERCs), Airports Economic Regulatory Authority of India (AERA), Competition Commission of India (CCI), Insolvency & Bankruptcy Board of India (IBBI), Petroleum & Natural Gas Regulatory Board (PNGRB), Tariff Authority for Major Ports (TAMP), Warehousing Development & Regulatory Authority (WDRA), etc on the Forum of Indian Regulators (FOIR). A Working Group on “Cross Sector Collaborative Regulation between Telecom Regulators and Electricity Regulators” was constituted under the aegis of the FOIR for rolling out the 5G network in the country using the transmission and distribution network of power utilities. The Working Group had a representation of Telecom Regulatory Authority of India (TRAI), Central Electricity Regulatory Commission (CERC), State Electricity Regulatory Commissions (SERCs), Distribution Companies (DISCOMs), Telecom licensees, Infrastructure Providers category- I (IP-I). The Committee has given several practical recommendations on sharing of assets of power and telecom sector as well as on other policy initiatives and interventions needed to facilitate service providers of both sectors. In view of the immense potential and likely contribution of 5G, FOIR has agreed to set up a group to study the opportunities and challenges associated with adoption of 5G and related technologies such as AIML/IOT/M2M/AR/VR/Industry4.0 etc. in different sectors represented in FOIR viz. Industries, ports, airports, power sector, petroleum & natural gas, Real Estate, Food industry etc for sector specific applications as well as common applications in Data analytics, office management, MIS etc. for the regulators.

To address the power consumption requirements for Data Centres (DCs) effectively and also to explore incentivization opportunities of green energy utilisation for digital communication sector, TRAI had requested Ministry of Power (MoP) to address issues of incentivization, industrial tariff, waiver of electricity duty etc. A Technical Committee was formed by MoP under the chairmanship of Chief Engineer (RA), CEA, with members from MoP, MNRE, CERC, Grid India (formerly POSOCO), BEE, and TRAI. Ministry of Power issued notifications whereby demand aggregation through multiple connections located in same electricity division of a distribution licensee has been allowed to count towards this 100 Kilo watt requirement to become eligible to take power through Green Energy Open Access. These reform-based initiatives by MoP will benefit various cellular operators in telecom sector who have hundreds of towers located in a city that consume 5 to 10 KW of energy. They are now eligible to take power through Green Energy Open Access. This will also help India in achieving overall renewal energy targets.

TRAI also took the initiative and set up a Joint Committee of Regulators (JCOR) to study future regulatory implications in the digital world and to collaboratively work on future regulations. Reserve Bank of India (RBI), Securities & Exchange Board of India (SEBI) and Ministry of Consumer Affairs (MoCA) and Telecom Regulatory Authority of India (TRAI) with special invitees from Department of Telecommunications (DoT) and Ministry of Home Affairs (MHA) are the members of the committee. The objective is to formulate a joint action plan to curb unsolicited commercial communications (spams) using telecom resources. This committee has identified some important regulatory issues, which are to be addressed by all the regulators collaboratively to find some solutions.

TRAI collaborated with MoRTH and NHAI/ NHLML to undertake development of OFC (Dark Fibre) infra through Ducts along the National Highways. Based on TRAI suggestions, and in line with National Broadband Mission and PM Gati Shakti, NHAI awarded contracts for two pilot projects in

phase I for development of OFC infrastructure along the Delhi – Mumbai Expressway (1367 Km) and Hyderabad – Bangalore National Corridor (512 Km). The pilots are being extended to other National highways.

Further, TRAI has established its TRAI Centre of Studies and Research – TRAI CSR. The centre will conceptualize, coordinate and enable technological studies in collaboration with Industry, Academia and Policy making Institutions. TRAI Centre of Studies and Research would focus on the need for sustained research to identify future trends and assess evolving policy/regulatory challenges, to enable a Cross-Industry approach in connecting various stakeholders and facilitating innovation.

TRAI recognizes the significance of connecting with telecom subscribers across India and has established a public interface through its website and Consumer Outreach Programmes. The Consumer Outreach Programmes conducted by TRAI have also helped in creating awareness among subscribers about their rights and responsibilities, thereby empowering them to make informed decisions regarding their telecom services.

Some of the significant developments relating to Telecommunications and Broadcasting sectors during the year 2022-23 are briefly mentioned below:

## **I. TELECOM SECTOR**

The Telecom Sector has been able to dissolve distances and create a connected nation. It has significantly changed the way individuals lead their lives, creating new ways in which people interact with each other and socialize. The frantic pace of growth of the sector has been matched by its contribution to the overall economic growth of the country. From a nascent market to an ever-increasing number of subscribers, the Indian Telecom sector has become one of the largest and most competitive markets in the world. India is currently the world's second largest telecommunications market and has registered tremendous growth in the past decade and a half. TRAI has played a critical and formative role in shaping the regulatory framework governing the telecom sector in India.

During the year, while discharging various recommendatory and regulatory functions, the Authority addressed several issues and challenges being faced by the Telecom sector. Recommendations were made to the Government on key issues like "Auction of Spectrum in frequency bands identified for IMT/5G", "Regulatory Framework for promoting Data Economy through establishment of Data Centres Content Delivery Networks and Interconnect Exchanges in India", "Use of street furniture for small cell and aerial fiber deployment", "Licensing framework for establishing and operating Satellite Earth Station Gateway (SESG)", "Improving Telecom Connectivity/Infrastructure in far-flung areas of Himachal Pradesh", "Spectrum Requirements of National Capital Region Transport Corporation (NCRTC) for Train Control System for RRTS Corridors", and "Rating of Buildings or Areas for Digital Connectivity". Response of TRAI to DoT's back references received on Telecom Recommendations and Amendments to the various Telecom Regulations were also issued during this period.

At the end of the financial year 2022-23, the overall telecom subscriber base reached 1172.34 million in comparison to the subscriber base of 1166.93 million as on 31<sup>st</sup> March, 2023 registering an increase of 5.41 million subscribers during the financial year 2022-23. The wireless subscriber

base was 1143.93 million at the end of 31<sup>st</sup> March, 2023 in comparison to the subscriber base of 1142.09 million as on 31<sup>st</sup> March, 2022, registering a marginal increase of 1.84 million subscribers during the financial year 2022-23. The total wireline subscriber base as on 31<sup>st</sup> March, 2023 stood at 28.41 million as compared to 24.84 million subscribers on 31<sup>st</sup> March, 2022, registering an increase of 14.37% during the year 2022-23. Out of 28.41 million wireline subscribers, 26.16 million are urban subscribers and 2.25 million are rural subscriber.

The Internet subscriber base in the country as on 31<sup>st</sup> March, 2023 stood at 881.255 million as compared to 824.888 million as on 31<sup>st</sup> March, 2022. The total broadband subscriber base of the country as on 31<sup>st</sup> March, 2023 is 846.569 million, whereas it was 788.295 million on 31<sup>st</sup> March, 2022.

Numerous companies are building various layers such as network and computing, hardware, virtualization tools, virtual worlds, economic infrastructure and experiences. Metaverse has several sophisticated technologies such as Blockchain, ARVR, cryptocurrency, AI, 3D reconstruction, IoT, etc. integrated in it. The application of metaverse includes building a smart city, entertainment, gaming, retail, remote working, education, tourism, and social networking.

Keeping in view the importance of the technology, TRAI Centre of Studies and Research organized a workshop on Metaverse on 12<sup>th</sup> September, 2022 to delve deep into the regulatory landscape. Officials from various ministries were invited to sensitize about the concept. The first session focussed on Introduction to the Metaverse and the India opportunity, along with a brief on the regulatory philosophy for emerging technologies. This was followed by panel discussion on “The Metaverse Ecosystem” focusing on topics such as access and interoperability, software and hardware requirements. The third session was a panel discussion on “Policy framework and the way forward”. It covered topics such as Policy support for growth of the Metaverse, Privacy and safety, adequacy of laws and self-regulation, etc.

## II. BROADCASTING SECTOR

The year 2022-23 has been another busy and eventful year for the broadcasting and cable services sector. India's media and entertainment industries have always been an important part of our national story. As a young nation born in an era where film and radio were in their infancy, we have seen triumphs and tribulations reflected in the mass media from the very start. Television Broadcasting sector has become an important contributor to Indian economic prosperity.

The demographic dividend comprising of more than half of the youth population in the country offers huge opportunity for information and entertainment services making the Indian M&E (Media and Entertainment) sector a sunrise sector of Indian economy. It has seen spectacular growth over the years. As per the industry reports<sup>1</sup>, Indian M&E sector grew 19.9% in 2022 to reach ₹ 2.1 trillion from ₹ 1.75 trillion in 2021 and is expected to reach ₹ 2.83 trillion in 2025 with a CAGR of 10%. Television is one of the largest and fastest growing segments of the M&E sector. It represents around 35% of the total Media and Entertainment revenue. Even though television remains the largest segment, digital media has seen phenomenal growth with a 27% growth in digital subscriptions in 2022. The potential of the new technologies in the sector can be inferred

<sup>1</sup> FICCI EY Report (April 2023) titled “Windows of opportunity -India's media & entertainment sector – maximizing across segments”

from the fact that in 2022, animation and VFX was the fastest growing sector with a staggering 29% growth.

TRAI is taking various measures to ensure transparency, non-discrimination and equity across the value chain; increase efficiency and trust and reduce disputes amongst stakeholders across the value chain. Our country has made significant progress in economic growth and is emerging as one of the fastest growing economies in the world. A business-friendly environment is a pre-requisite for the growth of any sector. An enabling business environment makes the country a favourite business destination. It not only leads to employment generation but also helps in the growth and development of a country. TRAI is committed to creating an enabling ecosystem for the investment and growth of the Broadcasting sector.

During the year, the Tariff Order and Interconnection Regulations of the Television Broadcasting Sector were reviewed as per the Consultation Paper issued on 7<sup>th</sup> May, 2022.

After due consultation, TRAI notified the amendments to Regulatory framework 2017 on 22<sup>nd</sup> November, 2022. The amendments inter-alia included:

- a) Continuance of forbearance on MRP of TV channels;
- b) Revision of Ceiling on MRP of a TV Channel for inclusion in bouquet;
- c) Revision of the Ceiling on Discount on sum of the price of a-la-carte channels while forming Bouquet to 45%;
- d) Additional Incentives of 15% by broadcaster to be permitted on Bouquets also.

The amendments were challenged in various High courts including the petition by All India Digital Cable Federation at Hon'ble High Court of Kerala. However, as no relief/stay was granted the amendments were duly implemented in February/ March, 2023. This has enabled TRAI to further review other provisions with the aim of simplification of the Regulatory Framework. A detailed consultation will be taken up during 2023-24 as per the suggestions of stakeholders<sup>1</sup>.

During the year 2022-23, several key Recommendations were shared with the Government. The recommendations were made on "Market Structure / Competition in cable TV services", "Issues related to Community Radio Stations"; "Renewal of Multi-System Operators (MSOs), and "Promoting Local Manufacturing in the Television Broadcasting Sector". The gist of these recommendations is discussed in Part II relating to review of working and operations of TRAI. In addition, TRAI has undertaken various steps to improve regulatory compliance. During the period 2022-23, a total of 712 audits (353-DPO caused & 359- broadcasters caused) have been conducted by 52 auditors empanelled by TRAI.

Other significant developments of the Broadcasting sector are as below:

- i. The Broadcasting sector consists of Television and Radio Services. The Television services are delivered through cable TV services, DTH services, HITS services and IPTV services. In addition, terrestrial TV network of Prasar Bharti (through Doordarshan) provides services in some areas. As per an industry report<sup>2</sup>, the TV universe consists of approximately 64 million

<sup>1</sup> Record of Discussion at Annex-1 of the Consultation Paper on Review of Regulatory Framework  
[https://www.trai.gov.in/sites/default/files/CP\\_07052022.pdf](https://www.trai.gov.in/sites/default/files/CP_07052022.pdf)

<sup>2</sup> FICCI EY Report (April 2023) titled "Windows of opportunity -India's media & entertainment sector – maximizing across segments"



cable TV households and 2 million HITS subscribers. In addition, as reported by the pay DTH operators to TRAI, there were 65.25 million pay DTH total active subscribers as on 31<sup>st</sup> March, 2023. Further, reported subscriber base by the IPTV Operators was 6,47,596 as on 31<sup>st</sup> March, 2023.

- ii. The TV broadcasting sector encompasses approximately 332 broadcasters providing 903 private satellite TV channels as on 31<sup>st</sup> March, 2023<sup>1</sup>. These television channels include 254 SD pay TV channels and 104 HD Pay TV channels provided by 43 Pay television broadcasters. Further, there were 1748 (Multi System Operators (MSOs)<sup>2</sup> registered with Ministry of Information and Broadcasting (MIB), 1 HITS operator<sup>3</sup>, 4 pay DTH operators and 25 IPTV operators<sup>3</sup>. Further, as per the information provided by MIB, there were 81,706 cable operators registered in the country.
- iii. Prasar Bharati, is the Public Service Broadcaster in India which operates radio network- All India Radio (Akashvani) & Television Network (Doordarshan). At present, Doordarshan broadcasts 36 satellite TV channels<sup>4</sup> which includes 7 National Channels, 28 Regional Channels and 01 international channel (DD India).
- iv. Prasar Bharati also operates DD Free dish, the only Free-to-Air (FTA) Direct-To-Home (DTH) Service which is the largest distributed DTH platform in India. DD Free Dish reaches to millions of people especially in rural, remote, inaccessible and border areas having low income and is used as a tool not only for entertainment but also for promoting education, health, and agriculture. As per industry estimates, there were around 45 million DD Free Dish households<sup>5</sup>. There are 150 channels<sup>6</sup> available on DD Free Dish platform.
- v. India's television industry stands at ₹ 70,900 crore in the year 2022 as compared to ₹ 72,000 crore in the year 2021, thereby registering a decline of around 1.5%. Subscription revenues account for a major share of the overall industry revenue. Subscription revenue has decreased from ₹ 40,700 crore in the year 2021 to ₹ 39,200 crore in the year 2022. Further, advertisement revenue has increased from ₹ 31,300 crore in the year 2021 to ₹ 31,800 crore in the year 2022.
- vi. Radio is a popular means for mass communication, owing largely, to its wide coverage, portability, low set-up cost and affordability. In India, Radio coverage is available in the Short-wave (SW) and Medium-wave (MW) bands in the Amplitude Modulation (AM) mode and also Frequency Modulation (FM) mode. Today, FM Radio broadcasting is the most popular and pervasive medium to provide entertainment, information and education to the masses. As reported by the private FM Radio broadcasters to TRAI, there were 388 private FM radio stations operational as on 31<sup>st</sup> March, 2023, besides the public service broadcaster - All India Radio (AIR). The reported advertisement revenues by the private FM Radio broadcasters have increased from ₹ 1227.15 crore<sup>3</sup> in the year 2021-22 to ₹ 1547.13 crore<sup>3</sup> in the year 2022-23.
- vii. All India Radio India's Public Service Broadcaster, the Radio vertical of Prasar Bharati has been serving to inform, educate and entertain its audiences since its inception. One of the largest broadcasting organisations in the world in terms of the number of languages of broadcast, the spectrum of socio-economic and cultural diversity it serves, AIR's service comprises 479

<sup>1</sup> <https://new.broadcastseva.gov.in/digigov-portal-web-app/>

<sup>2</sup> [https://www.mib.gov.in/all\\_broadcasting\\_documents](https://www.mib.gov.in/all_broadcasting_documents)

<sup>3</sup> As reported to TRAI

<sup>4</sup> <https://prasarbharati.gov.in/dd-channels-2/>

<sup>5</sup> FICCI EY Report (April 2023) titled "Windows of opportunity -India's media & entertainment sector – maximizing across segments"

<sup>6</sup> <https://www.freedish.in/search/label/Channel-List>



stations located across the country, covering nearly 92% of the country's area and 99.19% of the total population. AIR originates programming in 23 languages and 179 dialects<sup>1</sup>.

viii. Another area of growth in the radio landscape is the expansion in the number of Community Radio Stations (CRS) in the country. There is huge latent potential in CRS, given the vast landscape of this country, linguistic diversity, regional flavours and cultural variations. Community Radio broadcasting can serve as a medium for networking of small groups and communities with a specific focus on daily concerns of the common man and also help them realize local aspirations. CRS are set up in association with educational institutions and civil society organizations. As per the information provided by the MIB, out of the 571 licenses issued as on 31<sup>st</sup> March, 2023 for the setup of community radio stations, 427 such stations were operational.

### III. OTHER ADMINISTRATIVE INITIATIVES

Since its inception in 1997, TRAI has been functioning through rented accommodations. The government of India (GoI) through the Department of Telecommunication (DoT) vide letter dated 26<sup>th</sup> November, 2020 had conveyed administrative approval of the competent authority for procurement of built-up Office Space for TRAI in NBCC Commercial Complex being developed as World Trade Centre (WTC) at Nauroji Nagar, New Delhi.

NBCC (India) Limited vide allotment letter dated 26<sup>th</sup> February, 2021 has allotted TRAI a total of 1,15,982 sq. ft. of super built- up area (85,545 carpet area) at Tower-F (4<sup>th</sup>, 5<sup>th</sup>, 6<sup>th</sup> and 7<sup>th</sup> floors) at the World Trade Centre, Nauroji Nagar, New Delhi with construction linked payment plan. Construction at the site is in full swing and expected to be delivered to TRAI in the year 2023.

Meanwhile, an MoU/Agreement has been signed on 22<sup>nd</sup> November, 2022 with NBCC Services Ltd. (A Wholly owned subsidiary of Navratna CPSE NBCC (INDIA) Ltd.) for planning, designing and interior fit-out renovations/furnishing works of TRAI office space at 4<sup>th</sup>, 5<sup>th</sup>, 6<sup>th</sup> & 7<sup>th</sup> floors, Tower-F at NBCC World Trade Centre, Nauroji Nagar, New Delhi – 110029.

In the light of new regulatory challenges associated with the fast changing technology landscape and increased workload, TRAI initiated deliberations on possible restructuring in TRAI. After due deliberations, a proposal of restructuring and creation of additional posts has been sent to DoT for obtaining requisite approval from the Ministry of Finance. TRAI has also initiated the process of direct recruitment in the cadre of Assistant & Personal Assistant through Staff Selection Commission (SSC) in this year.

Towards the process of implementation of application based integrated system for data reporting, compliance, analytics and process automation with report analysis and publication, Authority has developed a system of online collection of data from stakeholders. The system has been updated to ease data submission by including new reports, UI changes and security enhancements. Further, to cater to the needs of various divisions of TRAI, IT Division of the Authority is in the process of implementation of Application Service Providers for providing various ICT based solutions.

Also, TRAI has implemented various portals and apps. The portals and back-end services are hosted on Cloud. Maintenance of all the portals/Apps are being done at the level of cloud infrastructure & application. The necessary actions have been taken to secure them from cyber-attack on the basis of alerts received from NIC, CERT-IN and other organizations.

<sup>1</sup> <https://prasarbharati.gov.in/homepage-air/>



## PART - I

# POLICIES AND PROGRAMMES



## (A) REVIEW OF GENERAL ENVIRONMENT IN THE TELECOM SECTOR

- 1.1** At the end of the financial year 2022-23, the overall telecom subscriber base reached 1172.34 million in comparison to the subscriber base of 1166.93 million as on 31<sup>st</sup> March, 2022 registering an increase of 5.40 million subscribers during the financial year 2022-23. The overall subscriber base and tele-density is shown in **Table-1**.

**Table-1 : Overall Subscriber base and Tele-density**

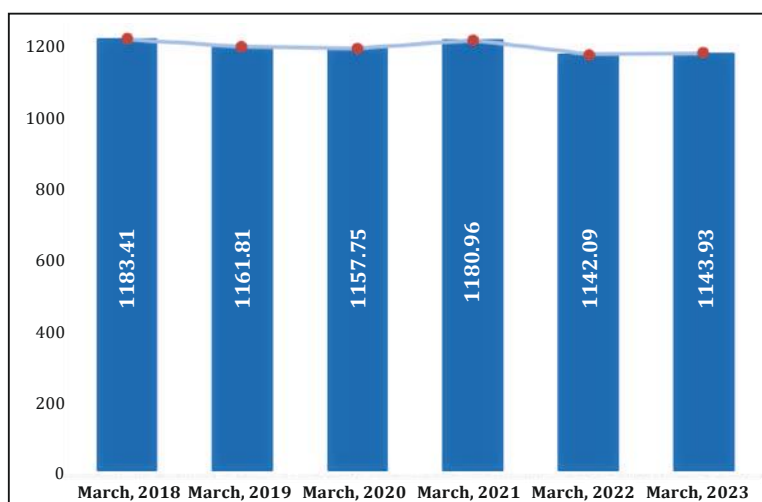
Particulars	Wireless	Wireline	Total (Wireless+Wireline)
Total Telephone Subscribers (Million)	1143.93	28.41	1172.34
Urban Telephone Subscribers (Million)	627.54	26.16	653.71
Rural Telephone Subscribers (Million)	516.38	2.25	518.63
Overall Tele-density (%)	82.46%	2.05%	84.51%
Urban Tele-density (%)	128.45%	5.36%	133.81%
Rural Tele-density (%)	57.46%	0.25%	57.71%
Share of Urban Subscribers	54.86%	92.09%	55.76%
Share of Rural Subscribers	45.14%	7.91%	44.24%
No. of Internet Subscribers (Million)	847.31	33.94	881.25
No. of Broadband Subscribers (Million)	813.08	33.49	846.57

The details of subscriber base in wireless & wireline segments; requests for Mobile Number Portability (MNP); Tele-density; Internet subscribers and Quarterly Telecom Services Performance Indicators are explained in subsequent paragraphs.

### (a) Wireless

- 1.1.1** The wireless subscriber base was 1143.93 million at the end of 31<sup>st</sup> March, 2023 in comparison to the subscriber base of 1142.09 million as on 31<sup>st</sup> March, 2022 registering a marginal increase of 1.84 million subscribers during the financial year 2022-23. The status of wireless subscriber base during the last six years is depicted in the **Figure-1**.

**Figure-1 : Wireless Subscriber Base for the last six years since March 2018**  
(In million)



## (b) Mobile Number Portability

**1.1.2** During the financial year 2022-2023, 129.94 million subscribers have submitted their porting requests to different service providers for availing MNP facility. With this, the cumulative number of Mobile Number Portability requests since January, 2011, increased from 689.76 million at the end of March, 2022 to 819.70 million at the end of March, 2023. The service area-wise cumulative porting request at the end of March, 2023 is depicted in **Table-2**.

**Table-2 : Service Area-wise Cumulative Porting requests at the end of March, 2023**

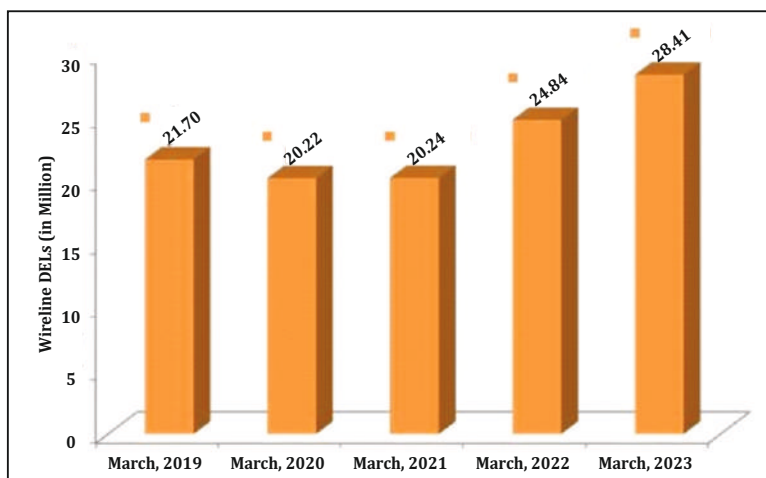
Cumulative MNP Requests (Service Area-wise) at the end of March, 2023				
	Service Area	MNP requests processed by		Total Number of Porting Requests
		Zone-I	Zone-II	
ZONE-I	Delhi	37,497,117	1,862,255	39,359,372
	Gujarat	54,877,381	926,842	55,804,223
	Haryana	25,868,449	580,662	26,449,111
	Himachal Pradesh	3,533,183	72,100	3,605,283
	Jammu & Kashmir	1,778,750	113,320	1,892,070
	Maharashtra	65,851,269	1,826,878	67,678,147
	Mumbai	29,169,120	887,447	30,056,567
	Punjab	27,236,041	1,438,447	28,674,488
	Rajasthan	57,006,674	615,125	57,621,799
	Uttar Pradesh (East)	69,836,051	1,025,926	70,861,977
	Uttar Pradesh (West)	54,489,004	609,956	55,098,960
ZONE-II	Andhra Pradesh	710,293	57,493,349	58,203,642
	Assam	289,492	5,528,241	5,817,733
	Bihar	2,556,462	40,734,382	43,290,844
	Karnataka	1,220,840	58,685,256	59,906,096
	Kerala	376,970	20,461,334	20,838,304
	Kolkata	296,807	15,554,587	15,851,394
	Madhya Pradesh	1,479,701	60,602,459	62,082,160
	North-East	49,186	1,893,912	1,943,098
	Orissa	255,878	14,724,604	14,980,482
	Tamil Nadu	523,494	54,725,896	55,249,390
	West Bengal	841,253	43,592,587	44,433,840
	<b>Total</b>	<b>435,743,415</b>	<b>383,955,565</b>	<b>819,698,980</b>
	<b>Total (Zone-I + Zone - II)</b>			

## (c) Wireline Services

**1.1.3** The total wireline subscriber base as on 31<sup>st</sup> March, 2023 stood at 28.41 million as compared to 24.84 million subscribers on 31<sup>st</sup> March, 2022, registering an increase of 14.37% during the year 2022-23. Out of 28.41 million wireline subscribers, 26.16 million are urban subscribers and 2.25 million are rural subscriber. The wireline subscriber base for the last five years is depicted in **Figure – 2**.



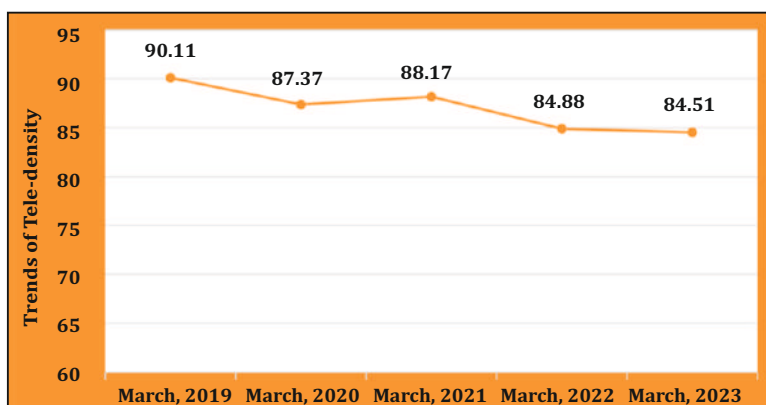
**Figure-2 : Wireline Subscribers for the last five financial years**



#### (d) Tele-density

**1.1.4** The tele-density at the end of March, 2023 was 84.51% as compared to 84.88% at the end of previous year recording a decrease of 0.37%. The trend of tele-density since March, 2019 is depicted in **Figure-3**.

**Figure-3 : Trend of Tele-density**



#### (e) Internet and Broadband subscribers

**1.1.5.1** The Internet subscriber base in the country as on 31<sup>st</sup> March, 2023 stood at 881.255 million as compared to 824.888 million as on 31<sup>st</sup> March 2022. The total broadband subscriber base of the country as on 31<sup>st</sup> March, 2023 is 846.569 million whereas it was 788.295 million as on 31<sup>st</sup> March, 2022.

The details of subscription as reported by the service providers in the country as on 31<sup>st</sup> March, 2023 are indicated in **Table-3**.

**Table-3 : Internet Subscribers**

[In Million]

Segment			Category	Internet Subscribers		% Growth
				March, 2022	March, 2023	
A.	Wired		Broadband	27.246	33.491	22.92%
			Narrowband	0.028	0.45	1528.21%
			Total	27.274	33.941	24.45%
B.	Wireless	Fixed Wireless (Wi-Fi, Wi-Max, Radio & VSAT)	Broadband	1.176	1.093	-7.07%
			Narrowband	0.006	0.008	25.43%
			Total	1.182	1.101	-6.90%
		Mobile Wireless (Phone + Dongle)	Broadband	759.873	811.985	6.86%
			Narrowband	36.559	34.228	-6.38%
			Total	796.432	846.213	6.25%
Total Internet Subscribers			Broadband	788.295	846.569	7.39%
			Narrowband	36.593	34.686	-5.21%
			Total	824.888	881.255	6.83%

**1.1.5.2** Quarter-wise Internet/Broadband subscription as reported by the service providers for 2022-2023 is at **Table-4**.

**Table-4 : Quarter-wise Internet/Broadband Subscriber base of 2022-23**

[In Million]

Service	June-2022	Sept-2022	Dec-2022	Mar-2023
Broadband	800.941	815.934	832.202	846.569
Narrowband	35.918	35.013	33.695	34.686
<b>Total Internet</b>	<b>836.859</b>	<b>850.947</b>	<b>865.897</b>	<b>881.255</b>

## (f) The Indian Telecom Services Performance Indicators

**1.1.6.1** TRAI has been bringing out a monthly press release on Telecom Subscription Data. This press release includes information on total subscriber base, Tele-density, Service Provider wise market share, Mobile Number Portability (MNP) requests, Peak VLR data, Net Additions during the month in wireless, wireline and broadband segments, etc. The highlights of the press release on the Telecom Subscription data as on 31<sup>st</sup> March, 2023, are given at **Table-5**.

**Table-5 : Highlights of Telecom Subscription Data as on 31<sup>st</sup> March, 2023**

Particulars	Wireless	Wireline	Total (Wireless+Wireline)
<b>Total Telephone Subscribers (Million)</b>	<b>1143.93</b>	<b>28.41</b>	<b>1172.34</b>
Net Addition in March 2023 (Million)	1.96	0.44	2.40
Monthly Growth Rate	0.17%	1.58%	0.21%
<b>Urban Telephone Subscribers (Million)</b>	<b>627.54</b>	<b>26.16</b>	<b>653.71</b>
Net Addition in March 2023 (Million)	1.18	0.37	1.54
Monthly Growth Rate	0.19%	1.42%	0.24%
<b>Rural Telephone Subscribers (Million)</b>	<b>516.38</b>	<b>2.25</b>	<b>518.63</b>
Net Addition in March 2023 (Million)	0.79	0.073	0.86
Monthly Growth Rate	0.15%	3.38%	0.17%
<b>Overall Tele-density*(%)</b>	<b>82.46%</b>	<b>2.05%</b>	<b>84.51%</b>
Urban Tele-density*(%)	128.45%	5.36%	133.81%
Rural Tele-density*(%)	57.46%	0.25%	57.71%
<b>Share of Urban Subscribers</b>	<b>54.86%</b>	<b>92.09%</b>	<b>55.76%</b>
<b>Share of Rural Subscribers</b>	<b>45.14%</b>	<b>7.91%</b>	<b>44.24%</b>
<b>Broadband Subscribers (Million)</b>	<b>813.08</b>	<b>33.49</b>	<b>846.57</b>

- ❖ Number of active wireless subscribers (on the date of peak VLR) in March, 2023 was 1034.26 million.

### **Note:**

- Information in this Press Release is based on the data provided by the Service Provider.
- \* Based on the projection of population from the 'Report of the Technical Group on Population Projections for India and States 2011 – 2036', Ministry of Health & Family Welfare.
- # VLR is acronym of Visitor Location Register. The dates of peak VLR for various TSPs are different in different service areas.

**1.1.6.2** TRAI has also been publishing a Quarterly Report on ‘The Indian Telecom Services Performance Indicators’. This report presents the key parameters and growth trends for Telecom & Broadcasting services. A summary of the telecom service performance indicators for the above-mentioned period is illustrated in **Table – 6**.

**Table-6 : Performance Indicator (Data as on 31<sup>st</sup> March, 2023)**

<b>Telecom Subscribers (Wireless+ Wireline)</b>	
Total Subscribers	1,172.34 Million
% change over the previous quarter	0.17%
Urban Subscribers	653.71 Million
Rural Subscribers	518.63 Million
Market share of Private Operators	90.15%
Market share of PSU Operators	9.85%
Tele-density	84.51%
Urban Tele-density	133.81%
Rural Tele-density	57.71%
<b>Wireless Subscribers</b>	
Total Wireless Subscribers	1,143.93 Million
% change over the previous quarter	0.09%
Urban Subscribers	627.54 Million
Rural Subscribers	516.38 Million
Market share of Private Operators	90.73%
Market share of PSU Operators	9.27%
Tele-density	82.46%
Urban Tele-density	128.45%
Rural Tele-density	57.46%
Total Wireless Data Usage during the quarter	41,790 PB
Number of Public Mobile Radio Trunk Services (PMRTS)	67,820
Number of Very Small Aperture Terminals (VSAT)	2,56,170
<b>Wireline Subscribers</b>	
Total Wireline Subscribers	28.41 Million
% change over the previous quarter	3.48%
Urban Subscribers	26.16 Million
Rural Subscribers	2.25 Million
Market share of PSU Operators	33.15%
Market share of Private Operators	66.85%
Tele-density	2.05%
Rural Tele-density	0.25%
Urban Tele-density	5.36%
No. of Village Public Telephones (VPT)	68,606
No. of Public Call Office (PCO)	42,135

<b>Telecom Financial Data</b>	
Gross Revenue (GR) during the quarter	₹ 85,356 Crore
% change in GR over the previous quarter	-3.19%
Applicable Gross Revenue (ApGR) during quarter	₹ 78,631 Crore
% change in ApGR over the previous quarter	2.62%
Adjusted Gross Revenue (AGR) during the quarter	₹ 64,494 Crore
% change in AGR over the previous quarter	2.53%
Share of Public sector undertakings in Access AGR	4.39%
<b>Internet/Broadband Subscribers</b>	
Total Internet Subscribers	881.25 Million
% change over previous quarter	1.77%
Narrowband subscribers	34.69 Million
Broadband subscribers	846.57 Million
Wired Internet Subscribers	33.94 Million
Wireless Internet Subscribers	847.31 Million
Urban Internet Subscribers	523.26 Million
Rural Internet Subscribers	357.99 Million
Total Internet Subscribers per 100 population	63.53
Urban Internet Subscribers per 100 population	107.11
Rural Internet Subscribers per 100 population	39.84
No. of Public Wi-Fi Hotspots	1,66,020
Aggregate Data Consumed (GB)	53,42,792
<b>Broadcasting &amp; Cable Services</b>	
Number of private satellite TV channels permitted by the Ministry of I&B for uplinking only/downlinking only/both uplinking and downlinking	903
Number of Pay TV Channels as reported by broadcasters	358
Number of private FM Radio Stations (excluding All India Radio)	388
Number of total active subscribers with pay DTH operators	65.25 Million
Number of Operational Community Radio Stations	427
Number of pay DTH Operators	4
<b>Revenue &amp; Usage Parameters</b>	
Monthly ARPU of Wireless Service	₹142.32
Minutes of Usage (MOU) per subscriber per month - Wireless Service	946 Minutes
Total Outgoing Minutes of Usage for Internet Telephony	78.08 Million
<b>Wireless Data Usage</b>	
Average Wireless Data Usage per wireless data subscriber per month	17.36 GB
Average revenue realization per GB for wireless data usage during the quarter	Rs. 9.94

## (B) REVIEW OF POLICIES AND PROGRAMMES

**1.2** Since its inception, TRAI's objective has been to create and nurture conditions for orderly growth of the Telecom sector in the country in a manner and at a pace which will enable India to play a leading role in the emerging global information society. In pursuance of this objective, TRAI has initiated and implemented various policies and programmes over the period. A review of the policies and programmes of TRAI with respect to the following key areas of the telecom sector is provided below:

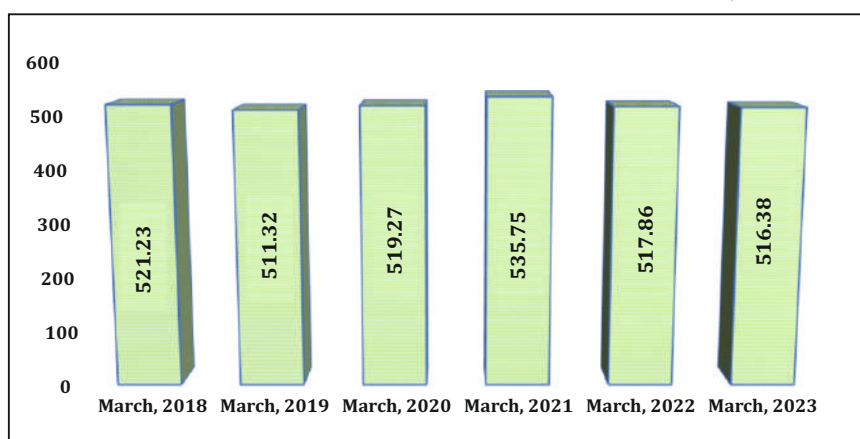
- (a) Rural Telephone Network;
- (b) Expansion of Telephone Network;
- (c) Entry of private sector in both basic and value-added service;
- (d) Technical compatibility and effective interconnection between service providers;
- (e) Telecommunication technology;
- (f) Implementation of National Telecom Policy;
- (g) Quality of Service; and
- (h) Universal Service Obligation

### 1.2.1 Rural Telephone Network

#### 1.2.1.1 Wireless

As on 31<sup>st</sup> March, 2023, the Wireless rural subscribers decreased from 517.86 million as on 31<sup>st</sup> March, 2022 to 516.38 million at the end of 31<sup>st</sup> March, 2023. The share of rural wireless subscribers during the financial year 2022-23 is 45.15% of total wireless subscribers. The rural wireless subscriber base since March, 2018 is indicated in **Figure-4**. The service provider-wise rural wireless subscriber base & their market shares are shown in **Table-7** and **Figure-5**.

**Figure-4 : Rural Wireless Subscriber Base since March, 2018  
(In Million)**





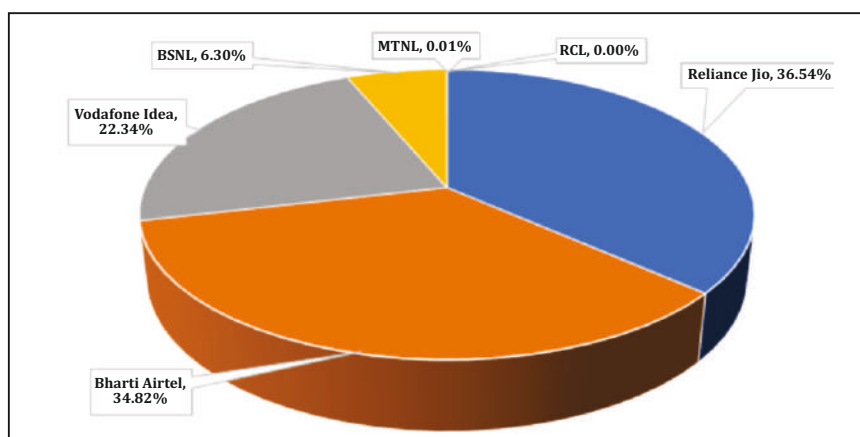
**Table-7 : Service Provider-wise Rural Wireless Subscribers and Market Share**

Sl. No.	Wireless Group	Subscribers as on (in million)		Rural Subscribers as on (in million)		Market Share of Rural Subscribers as on	
		March, 2023	March, 2022	March, 2023	March, 2022	March, 2023	March, 2022
1.	Reliance Jio	430.23	403.99	188.67	175.77	36.54%	33.94%
2.	Bharti Airtel	370.91	360.33	179.79	173.98	34.82%	33.59%
3.	Vodafone Idea Limited	236.75	260.77	115.37	131.45	22.34%	25.38%
4.	BSNL (@)	103.68	113.74	32.52	36.62	6.30%	7.07%
5.	MTNL	2.35	3.25	0.04	0.04	0.01%	0.01%
6.	RCL	0.0027	0.0033	0	0	0.00%	0.00%
	<b>Total</b>	<b>1143.93</b>	<b>1142.09</b>	<b>516.38</b>	<b>517.86</b>	<b>100.00</b>	<b>100.00</b>

Source: As provided by TSPs

Note:

(@) The wireless subscriber base figures reported by BSNL's VNOs are included in the wireless subscriber base of BSNL.

**Figure-5 : Market share of Rural Subscriber base as on 31<sup>st</sup> March, 2023**


### 1.2.1.2 Wireline Services

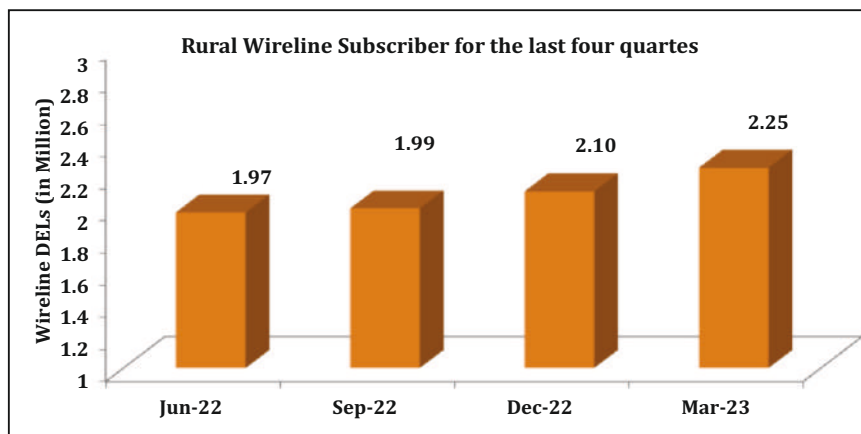
As on 31<sup>st</sup> March, 2023, the rural wireline subscriber base stood at 2.25 (22,47,975) million as compared to 1.96 (19,56,175) million at the end of 31<sup>st</sup> March, 2022, registering an increase of 14.92% over the year. The service provider-wise wireline subscriber base and their market share are shown in **Table-8**.

**Table-8 : Service Provider-wise Rural Wireline Subscriber Base and Market Share**

Sl. No.	Name of the Service Provider	Total Wireline Subscribers		Rural Wireline Subscribers		Market Share of Rural Wireline Subscribers (in %)	
		Mar-22	Mar-23	Mar-22	Mar-23	Mar-22	Mar-23
1	BSNL	75,09,030	71,05,823	18,06,675	20,34,776	92.36%	90.52%
2	MTNL	26,93,638	23,12,553	-	34	0.00%	0.002%
3	Bharti Airtel Ltd	58,50,300	71,47,472	-	-	-	-
4	Quadrant Televentures Ltd.	2,66,799	3,37,922	22,618	19,442	1.16%	0.86%
5	Tata Teleservices Ltd.	16,00,819	15,41,152	37,562	24,831	1.92%	1.10%
6	Reliance Communications Ltd.	1,74,121	1,45,706	150	362	0.01%	0.02%
7	Vodafone Idea Ltd.	5,72,478	703179	-	-	-	-
8	Reliance Jio Infocomm Ltd.	61,72,571	91,15,969	89,170	1,68,530	4.56%	7.50%
	<b>Total</b>	<b>2,48,39,756</b>	<b>2,84,09,776</b>	<b>19,56,175</b>	<b>22,47,975</b>	<b>100.00%</b>	<b>100.00%</b>

(ii) The status of Rural wireline subscribers for the last four quarters is depicted in **Figure-6**:-

**Figure-6 : Bar chart showing Rural Wireline Subscribers**

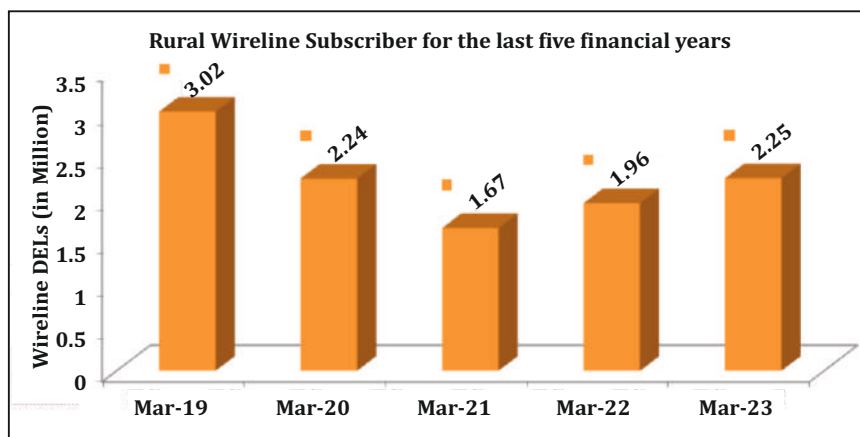






- (iii) The status of Rural Wireline Subscribers during the last five financial years is depicted in the **Figure-7:**

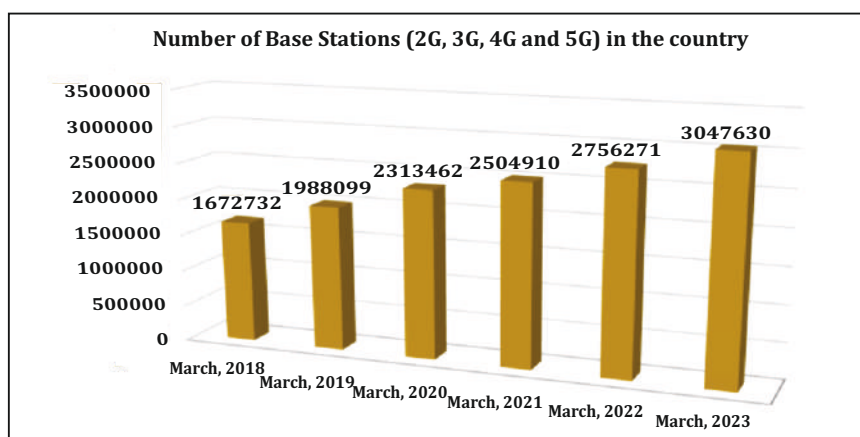
**Figure-7 : Bar chart showing Rural Wireline Subscribers during 2019-2023**



### 1.2.2 Expansion of Telephone Network

There has been a substantial expansion of telecom networks in the country, which can be seen by the increasing number of Base Stations installed by the telecom service providers. During the financial year 2022-23, a few Telecom Service providers launched 5G networks in the country. The yearly growth of total number of base stations (which include 2G BTSs, 3G Nodes B, 4G eNodes B and 5G gNodes B) from March, 2018 to March, 2023, can be seen in the **Figure-8**. During the financial year 2022-23, the number of BTS have increased from 27,56,271 at the end of March, 2022 to 30,47,630 [including 1,46,056 gNodeB (5G)] at the end of March, 2023.

**Figure-8 : BTS installed**

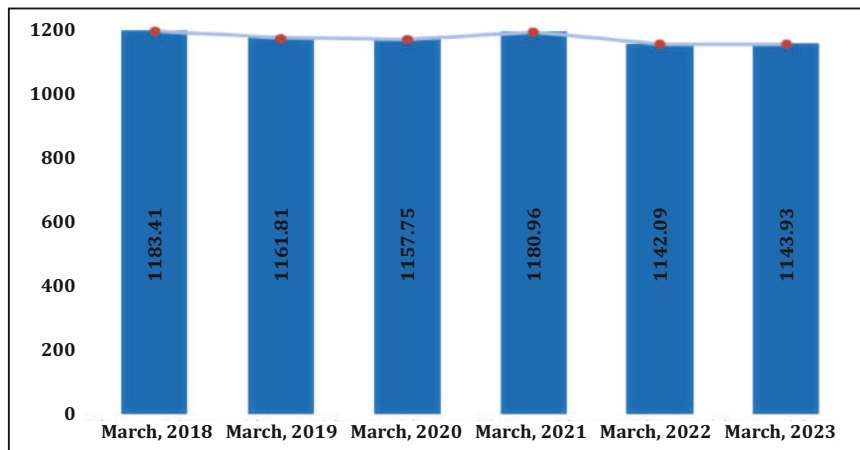


*Note: 5G services commenced in October, 2022.*

### 1.2.2.1 Wireless Services

The Wireless Subscriber base is 1143.93 million as on 31<sup>st</sup> March, 2023 in comparison to the subscriber base of 1142.09 million as on 31<sup>st</sup> March, 2022. The subscriber base marginally increased by 1.84 million subscribers during the financial year 2022-23. The trend of subscriber base from March, 2018 to March, 2023 is depicted in **Figure-9**.

**Figure-9 : Subscriber base of Wireless Operators**  
(In Million)



The subscriber base of individual wireless service providers from 2018-19 to 2022-23 along with their percentage growth/reduction in 2022-23 is given in **Table-9**. The market share of different mobile operators as on 31<sup>st</sup> March, 2023 is displayed in **Figure-10**.

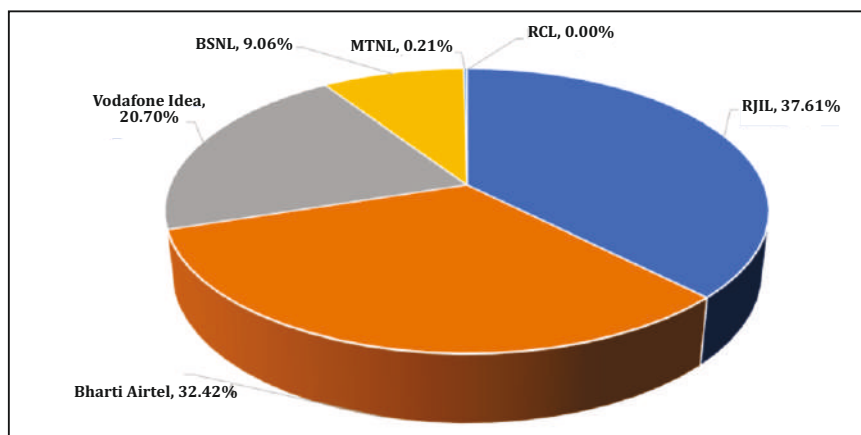
**Table-9 : Subscriber Base of Wireless Services from March, 2019 to March, 2023**  
(In Million)

Service Provider	March 2019	March 2020	March 2021	March 2022	March 2023	%age growth/reduction over w.r.t. March 2022
Reliance Jio Infocomm Ltd	306.72	387.52	422.92	403.99	430.23	6.50
Bharti Airtel Ltd (\$)	325.18	327.81	352.39	360.33	370.91	2.94
Vodafone Idea Ltd (^)	394.84	319.17	283.71	260.77	236.75	-9.21
Bharat Sanchar Nigam Ltd (~)	115.74	119.87	118.63	113.74	103.68	-8.84
Mahanagar Telephone Nigam Ltd	3.45	3.36	3.30	3.25	2.35	-27.69
Reliance Communications Ltd/Reliance Telecom Ltd	0.02	0.0178	0.01	0.0033	0.0027	-0.19
Tata Teleservices Ltd (\$)	15.85	--	--	--	--	--
<b>Total</b>	<b>1161.81</b>	<b>1157.75</b>	<b>1180.96</b>	<b>1142.09</b>	<b>1143.93</b>	<b>0.16</b>

Source: As provided by Telecom Service Providers to TRAI.

- (\\$) M/s Tata Teleservices Ltd have merged with M/s Bharti Airtel Ltd w.e.f 6<sup>th</sup> February, 2020.  
 (^) M/s Vodafone and M/s Idea Cellular merged their commercial service w.e.f 31<sup>st</sup> August, 2018.  
 (~) The wireless subscriber base figures reported by the VNOs of M/s BSNL are included in the wireless subscriber base of M/s BSNL.

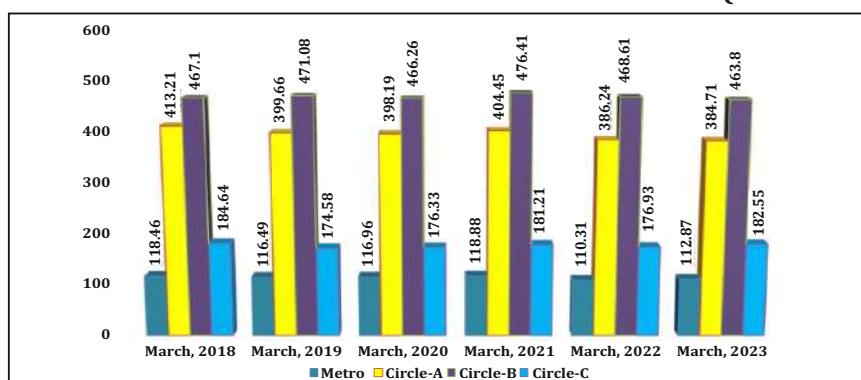
**Figure-10 : Market Share of Wireless Service Providers (as on 31<sup>st</sup> March, 2023)**



In terms of subscriber base for wireless services, M/s Reliance Jio Infocomm Ltd. was the largest service provider with 430.23 million subscribers; followed by M/s Bharti Airtel Ltd, M/s Vodafone Idea Ltd, M/s BSNL and M/s MTNL with 370.91 million, 236.75 million, 103.58 million, and 2.35 million, respectively.

The subscriber base for Wireless services in different categories of service areas for the period March, 2018 to March, 2023 is indicated graphically in **Figure-11**.

**Figure-11 : Circle-Category wise subscriber base for Wireless Services from March, 2018 to March, 2023 (In Million)**



The list of service providers in various service areas is given in **Table-10**.

**Table-10 : Wireless Service Providers as on 31<sup>st</sup> March, 2023**

Sl. No.	Service Providers	Service Licensed Service Area
1	Bharti Airtel Group	All India
2	BSNL	All India except Delhi & Mumbai
3	MTNL	Delhi, Mumbai
4	Reliance Communications Ltd.	All India (except Assam & North-East)
5	Reliance Jio Infocomm Ltd	All India
6	Vodafone Idea Ltd	All India

Source: DoT Website.

**UL (Virtual Network Operators) (VNO) Access Service authorization providing wireless services as on 31<sup>st</sup> March, 2023**

S. No	Service Providers	Licensed Service Area
1	ADPAY Mobile Payment India Pvt. Ltd.	Tamil Nadu including Chennai
2	Surftelecom Pvt Ltd	All India

Source: As reported by service provider.

### 1.2.2.2 Wireline Services

The Service Provider wise break-up of wireline subscribers of 28.41 million as on 31<sup>st</sup> March, 2023, is shown in **Table-11** and the break-up in terms of rural and urban subscribers is shown in **Table-12**. The incumbents BSNL and MTNL have 25.01% and 8.14% market share respectively in the wireline subscriber base, while all the six private operators together have 66.85% share. The share of private operators has increased from 58.93% as on 31<sup>st</sup> March, 2022 to 66.85% as on 31<sup>st</sup> March, 2023, registering an increase of 7.92%.

**Table-11: Service Provider wise details of Wireline Subscriber base as on 31<sup>st</sup> March, 2023**

Sl. No.	Name of the Service Provider	Area of Operation	Subscriber Base (Wireline)
1	BSNL	All India except Delhi & Mumbai	71,05,823
2	MTNL	Delhi & Mumbai	23,12,553
3	Bharti Airtel Ltd	Andhra Pradesh, Assam, Bihar, Delhi, Gujarat, Haryana, Himachal Pradesh, Jammu & Kashmir, Karnataka, Kerala, Kolkata, Madhya Pradesh, Maharashtra, Mumbai, Punjab, Rajasthan, Tamil Nadu (including Chennai), UP-East, UP-West and West Bengal.	71,47,472
4	Quadrant Televentures Ltd.	Punjab	3,37,922
5	Reliance Communications Ltd.	Andhra Pradesh, Bihar, Delhi, Gujarat, Karnataka, Kerala, Kolkata, Madhya Pradesh, Maharashtra, Mumbai, Odisha, Punjab, Rajasthan, Tamil Nadu (including Chennai), UP-East, UP-West and West Bengal	1,45,706
6	Reliance Jio Infocomm Ltd.	Andhra Pradesh, Assam, Bihar, Delhi, Gujarat, Haryana, Himachal Pradesh, Jammu & Kashmir, Karnataka, Kerala, Kolkata, Madhya Pradesh, Maharashtra, Mumbai, North East, Odisha, Punjab, Rajasthan, Tamil Nadu (including Chennai), UP-East, UP-West and West Bengal.	91,15,969
7	Tata Teleservices Ltd. & Tata Teleservices (Maharashtra) Ltd.	Andhra Pradesh, Bihar, Delhi, Gujarat, Haryana, Himachal Pradesh, Karnataka, Kerala, Kolkata, Madhya Pradesh, Maharashtra, Mumbai, Odisha, Punjab, Rajasthan, Tamil Nadu (including Chennai), UP-East, UP-West and West Bengal.	15,41,152
8	Vodafone Idea Ltd.	Andhra Pradesh, Assam, Bihar, Delhi, Gujarat, Haryana, Himachal Pradesh, Jammu & Kashmir, Karnataka, Kerala, Kolkata, Madhya Pradesh, Maharashtra, Mumbai, North-East, Odisha, Punjab, Rajasthan, Tamil Nadu (including Chennai), UP-East, UP-West and West Bengal.	7,03,179
	<b>TOTAL</b>		<b>2,84,09,776</b>

#Source: Provided by TSPs.

**Table-12 : Wireline Subscriber Base of Service Providers as on 31<sup>st</sup> March, 2023**

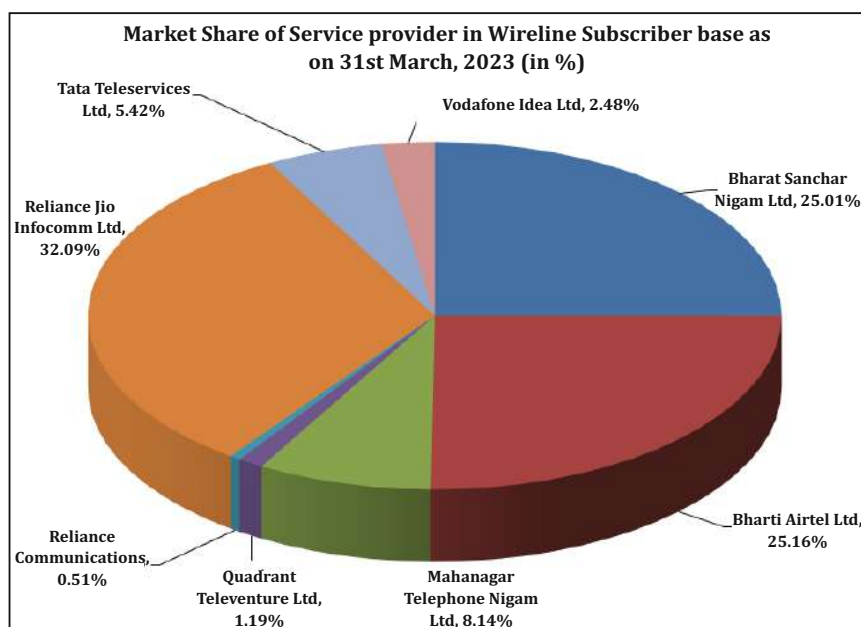
Sl.No	Name of Service Providers	Urban	Rural	# Total Subscribers (Wireline)
1	Bharat Sanchar Nigam Ltd.	50,71,047	20,34,776	71,05,823
2	Bharti Airtel Ltd.	71,47,472	-	71,47,472
3	Mahanagar Telephone Nigam Ltd.	23,12,519	34	23,12,553
4	Quadrant Televenture Ltd.	3,18,480	19,442	3,37,922
5	Reliance Communications	1,45,344	362	1,45,706
6	Reliance Jio Infocomm Ltd.	89,47,439	1,68,530	91,15,969
7	Tata Teleservices Ltd.	15,16,321	24,831	15,41,152
8	Vodafone Idea Ltd.	7,03,179	-	7,03,179
	<b>Total</b>	<b>2,61,61,801</b>	<b>22,47,975</b>	<b>2,84,09,776</b>

#Source: Provided by TSPs.

### 1.2.2.3 Share of Service Providers in Wireline subscribers

- (i) As on 31<sup>st</sup> March, 2023, 33.15% of total wireline subscribers are connected to the networks of BSNL/MTNL and the remaining wireline connections are provided by different private service provider. The market share of different service providers in total wireline subscriber base is shown in the **Figure-12**.

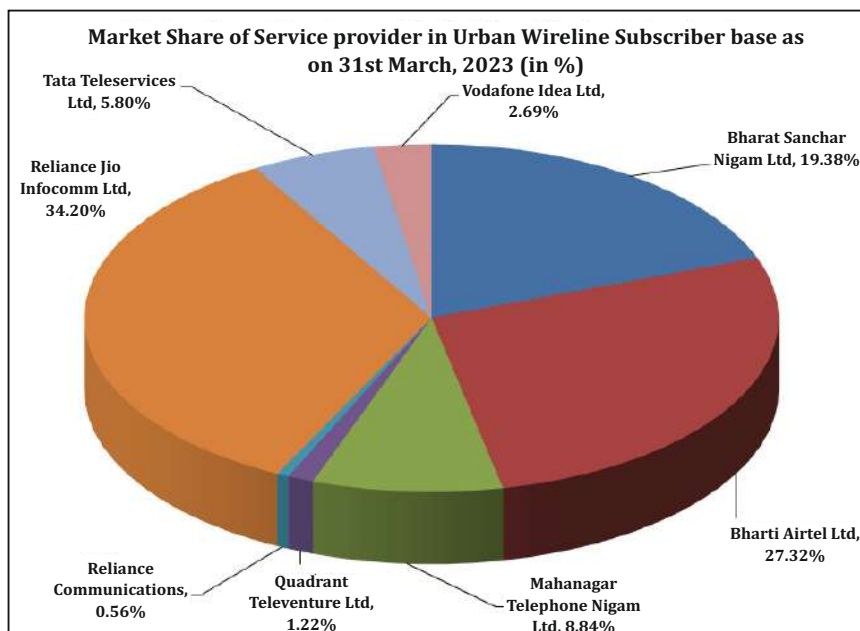
**Figure-12 : Composition of share of Service Providers**





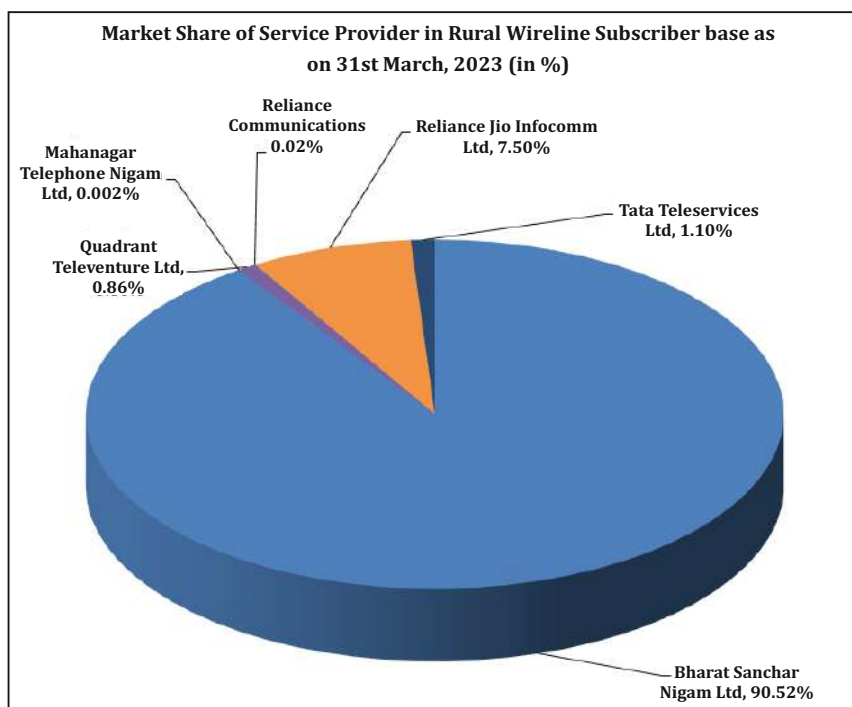
- (ii) As on 31<sup>st</sup> March, 2023, the total Urban wireline subscribers were 26.16 million, out of which about 28.22% were provided by BSNL/MTNL. The market share of different wireline service providers in urban areas is depicted in the **Figure-13**.

**Figure-13 : Composition of share of Wireline Service Providers Base in Urban areas**



- (iii) As on 31<sup>st</sup> March, 2023, the total Rural wireline subscribers were 2.25 million. The market share of different wireline service providers in rural areas is depicted in the **Figure-14**.

**Figure-14 : Composition of share of Service Providers in Rural areas**



#### 1.2.2.4 Public Call Offices (PCOs)

As on 31<sup>st</sup> March, 2023, the total number of PCOs is 0.042 million as compared to 0.066 million as on 31<sup>st</sup> March, 2022. The number of PCOs provided by BSNL, MTNL and Private Operators is indicated in **Table-13**.

**Table-13 : Public Call Offices in India**

S. No.	Name of the Service Provider	As on 31 <sup>st</sup> March, 2022	As on 31 <sup>st</sup> March, 2023
1	BSNL	45,434	32,301
2	MTNL	16,443	9,492
3	Private Operators	4,277	342
	<b>Total</b>	<b>66,154</b>	<b>42,135</b>

#### 1.2.2.5 Village Public Telephones (VPTs)

As on 31<sup>st</sup> March, 2023, the total number of Village Public Telephones (VPTs) provided by the service providers were 0.69 lakh as against 0.69 lakh as on 31<sup>st</sup> March, 2022. **Table-14** provides the number of VPTs functioning in the country.

**Table-14 : Village Public Telephones in India**

S. No.	Name of the Service Provider	As on 31 <sup>st</sup> March, 2022	As on 31 <sup>st</sup> March, 2023
1	BSNL	68,606	68,606
	<b>Total</b>	<b>68,606</b>	<b>68,606</b>

#### 1.2.2.6 Equipped Switching Capacity

As on 31<sup>st</sup> March, 2023, the service provider-wise total equipped switching capacity and working connections are shown in **Table-15**:

**Table-15 : Service Provider wise Equipped switching capacity**

Sl. No.	Name of the Service Provider	Service Area	As on 31 <sup>st</sup> March, 2023	
			# Equipped Switching Capacity (Number of Lines)	# Working Connections
1	Bharti Airtel Ltd.	Andhra Pradesh, Assam, Bihar, Delhi, Gujarat, Haryana, Himachal Pradesh, Jammu & Kashmir, Karnataka, Kerala, Kolkata, Madhya Pradesh, Maharashtra, Mumbai, Punjab, Rajasthan, Tamil Nadu (including Chennai), UP-East, UP-West and West Bengal	1,34,86,289	71,47,472

2	Bharat Sanchar Nigam Ltd.	All India except Delhi & Mumbai	1,68,71,879	71,05,823
3	Mahanagar Tele. Nigam Ltd.	Delhi & Mumbai	48,81,215	23,12,553
4	Quadrant Televentures Ltd.	Punjab	5,48,835	3,37,922
5	Reliance Communications Ltd	Andhra Pradesh, Bihar, Delhi, Gujarat, Karnataka, Kerala, Kolkata, Madhya Pradesh, Maharashtra, Mumbai, Odisha, Punjab, Rajasthan, Tamil Nadu (including Chennai), UP-East, UP-West and West Bengal	7,68,000	1,45,706
6	Reliance Jio Infocomm Ltd.	Andhra Pradesh, Assam, Bihar, Delhi, Gujarat, Haryana, Himachal Pradesh, Jammu & Kashmir, Karnataka, Kerala, Kolkata, Madhya Pradesh, Maharashtra, Mumbai, North East, Odisha, Punjab, Rajasthan, Tamil Nadu (including Chennai), UP-East, UP-West and West Bengal	2,39,28,000	91,15,969
7	Tata Teleservices Ltd. & Tata Teleservices (Maharashtra) Ltd	Andhra Pradesh, Bihar, Delhi, Gujarat, Haryana, Himachal Pradesh, Karnataka, Kerala, Kolkata, Madhya Pradesh, Maharashtra, Mumbai, Odisha, Punjab, Rajasthan, Tamil Nadu (including Chennai), UP-East, UP-West and West Bengal	35,32,559	15,41,152
8	Vodafone Idea Ltd	Andhra Pradesh, Assam, Bihar, Delhi, Gujarat, Haryana, Himachal Pradesh, Jammu & Kashmir, Karnataka, Kerala, Kolkata, Madhya Pradesh, Maharashtra, Mumbai, North-East, Odisha, Punjab, Rajasthan, Tamil Nadu (including Chennai), UP-East, UP-West and West Bengal	8,55,000	7,03,179

# Source: Provided by TSPs.

### 1.2.2.7 Internet and Broadband Subscribers

The Internet subscriber base in the country as on 31<sup>st</sup> March, 2023 stood at 881.255 million as compared to 824.888 million as on 31<sup>st</sup> March, 2022. The total broadband subscriber base of the country as on 31<sup>st</sup> March, 2023 is 846.569 million whereas it was 788.295 million on 31<sup>st</sup> March, 2022.

The details of subscription as reported by the service providers in the country as on 31<sup>st</sup> March, 2023 are indicated in **Table –16**.

**Table-16 : Details of Internet and Broadband Subscribers**

[In Million]

	Segment		Category	Internet Subscribers		%
				March, 2022	March, 2023	Growth
A.	Wired		Broadband	27.246	33.491	22.92%
			Narrowband	0.028	0.45	1528.21%
			Total	27.274	33.941	24.45%
B.	Wireless	Fixed Wireless (Wi-Fi, Wi-Max, Radio & VSAT)	Broadband	1.176	1.093	-7.07%
			Narrowband	0.006	0.008	25.43%
			Total	1.182	1.101	-6.90%
		Mobile Wireless (Phone + Dongle)	Broadband	759.873	811.985	6.86%
			Narrowband	36.559	34.228	-6.38%
			Total	796.432	846.213	6.25%
Total Internet Subscribers		Broadband	788.295	846.569	7.39%	
		Narrowband	36.593	34.686	-5.21%	
		Total	824.888	881.255	6.83%	

**1.2.2.8** Quarter-wise Internet/Broadband subscription as reported by the service providers for 2022-2023 is at **Table –17**.

**Table-17 : Quarter-wise Internet and Broadband Subscribers**

[In Million]

Service	June-22	September-22	December-22	March-23
Broadband	800.941	815.934	832.202	846.569
Narrowband	35.918	35.013	33.695	34.686
Total Internet	836.859	850.947	865.897	881.255

### 1.2.2.9 Public Mobile Radio Trunking Services (PMRTS)

The subscriber base of PMRTS increased from 66,392 at the end of 31<sup>st</sup> March, 2022 to 67,820 at the end of 31<sup>st</sup> March, 2023 registering an increase of 1,428 subscribers during the financial year 2022-23 at the rate of 2.15%. The PMRTS subscriber base, service provider-wise is indicated in the **Table-18**.

**Table-18 : PMRTS Subscriber base - Service Provider wise**

S. No.	Service Provider	Subscriber base ending	
		March, 2022	March, 2023
1	Airtalk Solutions & Services Pvt. Ltd.	525	785
2	Arya Omnitalk Radio Trunking Services Pvt. Ltd.	54,838	55,506
3	Bhilwara Telenet Services Pvt. Ltd.	926	883
4	Inative Networks Pvt. Ltd.	1,820	1,820
5	Procall Ltd.	3,510	4,246
6	QuickCall	2,033	1,836
7	Smartalk Pvt Ltd.	1,699	1,691
8	Wiwonet Solutions Pvt. Ltd	1,041	1,053
	<b>Grand Total</b>	<b>66,392</b>	<b>67,820</b>

### 1.2.2.10 Very Small Aperture Terminal (VSAT) CUG Service

The total number of VSAT subscribers decreased from 2,79,333 at the end of 31<sup>st</sup> March, 2022 to 2,56,170 at the end of 31<sup>st</sup> March, 2023. Net decrease during the year has been 23,163 at the decline rate of 8.29%. The VSAT Service Providers currently providing service and their subscriber base is indicated in **Table-19**.

**Table-19 : VSAT CUG Service Providers currently providing service and their Subscriber base**

S. No.	Service Provider	Subscriber base ending	
		March, 2022	March, 2023
1.	Hughes Communications Ltd.	1,94,823	1,76,150
2.	Nelco Ltd.	74,710	70,750
3.	BSNL	7,122	6,556
4.	Infotel Satcom	2,565	2,707
5.	HCL Comnet (*)	63	-
6.	Cloudcast Digital Ltd	50	7
	<b>TOTAL</b>	<b>2,79,333</b>	<b>2,56,170</b>

Source: As reported by telecom service providers to TRAI.

(\*) M/s HCL Comnet Ltd stopped providing commercial VSAT Services in September, 2022.

### 1.2.3 Entry of Private Sector in basic and value-added service

**1.2.3.1** UL (Virtual Network Operators) (VNO) Access Services licensees who are providing services as on 31<sup>st</sup> March, 2023 are depicted in **Table-20**.

**Table-20 : UL Virtual Network Operators Licensees with access services authorization providing wireless services as on 31<sup>st</sup> March, 2023**

S.No	Service Providers	Licensed Service Area
1	ADPAY Mobile Payment India Pvt. Ltd.	Tamil Nadu including Chennai
2	Surf Telecom Pvt. Ltd. (Formerly Plintron India Pvt. Ltd.)	All India

Source: As reported by Service Providers.

**UL/ UASL/UL(VNO) Access Services licenses who are providing services as on 31<sup>st</sup> March, 2023**

S.No	Type of Licence	*Total No. of Licensees issued as on 31 <sup>st</sup> , March, 2023	*No. of Licenses issued during FY 2022-23
1	UL	42	17
2	UASL	06	0
3	UL(VNO)	196	51

\* Data collected from DoT website.

### 1.2.4 Technical compatibility and effective interconnection with service providers

**1.2.4.1** Interconnection is an important factor of telecommunication services as subscribers of telecommunication services cannot communicate with each other or connect with services they require unless necessary interconnection arrangements are in place. Ensuring an effective and expeditious interconnection plays an important role in the growth of the telecommunication services sector. During the financial year i.e., 2020-21, the Authority has notified the "Telecommunication Interconnection (Second Amendment) Regulations, 2020" on 10<sup>th</sup> July, 2020, thereby setting the guidelines for making the interconnection easier between any two Public Switched Telephone Network (commonly referred to as the Fixed Line Networks), and between Public Telephone Network (PSTN) and National Long Distance (NLD) Network.

The details of these Regulations are available in Part-II of the Report.

### 1.2.5 Telecommunication Technology

Following technological measures were taken by the Authority to enhance the outreach and interaction of the Authority with the Telecom Consumers:

#### i. Comprehensive IT Ecosystem for Data Reporting, Analytics and Process Automation:

TRAI is in the process of implementation of application based integrated system for data reporting, compliance, analytics and process automation with report analysis and publication. Towards this a consultant will be engaged for preparation of a detailed project report, based on which an integrated system will be developed.



**ii. Empanelment of Application Service Provider for providing ICT based solutions to TRAI:**

To cater to the needs of various divisions of TRAI, IT Division is in the process of empanelment of Application Service Providers for providing various ICT based solutions to TRAI.

**iii. eHRMS:**

TRAI has implemented an IT application for automating HR related activities. The application is developed by NIC. Out of various modules, service book, leave, reimbursement (newspaper & child education allowance), helpdesk and analytics dashboard has been implemented.

**iv. SPARROW:**

In TRAI for automation of Annual Performance Appraisal activities, an application named as SPARROW (Smart Performance Appraisal Report Recording Online Window) developed by NIC has been approved.

**v. Reporting Automation:**

Data reporting to TRAI by various stakeholders in compliance of Regulation/Directions is a regular activity. A system to collect data online from stakeholders is in place. The system has been updated to ease data submission by including new reports, UI changes and security enhancements.

**vi. TRAI Recommendation Status Portal:**

The Authority from time to time makes recommendations to the Government of India for Telecom and Broadcasting Sector. A portal has also been created to track the status of a recommendation, with an access provided to TRAI and the Government. The portal has been updated to capture additional details of status like uploading of reference documents, UI changes and security enhancements. The status is being monitored through an analytical dashboard.

**vii. Legal Case Management Software:**

Legal Cases Management System has been implemented to cater to the needs of Legal Division for fetching all case details from Lower Court, Consumer Court, District Court, TDSAT, Green Tribunal, High Courts, and Supreme Court, etc. wherein TRAI was made party, maintain details entered by the legal division, give alerts before any case hearing, maintain month-wise hearing calendar, generate various reports, have dashboard to monitor progress on cases, etc.

**viii. Cloud Management and Maintenance of Apps & Portals:**

TRAI has implemented various portals and apps. The portals and back-end services are hosted on Cloud. Maintenance of all the portals/apps are being done at the level of cloud infrastructure & application. The necessary actions have been taken to secure them from cyber-attack based on alerts received from NIC, CERT-IN and other organizations.

**ix. Infrastructure Upgradation:**

- a. To strengthen the infrastructure, TRAI has upgraded Unified Threat Management (UTM) firewall, as UTM is the primary wall / single point of protection against threats, including viruses, worms, spyware and other malware, and network attacks. It combines security, performance, management, and compliance capabilities into a single installation, making it easier for administrators to manage networks.

- b. For efficient working, the desktops are very essential IT Infrastructure for any organization, hence, IT Division has initiated the procurement of 104 desktops for various divisions of TRAI.
- c. For digital signature purpose in the e-Office, 115 DSC have been procured for various levels in TRAI.
- d. IT team is also finalizing with IT infrastructure requirement for new building. For smooth planning and implementation of IT infrastructure, IT division is interacting with various consultants to finalize state of the art IT infrastructure, which will be future ready.
- e. For smooth functioning of all the services in TRAI, the timely monitoring of various licenses i.e., Tableau, Adobe Acrobat, MS Office 365, SSL Certificate, etc. are being carried out and upon expiry of the same, the necessary renewal is being carried out.

### 1.2.6. Implementation of National Telecom Policy

**1.2.6.1** The Department of Telecommunications (DoT) through its letter dated 8<sup>th</sup> May, 2019, inter-alia, informed that the National Digital Communications Policy (NDCP), 2018 released by the Government of India under its “Propel India” mission envisages one of the strategies as “Reforming the licensing and regulatory regime to catalyse Investments and Innovation and promote Ease of Doing Business”. Enabling unbundling of different layers (e.g., infrastructure, network, services, and application layer) through differential licensing is one of the action plans for fulfilling the afore-mentioned strategy. Through the said letter dated 8<sup>th</sup> May, 2019, DoT, inter alia, requested TRAI to furnish recommendations on enabling unbundling of different layers through differential licensing. After a detailed consultation process, on 19<sup>th</sup> August, 2021, the Authority submitted its recommendations on “Enabling Unbundling of Different Layers Through Differential Licensing”. DoT, through its letter dated 2<sup>nd</sup> August, 2022 sent its back reference to the said Recommendations. After reconsidering the views expressed by DoT, response to the back reference was sent to DoT on 6<sup>th</sup> September, 2022.

### 1.2.7 Quality of Service (QoS)

**1.2.7.1** During the year 2022-23, the focus of monitoring of Quality of Service and disseminating information on QoS had undergone a change with more focus on technology-based solutions.

Details are given in Part-II of the Report.

### 1.2.8 Universal Service Obligation

**1.2.8.1** As per the Indian Telegraph Act 1885 (as amended in 2003 and 2006), Universal Service Obligation is defined as access to telegraph services to people in rural and remote areas at affordable and reasonable prices. In the present context, it may be said that Universal Service Obligation means providing telecommunication service to all users everywhere with a defined minimum service of specified quality at an affordable price.

Keeping this objective in mind, Universal Service Obligation Fund (USOF) was established on 1<sup>st</sup> April, 2002 under the Indian Telegraph (Amendment) Act 2003 (further amended in 2006), to provide financial support for the provision of telecom services in commercially unviable rural and remote areas of the country.

The Government has launched many schemes using Universal Service Obligation Fund (USOF) for proliferation of the broadband and improving internet access to common people.

Considering the poor telecom connectivity situation in four districts of Himachal Pradesh namely Lahaul & Spiti, Chamba, Kullu and Mandi, TRAI has suo-moto initiated a consultation process with the relevant stakeholders viz. Department of Information Technology (DIT) of the Govt. of HP, Local State Government Officials, Telecom Service Providers, Bharat Broadband Network Limited (BBNL) and local consumer representatives. Based on the comments/inputs received from Stakeholders and its own analysis, the Authority made its recommendations on “Improving Telecom Connectivity/ Infrastructure in far-flung areas of Himachal Pradesh” on 12<sup>th</sup> December, 2022, which was sent to the Government for its consideration.

## (C) REVIEW OF GENERAL ENVIRONMENT IN THE BROADCASTING AND CABLE TV SECTOR

- (i) The Broadcasting sector consists of Television and Radio Services. The Television services are delivered through cable TV services, DTH services, HITS services and IPTV services. In addition, terrestrial TV network of Prasar Bharti (through Doordarshan) provides services in some areas. As per an industry report, the TV universe consists of approximately 64 million cable TV households, 2 million HITS subscriber. In addition, as reported by the pay DTH operators to TRAI, there were 65.25 million pay DTH total active subscribers as on 31<sup>st</sup> March, 2023. Further, reported subscriber base by the IPTV Operator was 6,47,596 as on 31<sup>st</sup> March, 2023.
- (ii) The TV broadcasting sector encompasses approximately 332 broadcasters providing 903 private satellite TV channels as on 31<sup>st</sup> March, 2023. These television channels include 254 SD Pay TV channels and 104 HD Pay TV channels provided by 43 Pay television broadcaster. Further, there were 1748 (Multi System Operators (MSOs) registered with Ministry of Information and Broadcasting (MIB), 1 HITS operator, 4 pay DTH operators and 25 IPTV operators. Further, as per the information provided by MIB, there were 81,706 cable operators registered in the country.
- (iii) There were approximately 903 private satellite TV channels permitted by MIB as on 31<sup>st</sup> March, 2023.
- (iv) India's television industry stands at ₹ 70,900 crore in the year 2022 as compared to ₹ 72,000 crore in the year 2021, thereby registering a decline of around 1.5%. Subscription revenues account for a major share of the overall industry revenue. Subscription revenue has decreased from ₹ 40,700 crore in the year 2021 to ₹ 39,200 crore in the year 2022. Further, advertisement revenue has increased from ₹ 31,300 crore in the year 2021 to ₹ 31,800 crore in the year 2022.
- (v) As reported by the private FM Radio broadcasters to TRAI, there were 388 private FM radio stations operational as on 31<sup>st</sup> March, 2023, besides the public service broadcaster - All India Radio (AIR). As far as the data relating to Community Radio Stations is concerned, and as per the information provided by the MIB, out of the 571 licenses issued as on 31<sup>st</sup> March, 2023 for the setup of such stations, 427 Community Radio Stations were operational. The reported advertisement revenues by the private FM Radio broadcasters have increased from ₹ 1227.15 crore in the year 2021-22 to ₹ 1547.13 crore in the year 2022-23.

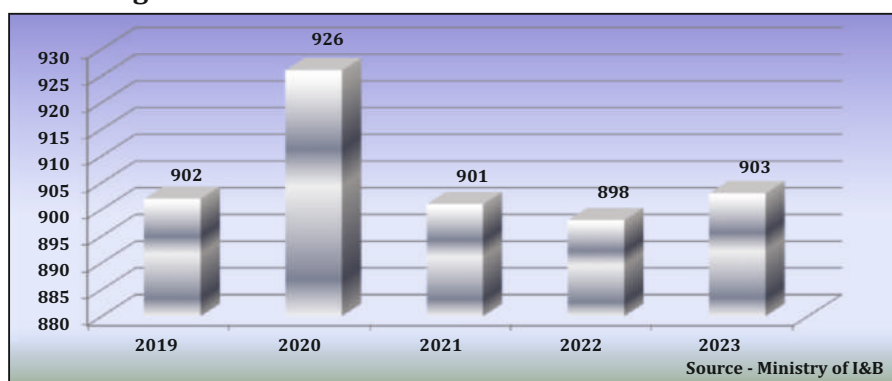
**1.3** The sector comprises of cable TV services, DTH services, terrestrial TV services, HITS services, IPTV services, and radio broadcasting services. The FM Radio broadcasting is also the most popular and pervasive medium to provide entertainment, information, and education to the masses. The present status of various services in the broadcasting sector is outlined below:

### 1.3.1 Satellite TV Channels

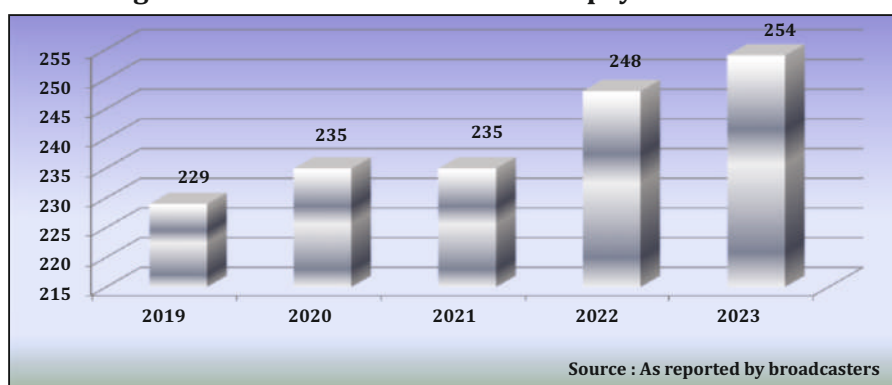
The total number of Satellite TV channels permitted by the Ministry of Information and Broadcasting has increased substantially from 902 at the end of March 2019 to 903 at the end of March, 2023. **Figure-15** depicts year wise total number of TV channels during this period. The number of Standard Definition (SD) Pay TV channels has grown from 229 at the end of March, 2019 to 254 at the end of March, 2023. **Figure-16** depicts year wise total number of SD Pay TV

channels during this period. **Figure-17** depicts the year wise number of HD channels reported during this period. At the end of March, 2023, there were a total of 104 operational HD Pay TV channels. A list of broadcasters & their Pay TV channels (SD & HD) is at **Annexure-I** as a part of this report.

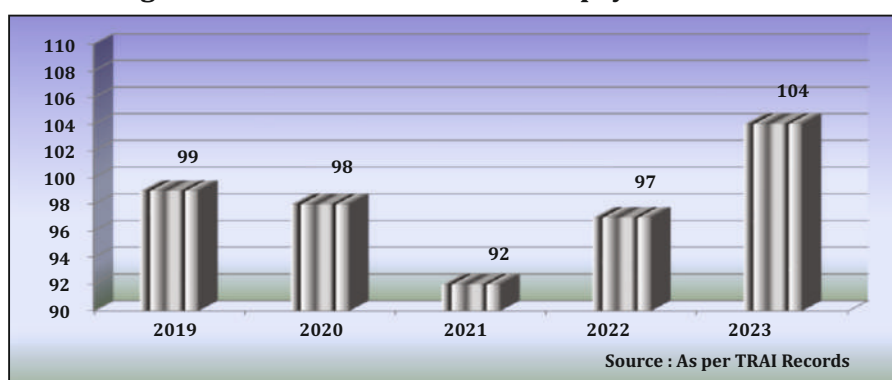
**Figure-15 : Number of satellite TV channels in India**



**Figure-16 : Numbers of SD satellite pay TV channels**



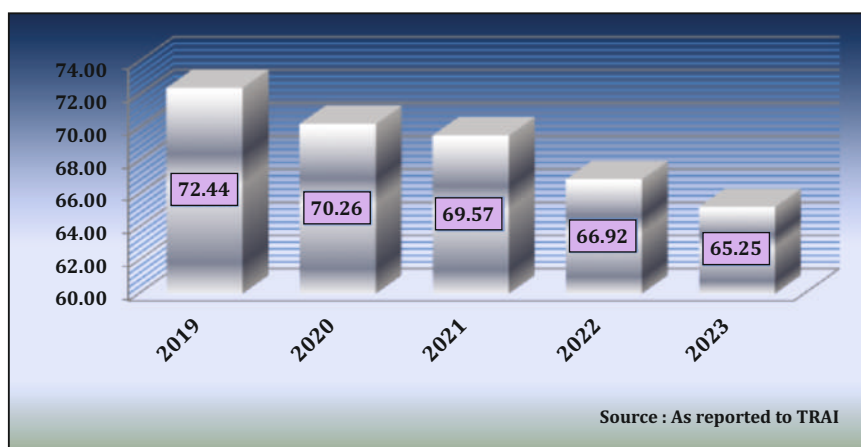
**Figure-17 : Number of HD satellite pay TV channels**



### 1.3.2 DTH services

Since its introduction in the year 2003, Indian DTH service has displayed a phenomenal growth. As reported by the pay DTH operators to TRAI, Pay DTH attained total active subscriber base of around 65.25 million at the end of March, 2023. This is in addition to the subscribers of the DD Free Dish (free DTH services of Doordarshan). At the end of March, 2023, there were 4 pay DTH service providers catering to this subscriber base. A list of Pay DTH operators is placed at **Annexure-II**. Yearly growth of the sector in terms of its net active subscriber base is depicted in **Figure-18**.

**Figure-18 : Total active subscriber base of pay DTH sector  
(in Million)**



Apart from an increase in the availability of conventional TV channels, the Pay DTH operators have continued to add several innovative offerings and value-added services (VAS) such as movie-on-demand, gaming, shopping, education, etc.

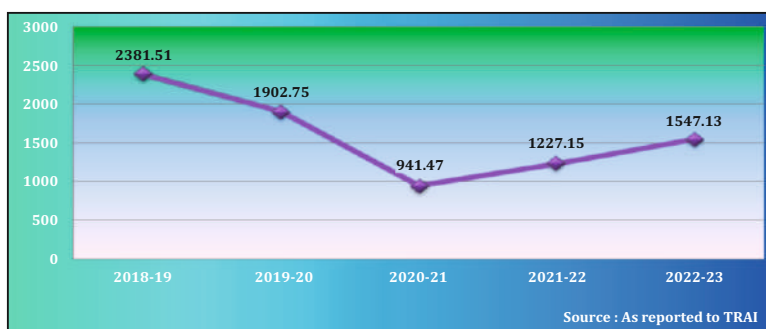
### 1.3.3 FM Radio

Radio is a popular means for mass communication, owing largely, to its wide coverage, portability, low set-up cost and affordability. In India, Radio coverage is available in the Short-wave (SW) and Medium-wave (MW) bands in the Amplitude Modulation (AM) mode and also Frequency Modulation (FM) mode. FM Radio broadcasting today, is the most popular and pervasive medium to provide entertainment, information and education to the masses. As reported by the private FM Radio broadcasters to TRAI, there were 388 private FM radio stations operational as on 31<sup>st</sup> March, 2023, besides the terrestrial network of the public service broadcaster - All India Radio (AIR).

As on 31<sup>st</sup> March, 2023, as per the reporting done by FM Radio broadcasters to TRAI, there were 388 FM Radio stations have been made operational in 113 cities by 36 private FM broadcaster. Introduction of private FM broadcasters in the radio broadcasting sector has significantly enhanced radio coverage while providing good quality reception and content to listener. This has also led to encouraging local talent as well as enhancing employment opportunities in these areas. The reported advertisement revenues by the private FM Radio broadcasters to TRAI was ₹ 1547.13 crore in the year 2022-23. The year-wise total advertisement revenue of private FM Radio stations is depicted in **Figure-19**.



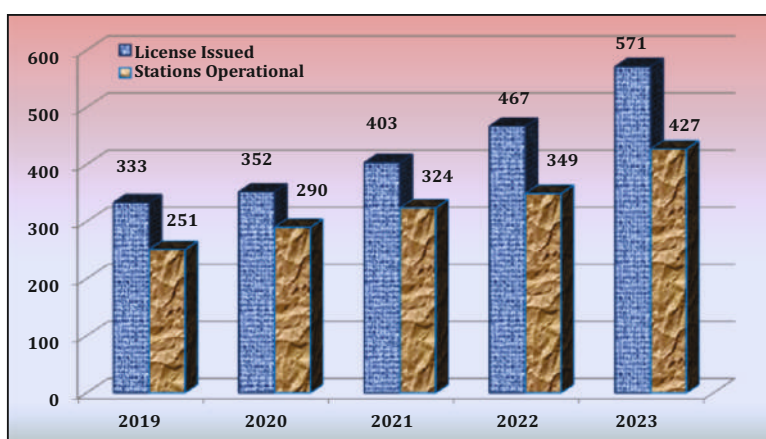
**Figure-19 : FM Radio Advertisement Revenue**  
(Rs. in crore)



### 1.3.4 Community Radio

Another area of growth in the radio landscape is the expansion in the number of Community Radio Stations (CRS) in the country. There is huge latent potential in CRS, given the vast landscape of this country, linguistic diversity regional flavours and cultural variations. Community Radio broadcasting can serve as a medium for networking of small groups and communities with a specific focus on daily concerns of the common man and also help them realize local aspirations. CRS are set up in association with educational institutions and civil society organizations. As on 31<sup>st</sup> March, 2023, 427 community radio stations were operational. The annual growth in the number of community radio stations is depicted in **Figure-20**.

**Figure-20 : Number of Community Radio Stations**



Overall status of the broadcasting and cable services sector in the country is placed in the **Table-21**.

**Table-21 : Overall status of the Broadcasting and Cable services sector**  
(as on 31<sup>st</sup> March, 2023)

Number of Broadcasters permitted by MIB (approximately)	332
Number of Multi System Operators registered with MIB.	1748
Number of Local Cable operators (as per MIB)	81,706
Number of pay DTH Operators	4
Number of satellite TV Channels registered with MIB (approximately)	903
Number of SD Pay TV Channels	254
Number of HD TV Channels	104
Number of FM Radio Stations (excluding All India Radio)	388
Number of Operational Community Radio Stations	427

List of pay TV channels as on 31<sup>st</sup> March, 2023

Sl. No.	Name of the Broadcaster	Sl. No	Name of the Channel	Declared as SD or HD
1	AETN 18 Media Pvt Limited	1	The History Channel	SD
		2	History TV 18 HD	HD
2	Asianet Star Communications Private Limited	3	Vijay TV	SD
		4	Vijay Super	SD
		5	Vijay HD	HD
		6	Vijay Takkar (Vijay Music)	SD
		7	Asianet	SD
		8	Asianet Plus	SD
		9	Asianet Movies	SD
		10	Suvarna Plus	SD
		11	Star Suvarna HD	HD
		12	Asianet HD	HD
		13	Star Suvarna	SD
		14	Vijay Super HD	HD
		15	Asianet Movies HD	HD
3	Bangla Entertainment Private Limited	16	SONY AATH	SD
		17	SONY Marathi	SD
4	BBC Global News India Private Limited	18	BBC World News	SD
		19	Cbeebies	SD
5	Bennett, Coleman & Company Limited	20	Zoom	SD
		21	Romedy Now	SD
		22	MN + (HD)	HD
		23	Mirror Now	SD
		24	ET NOW	SD
		25	Times Now	SD
		26	Times Now Navbharat HD	HD
		27	Movies Now HD	HD
		28	MNX HD	HD
		29	ET Now Swadesh	SD
		30	MNX	SD
		31	Times Now World (HD)	HD
6	Celebrities Management Pvt Limited	32	Travel XP HD	HD
		33	Travel XP Tamil	SD
		34	Foodxp	SD
7	CSL Info Media Private Limited	35	JAN TV PLUS	SD
8	Direct New Private Limited	36	News X	SD
9	Discovery Communications India	37	Animal Planet	SD
		38	Discovery Channel	SD
		39	Discovery TAMIL	SD

Sl. No.	Name of the Broadcaster	Sl. No	Name of the Channel	Declared as SD or HD
		40	Discovery Kids Channel	SD
		41	Discovery Science	SD
		42	Discovery Turbo	SD
		43	Investigation Discovery	SD
		44	Discovery HD	HD
		45	Animal Planet HD	HD
		46	TLC HD	HD
		47	Investigation Discovery HD	HD
		48	TLC	SD
		49	EUROSPORT HD	HD
10	Disney Broadcasting (India) Limited	50	EUROSPORT	SD
		51	Disney Junior	SD
		52	Super Hungama (Marvel HQ)	SD
		53	Disney International HD	HD
		54	Hungama TV	SD
		55	The Disney Channel	SD
		56	UTV Bindass	SD
		57	The Disney Channel HD	HD
11	Eenadu Television Private Limited	58	ETV Telegu	SD
		59	ETV Andhra Pradesh	SD
		60	ETV - Telangana	SD
		61	ETV Cinema	SD
		62	ETV Life	SD
		63	ETV Plus	SD
		64	ETV Abhiruchi	SD
		65	ETV HD	HD
		66	ETV Plus HD	HD
		67	ETV Cinema HD	HD
		68	ETV Balbharat Telugu	SD
		69	ETV Balbharat Hindi	SD
		70	ETV Balbharat Kannada	SD
		71	ETV Balbharat Malayalam	SD
		72	ETV Balbharat Tamil	SD
		73	ETV Balbharat English	SD
		74	ETV Balbharat HD	HD
		75	ETV Balbharat SD	SD
12	IN 10 Media Private Limited	76	EPIC TV	SD
		77	Filamchi	SD
		78	Gubbare	SD
		79	Showbox	SD
		80	Ishara TV	SD

Sl. No.	Name of the Broadcaster	Sl. No	Name of the Channel	Declared as SD or HD
13	Information TV Private Limited	81	India News	SD
14	Fame Media Private Limited	82	4tv News	SD
15	Greycells18 Media Limited	83	Topper TV	SD
16	IBN Lokmat News Private Ltd	84	News 18 Lokmat	SD
17	Living Entertainment Enterprises Private Ltd	85	ZEE ZEST HD	HD
		86	LF HD	HD
18	Lifestyle and Media Broadcasting Limited	87	Good Times	SD
19	Lex Sportel Vision Private Limited	88	1SPORTS	SD
20	Mavis Satcom Limited	89	J Movies	SD
		90	Jaya Max	SD
		91	Jaya Plus	SD
		92	Jaya TV HD	HD
21	MSM World Wide Factual Media Private Limited	93	SONY BBC EARTH	SD
		94	SONY BBC EARTH HD	HD
22	Media World Wide Limited	95	Travel XP	SD
23	New Delhi Television Limited	96	NDTV 24*7	SD
		97	NDTV India	SD
		98	NDTV Profit	SD
24	NGC Network (India) Pvt Limited	99	Fox Life	SD
		100	National Geographic Channel (NGC)	SD
		101	Fox Life HD	HD
		102	Nat Geo Wild	SD
		103	National Geographic HD	HD
		104	Nat Geo Wild HD	HD
25	Tarang Broadcasting Company Limited	105	Prarthana	SD
		106	Tarang	SD
		107	Tarang Music	SD
		108	Alankar	SD
26	Odisha Television Limited	109	Tarang HD	HD
27	Raj Television Network Limited	110	Raj Digital Plus	SD
		111	Raj Musix	SD
		112	Raj News	SD
		113	Raj TV	SD
28	Silverstar Communications Limited	114	Mega 24	SD
		115	Mega Musiq	SD
		116	Mega TV	SD
29	Culver Max Entertainment Private Limited	117	Sony YAY!	SD
		118	SONY MAX	SD
		119	SONY SAB	SD
		120	SONY ENTERTAINMENT CHANNEL (SET)	SD
		121	SONY PIX	SD

Sl. No.	Name of the Broadcaster	Sl. No	Name of the Channel	Declared as SD or HD
		122	SONY MAX 2	SD
		123	SONY PAL	SD
		124	SONY ENTERTAINMENT CHANNEL HD	HD
		125	PIX HD	HD
		126	MAX HD	HD
		127	SONY Sports Ten 2 HD	HD
		128	SONY Sports Ten 3 HD	HD
		129	SONY Sports Ten 2	SD
		130	SONY Sports Ten 1	SD
		131	SONY Sports Ten 3	SD
		132	SONY Sports Ten 1 HD	HD
		133	SONY Wah	SD
		134	SAB HD	HD
		135	SONY Sports Ten 4	SD
		136	SONY Sports Ten 4 HD	HD
		137	SONY Sports Ten 5	SD
		138	SONY Sports Ten 5 HD	HD
30	Star India Private Limited	139	Star Sports 3	SD
		140	Star Sports 1 Tamil	SD
		141	Star Sports Select 2	SD
		142	Star Bharat	SD
		143	Star Gold 2 (Movies OK)	SD
		144	Star Sports 1 Hindi	SD
		145	Star Gold	SD
		146	Star Jalsha	SD
		147	Star Movies	SD
		148	Star Gold Select	SD
		149	Star Plus	SD
		150	Star Pravah	SD
		151	Star Sports 1	SD
		152	Star Sports 2	SD
		153	Jalsha Movies	SD
		154	Star Sports HD 2	HD
		155	Star Sports HD 1	HD
		156	Star Bharat HD	HD
		157	Star Gold HD	HD
		158	Star Movies HD	HD
		159	Star Plus HD	HD
		160	Star Sports 1 HD Hindi	HD
		161	Star Sports Select 1	SD
		162	Star Movies Select HD	HD
		163	Star Sports First	SD



Sl. No.	Name of the Broadcaster	Sl. No	Name of the Channel	Declared as SD or HD
		164	MAA Gold	SD
		165	MAA Movies	SD
		166	MAA Music	SD
		167	MAA TV	SD
		168	Star Pravah HD	HD
		169	Star Jalsha HD	HD
		170	Jalsha Movies HD	HD
		171	Star Sports Select HD 1	HD
		172	Star Sports Select HD 2	HD
		173	MAA HD	HD
		174	Star Gold Select HD	HD
		175	MAA Movies HD	HD
		176	Star Sport 1 Telugu	SD
		177	Star Sport 1 Kannada	SD
		178	Star Utsav	SD
		179	Star Utsav Movies	SD
		180	Star Gold Romance	SD
		181	Star Gold Thrills	SD
		182	Pravah Pictures	SD
		183	Star Kiran	SD
		184	Star Movies Select	SD
		185	Star Gold 2 HD	HD
		186	Star Sports 1 Tamil HD	HD
		187	Star Sports 1 Telugu HD	HD
		188	Star Kiran HD	HD
		189	Pravah Pictures HD	HD
31	SUN TV Network Limited	190	Adithya TV	SD
		191	Chintu TV	SD
		192	Chutti TV	SD
		193	Gemini Comedy	SD
		194	Gemini Life	SD
		195	Gemini Movies	SD
		196	Gemini Music	SD
		197	Gemini TV	SD
		198	KTV	SD
		199	Surya Movies	SD
		200	Kushi TV	SD
		201	SUN Life	SD
		202	Sun Music	SD
		203	Sun News	SD
		204	Surya Music	SD
		205	SUN TV	SD

Sl. No.	Name of the Broadcaster	Sl. No	Name of the Channel	Declared as SD or HD
		206	Surya Comedy	SD
		207	Surya TV	SD
		208	Udaya Comedy	SD
		209	Udaya Movies	SD
		210	Udaya Music	SD
		211	Udaya TV	SD
		212	Kochu TV	SD
		213	Sun TV HD	HD
		214	KTV HD	HD
		215	Sun Music HD	HD
		216	Gemini TV HD	HD
		217	Gemini Music HD	HD
		218	Gemini Movies HD	HD
		219	Surya TV HD	HD
		220	Udaya TV HD	HD
32	Suryansh Broadcasting Private Limited	221	Flowers	SD
33	Warner Media India Private Limited	222	Cartoon Network	SD
		223	CNN International	SD
		224	POGO	SD
		225	Cartoon Network HD+	HD
34	TV 18 Broadcast Limited	226	CNN News 18	SD
		227	CNBC Bazaar	SD
		228	CNBC TV 18 Prime HD	HD
		229	CNBC Awaaz	SD
		230	News 18 Tamil Nadu	SD
		231	News 18 Kerala	SD
		232	News 18 Assam / North East	SD
		233	News 18 India	SD
		234	CNBC TV 18	SD
		235	News 18 Bihar Jharkhand	SD
		236	News 18 Madhya Pradesh / Chhattisgarh	SD
		237	News 18 Rajasthan	SD
		238	News 18 Uttar Pradesh / Uttaranchal	SD
		239	News 18 Jammu/Kashmir / Ladakh/Himachal	SD
		240	News 18 Kannada	SD
		241	News 18 Bangla	SD
		242	News 18 Punjab / Haryana	SD
		243	News 18 Gujarati	SD
		244	News 18 Odia	SD

Sl. No.	Name of the Broadcaster	Sl. No	Name of the Channel	Declared as SD or HD
35	TV Today Network Limited	245	Aaj Tak	SD
		246	India Today	SD
		247	AAJ Tak HD	HD
		248	Good News Today	SD
36	Viacom 18 Media Private Limited	249	Colors	SD
		250	Comedy Central (HD)	HD
		251	MTV	SD
		252	NICK	SD
		253	NICK JR	SD
		254	SONIC	SD
		255	VH 1 (HD Distribution)	HD
		256	Colors Infinity HD	HD
		257	Colors Infinity	SD
		258	Colors HD	HD
		259	NICKS HD+	HD
		260	Colors Cineplex	SD
		261	MTV Beats	SD
		262	Colors Kannada HD	HD
		263	Colors Marathi HD	HD
		264	Colors Bangla HD	HD
		265	Colors Super	SD
		266	Colors Cineplex Bollywood	SD
		267	Sports18 1	SD
		268	Sports 18 1 HD	HD
		269	Colors Bangla	SD
		270	Colors Gujarati	SD
		271	Colors Kannada	SD
		272	Colors Marathi	SD
		273	Colors Odia	SD
		274	MTV Beats HD	HD
		275	Colors Tamil	SD
		276	Colors Cineplex HD	HD
		277	VH 1	SD
		278	Colors Tamil HD	HD
		279	MTV HD	HD
		280	Colors Rishtey	SD
		281	Colors Kannada Cinema	SD
		282	Colors Gujarati Cinema	SD
		283	Comedy Central	SD
		284	Colors Bangla Cinema	SD
		285	Colors Cineplex Superhit	SD
37	Zee Akaash News Private Limited	286	Zee 24 Ghanta	SD

Sl. No.	Name of the Broadcaster	Sl. No	Name of the Channel	Declared as SD or HD
38	Zee Entertainment Enterprises Limited	287	Zee Bollywood	SD
		288	Zee Action	SD
		289	Zee Bangla Cinema	SD
		290	Zee Café HD	HD
		291	Zee Café	SD
		292	Zee Cinema	SD
		293	Zee Talkies	SD
		294	Zee TV	SD
		295	Zing	SD
		296	& Picture	SD
		297	Zee Bangla	SD
		298	Zee Marathi	SD
		299	Zee Zest	SD
		300	Zee TV HD	HD
		301	Zee Cinema HD	HD
		302	& TV	SD
		303	& TV HD	HD
		304	Zee Kannada	SD
		305	Zee Telugu	SD
		306	& Pictures HD	HD
		307	Zee Cinemalu	SD
		308	Zee Yuva	SD
		309	Zee Marathi HD	HD
		310	& Prive HD	HD
		311	Zee Bangla HD	HD
		312	Zee Tamil HD	HD
		313	Zee Cinemalu HD	HD
		314	Zee Telugu HD	HD
		315	Zee Tamil	SD
		316	Zee Kannada HD	HD
		317	Zee Anmol Cinema	SD
		318	& Flix HD	HD
		319	& Flix	SD
		320	Zee Keralam HD	HD
		321	Zee Keralam	SD
		322	Zee Anmol	SD
		323	Big Magic	SD
		324	Zee Ganga	SD
		325	Zee Classic	SD
		326	&Xplore HD	HD
		327	ZEE Sarthak	SD
		328	Zee Talkies HD	HD

Sl. No.	Name of the Broadcaster	Sl. No	Name of the Channel	Declared as SD or HD
		329	Zee Punjabi	SD
		330	Zee Thirai	SD
		331	Zee Picchar	SD
		332	Zee Thirai HD	HD
		333	Zee Picchar HD	HD
		334	Zee Biskope	SD
39	Zee Media Corporation Limited	335	Zee 24 Taas	SD
		336	Zee Delhi NCR Haryana (Zee Odisha)	SD
		337	Zee Business	SD
		338	Zee Punjab Haryana Himachal	SD
		339	Zee Madhya Pradesh Chhattisgarh	SD
		340	Zee Salaam	SD
		341	Zee 24 Kalak	SD
		342	WION	SD
		343	Zee Uttar Pradesh Uttarakhand	SD
		344	Zee Hindustan	SD
		345	Zee Bihar Jharkhand	SD
		346	Zee News	SD
		347	Zee Rajasthan News	SD
		348	Zee News HD	HD
40	Zoom Entertainment Network Limited	349	Movies Now	SD
41	Sidharth Broadcasting Private Limited	350	Sidharth TV	SD
		351	Jay Jagannath	SD
42	Sarthak Music Private Limited	352	Sidharth Bhakti	SD
		353	Sidharth Gold	SD
43	Kalaighar TV Pvt Limited	354	Kalaighar TV	SD
		355	Kalaighar Isai Aruvi	SD
		356	Kalaighar Siripolli	SD
		357	Kalaighar Murasu	SD
		358	Kalaighar Seithigal	SD

**Annexure-II**

**List of Pay DTH Operators**

<b>S.No</b>	<b>DTH Operator</b>
1.	M/s. Tata Play Ltd
2.	M/s Dish TV India Ltd
3.	M/s SUN Direct TV Private Ltd
4.	M/s Bharti Telemedia Ltd.



## PART - II

### REVIEW OF WORKING AND OPERATION OF THE TELECOM REGULATORY AUTHORITY OF INDIA



## REVIEW OF WORKING AND OPERATION OF THE TELECOM REGULATORY AUTHORITY OF INDIA

- 2.1** Part-I of the Report gave an overview of the general environment prevailing in the Telecom, TV broadcasting and radio services during 2022-23. In line with the mandate given under the TRAI Act, TRAI has played a catalytic role in the development of the telecom, broadcasting, and cable services. TRAI endeavours to provide a fair and transparent environment that encourages competition and promotes a level-playing field for all service providers while protecting the interest of consumers.
- 2.2** Under Section 36 of the TRAI Act 1997, the Authority may, by notification, make regulations consistent with this Act and the rules made thereunder to carry out the purposes of this Act. Further, Under Section 39 of the TRAI Act 1997, if any difficulty arises in giving effect to the provisions of this Act, the Central Government may, by order, published in the Official Gazette, make such provisions not inconsistent with the provisions of this Act as may appear to be necessary for removing this difficulty.
- 2.3** To formulate recommendations and suggest policy initiatives, TRAI interacts with various stakeholders such as the service providers, industry organizations, Consumer Advocacy Groups (CAGs) / Consumer Organizations and other experts in the field. It has developed a robust practice of consultation process, which allows participation of all the stakeholders and the general public and ensures transparency while framing recommendations. This process involves floating of a Consultation Paper highlighting the issues involved and soliciting the views of the stakeholders on the issues, holding Open House Discussion (OHD) Meetings arranged online or in physical mode in different cities in the country, inviting written comments on e-mail and through letters, and having interactive sessions with stakeholders and experts to obtain different views and clarifications on policy issues. The Regulations/ Orders issued by TRAI also contain an Explanatory Memorandum which explains the basis on which the decisions are taken. The participative and transparent process adopted by TRAI has received wide acclaim.
- 2.4** TRAI also interacts with the consumer organizations/Non-Government Organizations (NGO) in the Telecom and Broadcasting sectors to obtain their views. It has a system of registering consumer organizations/NGOs connected with telecom services and interact with them at regular intervals. TRAI is constantly adopting measures for strengthening the consumer organizations. It also organizes Seminars and Workshops with the participation of International Experts on various technical issues and invites stakeholders, consumer organizations and other research institutes to attend these events.
- 2.5** Under Section 11 (1) (a) of the TRAI Act 1997, the Authority is required to make recommendations, either suo moto or on a request from the licensor, i.e., Department of Telecommunications, Ministry of Communications or Ministry of Information & Broadcasting in the case of Broadcasting and Cable Services. Recommendations given by TRAI to Government during 2022-23 are given below.

## 2.5.1 TELECOM SECTOR

Sl. No.	List of Recommendations & Back References and Responses
1	Recommendations dated 11 <sup>th</sup> April, 2022 on “Auction of Spectrum in frequency bands identified for IMT/5G”.
2	TRAI's Response dated 5 <sup>th</sup> May, 2022 to DoT back reference dated 9 <sup>th</sup> March, 2022 on Recommendations on “Licensing Framework for Satellite-based connectivity for Low Bit Rate Applications”.
3	TRAI's Response dated 9 <sup>th</sup> May, 2022 to DoT back reference dated 29 <sup>th</sup> April, 2022 on Recommendations on “Auction of Spectrum in frequency bands identified for IMT/5G”.
4	TRAI's Response dated 25 <sup>th</sup> July, 2022 to DoT back reference dated 28 <sup>th</sup> June, 2022 on Recommendations on “Roadmap to Promote Broadband Connectivity and Enhanced Broadband Speed”.
5	TRAI's Response dated 6 <sup>th</sup> September, 2022 to DoT back reference dated 2 <sup>nd</sup> August, 2022 on Recommendations on “Enabling Unbundling of Different Layers Through Differential Licensing”.
6	Recommendations dated 18 <sup>th</sup> November, 2022 on “Regulatory Framework for Promoting Data Economy Through Establishment of Data Centres, Content Delivery Networks, and Interconnect Exchanges in India”.
7	Recommendations dated 29 <sup>th</sup> November, 2022 on “Licensing framework for establishing and operating Satellite Earth Station Gateway (SESG)”.
8	Recommendation dated 29 <sup>th</sup> November, 2022 on “Use of Street Furniture for Small Cells and Aerial Fiber Deployment”.
9	Recommendations dated 12 <sup>th</sup> December, 2022 on “Improving Telecom Connectivity/ Infrastructure in far-flung areas of Himachal Pradesh”.
10	Recommendations dated 28 <sup>th</sup> December, 2022 on “Spectrum Requirements of National Capital Region Transport Corporation (NCRTC) for Train Control System for RRTS Corridors”.
11	Recommendations dated 20 <sup>th</sup> February, 2023 on “Rating of Buildings or Areas for Digital Connectivity”.

### RECOMMENDATIONS & RESPONSES TO BACK REFERENCES

#### 2.5.1.1 Recommendations dated 11<sup>th</sup> April, 2022 on “Auction of Spectrum in frequency bands identified for IMT/5G”

The Department of Telecommunications (DoT), through its letter dated 13<sup>th</sup> September, 2021, had, inter-alia, requested TRAI, under section 11(1)(a) of the TRAI Act of 1997, to furnish its recommendations on “Auction of spectrum in the frequencies identified for International Mobile Telecommunications (IMT) / 5G”. The recommendations were sought on applicable reserve price, band plan, block size, quantum of spectrum to be auctioned and associated conditions for auction of spectrum in 526-698 MHz, 700 MHz, 800 MHz, 900 MHz, 1800 MHz,

2100 MHz, 2300 MHz, 2500 MHz, 3300-3670 MHz and 24.25 – 28.5 GHz bands for IMT/5G. Further, recommendations were sought on quantum of spectrum / bands, if any, to be earmarked for private captive / isolated 5G networks, competitive / transparent method of allocation, and pricing, for meeting the spectrum requirements of captive 5G applications of industries for machine / plant automation purposes / M2M in premises.

In this regard, TRAI issued a Consultation Paper on “Auction of Spectrum in frequency bands identified for IMT/5G” on 30<sup>th</sup> November, 2021 providing the background information and seeking inputs from the stakeholders. Through this Consultation Paper, stakeholders were requested to furnish their comments on various issues raised in the consultation paper.

In response to the Consultation Paper, Comments from 41 stakeholders and Counter Comments from 18 stakeholders were received. The comments and counter comments received from the stakeholders were placed on TRAI’s website [www.trai.gov.in](http://www.trai.gov.in). Open House Discussion (OHD) was conducted on 8<sup>th</sup> February, 2022 through online mode, which was participated by stakeholders including TSPs, Industry Associations – Indian and Global, Satellite operators, Solution providers, Consultants, and Individuals.

Based on the comments/inputs received from the stakeholders and on its analysis, TRAI finalized its Recommendations on “Auction of Spectrum in frequency bands identified for IMT/5G” on 11<sup>th</sup> April, 2022. The recommendations made by TRAI included recommendations related to Auction of Spectrum for 5G/IMT such as Quantum of Spectrum to be auctioned, Band Plan, Block Size, Eligibility Conditions for participation in Auction, Interference mitigation in TDD bands, Roll-out obligations, Spectrum Cap, Surrender of Spectrum, and Valuation and Reserve Price of Spectrum. In addition, considering the importance of 5G in Industry verticals, recommendations relating to spectrum for Captive wireless private networks and Identification, Development & Proliferation of 5G Use Cases have been made.

The key recommendations are listed below:

#### **Auction of Spectrum**

- i. All available spectrum in existing bands viz. 700 MHz, 800 MHz, 900 MHz, 1800 MHz, 2100 MHz, 2300 MHz, 2500 MHz and new spectrum bands viz. 600 MHz, 3300-3670 MHz and 24.25-28.5 GHz, be put to auction.
- ii. For 600 MHz band, APT 600 (Option B1) band should be adopted. By adopting this band plan, additional 10 MHz of spectrum will be made available for IMT. This band will provide total 40 MHz (paired) spectrum. It is also proposed that entire 40 MHz (paired) spectrum [612-652 MHz/663-703 MHz] should be put to auction in the forthcoming auction.
- iii. In the frequency range 3300-3670 MHz, both the band plans i.e., n77 and n78 should be permitted and flexibility be given to the TSPs to adopt any band plan i.e., n77 or n78, based on their business/commercial considerations.
- iv. In the frequency range 24.25-28.5 GHz MHz, flexibility be given to the TSPs to adopt any band plan i.e., n257 or n258, based on the frequencies assigned to them and other business/commercial considerations.
- v. To provide flexibility to the TSPs, block size of 10 MHz for 3300-3670 MHz band and 50 MHz for 24.25-28.5 GHz band is recommended. Spectrum to be assigned in a contiguous manner.

- vi. Considering the facts that presently (i) band plan(s) for the frequency range 526-612 MHz is yet to be defined by 3GPP/ITU, (ii) development of ecosystem for IMT in 526-612 MHz frequency range will take some time and (iii) MIB is using 526-582 MHz band extensively across the country for TV transmitters, the 526-612 MHz frequency range should not be put to auction in the forthcoming auction.
- vii. DoT should come out with a plan for refarming 526-582 MHz band to be utilized for IMT deployments. To make 526-582 MHz band available for IMT, DoT should work with MIB to prepare a plan for an early migration from Analogue to Digital Transmission, so that the frequency band from 526-582 MHz can be vacated for IMT services.
- viii. DoT should carry out harmonization exercise in 800 MHz, 900 MHz and 1800 MHz bands immediately after conducting the auction so that frequencies assigned to the TSPs are in contiguous manner.

#### Reserve Price and Easy Payment Options

- ix. Recommended Reserve Price for various spectrum bands (for 20 years) is as per table given below:
- x. The reserve price of spectrum allocation in case of 30 years should be equal to 1.5 times the reserve price of spectrum allocation for 20 years for the respective band.

**Reserve Price of spectrum per MHz for 20 years**

Service Area	600 MHz band	700 MHz band	800 MHz band	900 MHz band	1800 MHz band	2100 MHz band	2300 MHz band	2500 MHz band	3300-3670 MHz band	24.25-28.5 GHz band
	(Paired)						(Unpaired)			
	(in ₹ Crore)									(in ₹)
Delhi	509	509	479	436	270	224	104	86	40	89 lakh
Kolkata	173	173	153	153	97	80	32	28	15	32 lakh
Mumbai	470	470	468	389	236	196	103	81	35	78 lakh
Andhra Pradesh	318	318	292	288	172	142	59	51	26	57 lakh
Gujarat	282	282	262	399	150	125	NA	44	23	50 lakh
Karnataka	220	220	198	204	121	100	64	47	18	40 lakh
Maharashtra	359	359	338	317	190	158	NA	53	29	63 lakh
Tamil Nadu	253	253	225	222	141	NA	81	58	21	46 lakh
Haryana	71	71	62	68	41	34	NA	NA	6	13 lakh
Kerala	110	110	103	213	58	48	NA	NA	9	19 lakh
Madhya Pradesh	156	156	136	156	88	73	NA	NA	13	29 lakh
Punjab	112	112	101	104	61	51	NA	14	9	20 lakh



Rajasthan	146	146	142	135	75	NA	NA	NA	11	25 lakh
U.P. (East)	171	171	160	166	91	NA	NA	NA	14	30 lakh
U.P. (West)	154	154	133	152	87	72	NA	NA	13	29 lakh
West Bengal	102	102	89	99	58	37	NA	NA	9	19 lakh
Assam	57	57	50	56	32	24	NA	NA	5	10 lakh
Bihar	145	145	126	147	82	68	NA	15	12	27 lakh
Himachal Pradesh	26	26	22	26	14	12	NA	3	2	5 lakh
Jammu & Kashmir	16	16	14	16	9	8	NA	2	1	3 lakh
North East	15	15	13	14	8	5	NA	NA	1	3 lakh
Orissa	62	62	54	64	35	29	NA	NA	5	12 lakh

- xi.** For the long-term growth and sustainability of the telecom sector, infusing liquidity and encouraging investment, the Telecom Service Providers should be allowed easy payment options including part payment with flexibility of moratorium.

#### **Easy Roll out Obligations**

- xii.** Unlike existing coverage-based rollout obligations, considering deployment of 5G network in 3300-3670 MHz and 24.25-28.5 GHz bands, easy network deployment-based roll-out conditions have been recommended for these bands.
- xiii.** The roll-out obligations and associated conditions for 600 MHz band shall be same as that applicable for 700 MHz band.
- xiv.** To facilitate the new entrants, in respect of roll out obligations for 700 MHz, 800 MHz, 900 MHz and 1800 MHz bands, the time period of one year for meeting the MRO for Metros LSAs (coverage of 90% of the LSA within one year from the effective date of license or the date of assignment of spectrum won in this auction process, whichever is later), should be enhanced to two years (40% coverage by the end of 1st year and 90% coverage by the end of 2<sup>nd</sup> year).

#### **Rational Spectrum Cap**

- xv.** Spectrum caps have been rationalized:
- Cap of 40% on combined spectrum holding in sub-1 GHz bands.
  - Cap of 40% on combined spectrum holding in 1800 MHz, 2100 MHz, 2300 MHz and 2500 MHz bands.
  - Individual band specific cap of 40% for 3300-3670 MHz and 24.25-28.5 GHz spectrum bands.
  - Overall cap across all bands has been done away with.

#### **Easy Surrender of Spectrum at Nominal Fee**

- xvi.** For ease of doing business, easy and transparent spectrum surrender guidelines with a spectrum surrender fee of ₹ 1 lakh per spectrum band per LSA has been recommended.

### **Coexistence of IMT and Satellite Earth Station to ensure efficient utilization of Spectrum**

- xvii.** Frequency range 27.5-28.5 GHz should be used for IMT as well as Satellite Earth Station Gateway (Earth to space) on coexistence basis.
- xviii.** The Satellite Earth Station Gateway should be permitted to be established in frequency range 27.5-28.5 GHz at uninhabited or remote locations on case-to-case basis, where there is less likelihood of 5G IMT services coming up.
- xix.** DoT should prescribe the exclusion zone requirement for co-existence of IMT and satellite earth stations (Earth to space) in 27.5-28.5 GHz frequency range.
- xx.** DoT should create a software defined automated process on a portal having database of coordinates of the IMT base stations in mmWave. The geofencing coordinates of the proposed earth station in 27.5-28.5 GHz can provide the feasibility results through the portal for establishing the earth station.
- xxi.** Access to 27.5-28.5 GHz should also be allowed for Earth Stations in Motion (ESIMs) for In-flight and maritime terminals, with appropriate sharing conditions, as in such cases, the operation would be geographically separated from terrestrial IMT.
- xxii.** As the IMT emissions in the 3300-3670 MHz may saturate the Low Noise Block (LNB) of the FSS earth station which traditionally operates in the 3400-4200 MHz, there is a need to make use of high-quality bandpass filters operating in 3700-4200 MHz range. Therefore, DoT should ask the Ministry of Information and Broadcasting (MIB) to take appropriate action and sensitize the MSOs, DTH operators, and other users to ensure the use of high-quality bandpass filters operating in 3700-4200 MHz range to avoid interference from IMT stations.

### **Spectrum Roadmap**

- xxiii.** Additional bands which are already identified by ITU for IMT services and additional bands under consideration in WRC-23 for IMT identification, be explored for possibility to make these bands available for IMT services at the earliest and DoT should come out with a spectrum roadmap for opening up of new bands for IMT to meet the future demand.
- xxiv.** At least a 5-year roadmap on spectrum likely to be made available for IMT in each year and likely date/month of auction should be made public. Such a spectrum roadmap will provide certainty, enable the bidders to take informed decisions and may also encourage new entrants.

### **Framework for Private Network – Proposed enabling framework**

- xxv.** Enabling framework created for private networks: all options to be opened for uptake of captive wireless private networks, as below:
  - a. Private network through TSPs using a Network Slice from TSP's PLMN network.
  - b. Enterprise may request TSPs to establish an independent isolated private network in enterprise's premises using the TSP's spectrum.
  - c. Enterprise may obtain the spectrum on lease from TSPs and establish their own isolated Captive Wireless Private Network.

- d. Enterprise may obtain the spectrum directly from the Government and establish their own isolated Captive Wireless Private Network.
- xxvi. For establishing captive wireless private network using IMT spectrum, the entity/enterprise should have a permission/license under Section 4 of the Indian Telegraph Act, 1885. Very light touch online portal-based regime for acquiring permission/license for 'Captive Wireless Private Network (CWPN)' has been recommended.
- xxvii. TSPs be permitted to lease their spectrum to Captive wireless Private Network permission holder/Licensees. Key elements to be included in the Guidelines for the lease of access spectrum by Telecom Service Providers to the Captive Wireless Private Network Permission holder/Licensees have been recommended.
- xxviii. Certain spectrum be earmarked for Captive wireless private networks to be assigned directly by DoT to Captive Wireless Private Network Permission holders/Licensees.
- xxix. For assessment of demand of spectrum for private networks, DoT should create a portal, seeking demand for spectrum from companies.
- xxx. Key elements to be included in the Guidelines for Spectrum Assignment to Captive Wireless Private Network Permission holder/Licensee have been recommended.
- xxxi. Captive Wireless Private network should not be connected to public network in any manner. The public network includes PSTN, PLMN, GMPCS and public internet.

#### **Development and Proliferation of 5G Use Cases and Applications – Proposed the Ecosystem for widespread adoption of 5G Technology and Digital Inclusion**

- xxxii. For uptake of 5G use cases in different verticals, A 5G-dedicated Inter-Ministerial Working Group (IMWG), under the Chairmanship of Member (Technology), DoT should be formed comprising Ministry of Electronics and Information Technology, Department for Promotion of Industry and Internal Trade, Ministry of Information and Broadcasting, Department of Space, Ministry of Finance, Ministry of Education, Department of Science & Technology, Ministry of Micro, Small and Medium Enterprises (MSME) and Niti Ayog as members, which should be represented by JS Level officers.
- xxxiii. Telecom Innovation Centres to be formulated in alliance with different academic institutions and ministries, specialized for development of innovative solutions for 5G use cases and applications in different verticals / sectors.

The recommendations on "Auction of spectrum in the frequencies identified for International Mobile Telecommunications (IMT) / 5G" have been placed on TRAI's website [www.trai.gov.in](http://www.trai.gov.in).

#### **2.5.1.2 TRAI's Response dated 5<sup>th</sup> May, 2022 to DoT's back reference dated 9<sup>th</sup> March, 2022 on Recommendations on "Licensing Framework for Satellite-based connectivity for Low Bit Rate Applications"**

The Department of Telecommunications (DoT), vide its reference letter dated 23<sup>rd</sup> November, 2020, under section 11(1)(a) of the TRAI Act, 1997 had requested TRAI to furnish recommendations on the Licensing framework to enable the provisioning of satellite-based low-bit-rate applications for both commercial as well as captive usage. TRAI furnished the

recommendations on “Licensing framework for Satellites based connectivity for Low bit rate Applications” dated 26<sup>th</sup> August, 2021.

DoT, vide its letter dated 9<sup>th</sup> March, 2022, has informed that the Digital Communications Commission (DCC) considered the TRAI recommendations in its meeting dated 4<sup>th</sup> January, 2022 and decided to accept all the recommendations except Para 4.9(ii) with regard to NLD SUC, which has been referred back to TRAI, under relevant section of the TRAI Act 1997.

After examining the comments of DoT, TRAI finalized its response to back reference and sent on 5<sup>th</sup> May, 2022. The views given by the Authority have been placed on TRAI’s website [www.trai.gov.in](http://www.trai.gov.in).

#### **2.5.1.3 TRAI’s Response dated 9<sup>th</sup> May, 2022 to DoT’s back reference dated 29<sup>th</sup> April, 2022 on Recommendations on “Auction of Spectrum in frequency bands identified for IMT/5G”**

Through its reference dated 13<sup>th</sup> September, 2021, Department of Telecommunications (DoT) had, inter-alia, requested TRAI to provide its recommendations on applicable reserve price, band plan, block size, quantum of spectrum to be auctioned and associated conditions for auction of spectrum in 526-698 MHz, 700 MHz, 800 MHz, 900 MHz, 1800 MHz, 2100 MHz, 2300 MHz, 2500 MHz, 3300-3670 MHz and 24.25-28.5 GHz bands for IMT/5G. The Authority after detailed consultation process had sent its Recommendations on “Auction of Spectrum in frequency bands identified for IMT / 5G” dated 11<sup>th</sup> April, 2022.

In its back reference dated 29<sup>th</sup> April, 2022, DoT referred back some of the TRAI’s recommendations on “Auction of Spectrum in frequency bands identified for IMT/5G” dated 11<sup>th</sup> April, 2022 with its comments / observations for reconsidered recommendations in accordance with the provisions of Section 11 of TRAI Act 1997, as amended in 2000. In addition, DoT enclosed its views on some of the TRAI recommendations and also informed that rest of the recommendations are acceptable.

After examining the comments of DoT, TRAI finalized its response to the back reference and sent to DoT on 9<sup>th</sup> May, 2022. The views given by the Authority have been placed on TRAI’s website [www.trai.gov.in](http://www.trai.gov.in).

#### **2.5.1.4 TRAI’s Response to DoT’s back reference dated 28<sup>th</sup> June, 2022 on Recommendations on “Roadmap to Promote Broadband Connectivity and Enhanced Broadband Speed”**

The Department of Telecommunications (DoT), vide its reference dated 28<sup>th</sup> June, 2022 referred back certain recommendations of TRAI on “Roadmap to Promote Broadband Connectivity and Enhance Broadband Speed” dated 31<sup>st</sup> August, 2021 for reconsideration of these recommendations in accordance with the provisions of Section 11 of TRAI Act, 1997, (as amended).

TRAI after due deliberations, finalised its response to the back reference and sent to DoT on 25<sup>th</sup> July, 2022. The views given by the Authority have been placed on TRAI’s website [www.trai.gov.in](http://www.trai.gov.in).

#### **2.5.1.5 TRAI's Response dated 6<sup>th</sup> September, 2022 to back reference dated 2<sup>nd</sup> August, 2022 received from DoT on TRAI's Recommendations on "Enabling Unbundling of Different Layers Through Differential Licensing"**

Department of Telecommunications (DoT) through their letter dated 2<sup>nd</sup> August, 2022 informed that after detailed deliberations on TRAI's recommendations dated 19<sup>th</sup> August, 2021 on "Enabling Unbundling of Different Layers Through Differential Licensing", the Government has come to a prima facie conclusion that there may not be a market demand for separate Access Network Provider (ANP) License. DoT has further intimated that the recommendations of TRAI on "Enhancement of Scope of Infrastructure Provider Category-I Registration" having similar facets are also being examined in DoT.

DoT, therefore, has informed that the TRAI recommendations on "Enabling Unbundling of Different Layers Through Differential Licensing" may not be accepted. In view of the above, DoT as per relevant Section of the TRAI Act, referred back the TRAI's recommendations on "Enabling Unbundling of Different Layers Through Differential Licensing" for reconsideration.

After examination, TRAI finalized its response to the back reference and sent them to DoT on 6<sup>th</sup> September, 2022. The view given by the Authority have been placed on TRAI's website [www.trai.gov.in](http://www.trai.gov.in).

#### **2.5.1.6 Recommendations dated 18<sup>th</sup> November, 2022 on "Regulatory Framework for Promoting Data Economy Through Establishment of Data Centres, Content Delivery Networks, and Interconnect Exchanges in India"**

National Digital Communications Policy (NDCP) 2018 has one of the strategies, under propel India mission as 'establishing India as a global hub for cloud computing, content hosting and delivery, and data communication systems and services.' Under this strategy, provision number 2.2(f). (i) envisages:

"Evolving enabling regulatory frameworks and incentives for promoting the establishment of International Data Centres, Content Delivery Networks, and Independent Interconnect exchanges in India".

The Authority suo-moto issued detailed Consultation Paper (CP) on "Regulatory Framework for Promoting Data Economy Through Establishment of Data Centres, Content Delivery Networks, and Interconnect Exchanges in India" on 16<sup>th</sup> December, 2021 to seek the views of stakeholders on regulatory framework for promoting the establishment of (i) Data Centres, (ii) Content Delivery Networks, and (iii) Internet Exchange Points in the country. Subsequently, an Open House Discussion (OHD) was held on 06<sup>th</sup> May, 2022 to seek further views of the stakeholders on various issues.

After considering the comments/inputs received from the stakeholders during consultation process and further analysis of the issues, Authority has finalized these Recommendations to boost digital infrastructure ecosystem in the country including DCs, CDNs and IXPs. The salient features of the recommendations are as follows:



## A) Data Centres

### Facilitating & Incentivizing establishment of Data Centres (DCs) and DC Parks

- Authority has recommended to bring out Data Centre Incentivization Scheme (DCIS) for establishing Data Centres (DCs) and Data Centre Parks (Dc Parks). DCIS to have two lists of incentives –
  - a) Certain fiscal and non-fiscal incentives which are Centre specific and can be rolled out by the Central Government.
  - b) The other in form of a guidelines to the States; leaving flexibility to States to announce fiscal incentives through their policies.
- Operationalizing a Data Centre specific portal on National Single Window System (NSWS) for -
  - a) Time-bound single window clearances with provision for deemed approval after a lapse of prescribed timelines for non-critical category permissions.
  - b) Mandatory online registration of new DCs/DC Park operators without any obligation or registration fees.
  - c) Issue of notifications, announcement of schemes & benefits, facility to interact and respond to queries of potential investors, and grievance redressal of existing and prospective DC/DC Park operators.
- A national level DC Readiness Index (DCRI) framework to be implemented by Central Government to rank Indian states as per their suitability to promote DC sector. An indicative list of parameters and their weightages for ranking the States has been suggested.
- For states that are lacking in DCs and DC Parks, Centre should prepare scheme in line with other states, inter-alia, offering incentives in form of Land (to be provided by State), Capital subsidy and Interest subsidy [to be divided between Centre (75%) and State (25%) Government].
- Establish DC Economic Zones (DCEZs). One SEZ, out of suggested list of 33 SEZs which are located in areas with abundant power and water, can be identified in each State of Andhra Pradesh, Kerala, Karnataka, Maharashtra, Haryana, UP, MP, Gujarat, Rajasthan and Orissa for either converting them into DC Economic Zones (DCEZs) or for carving out zones out of these SEZs for establishing DCs/DC parks.

### Developing India specific building norms, standards, and security certification framework

- BIS should be entrusted for developing different India-specific building standard for construction of DCs and to develop India specific standard-based certification framework for the DCs.
- For addressing security aspects of DCs, TEC and STQC should jointly work to develop DC security certification framework based on third party audits.



### Connectivity to Cable Landing Stations (CLS)

- For coastal states intending to promote setting up of CLS, it has been recommended that they may consider incentives and facilitations of CLSs as has been done by the State of Gujarat in its IT/ITeS Policy 2022-27.
- For laying and maintaining OFC infrastructure to CLS RoW charges may be waived off.

### Power related

- DoT to take up with Ministry of Power to look into the submissions made by stakeholders for formulation of a DC conducive yet simplified framework for power addressing the issues that have been flagged in the recommendations, inter-alia, including:
  - a) Energy banking provisions for DC/DC park operators who opt to produce renewal energy for consumption for DC/DC Parks should be extended to yearly basis.
  - b) Providing land on priority and on concessional rates to DC/ DC park operators for establishing solar power plants.
- DC and DC Park sites should be allowed to operate as backup power infrastructure without any hindrance from State Pollution Control Boards (SPCB) or Central Pollution Control Board (CPCB).

### Promoting Green DCs

- Indian Green Building Council (IGBC) along with Telecommunication Engineering Centre (TEC) should be entrusted with task of framing certification standards of green DCs in India.
- Government should form a scheme to invite Requests for Proposal (RFP) on an experimental basis for new technology/methods/processes that can be adopted for promoting green DCs.

### Capacity Building

- National Telecom Institute for Policy Research & Training (NTIPRIT) under Department of Telecommunication (DoT), MeitY, AICTE and TSSC should closely collaborate with DC industry to develop tailor-made short and long-term courses. A suggestive list of DC related courses at diploma, undergraduate and post-graduate level has also been recommended.

### Addressing demand side issues of Digital Data Infrastructure -

- Data digitization, sharing and monetization - A statutory body Data Digitization and Monetization Council (DDMC) for steering the data digitization drive be prescribed at the Centre,
- Data Ownership - Government should put in place a data sharing and consent management framework on lines of DEPA framework to provide telecom subscribers consent based option to share their KYC data with recipient TSP when they port their numbers.

- Data Ethics - DDMC should also be entrusted with responsibility of putting in place an overarching framework for ethical use of data both by Government as well as by corporate in India. The framework should address the generic as well as vertical sector specific requirements.

## B) Content Delivery Networks (CDNs)

- CDNs play an important role in the value chain of content delivery ecosystem. The internet traffic, which was earlier being delivered by ISPs alone, is now being delivered by ISP and CDN combined. ISPs perform load balancing, traffic engineering and offers guaranteed quality of service to end users. CDN Players also leverage various techniques like load balancing, caching, optimization, use of security protocols, etc. for ensuring better delivery of content to end users in association with TSPs. CDN players are major contributors to the network traffic and can affect the overall quality of service. Accordingly, TRAI, in its consultation process, had discussed various CDN-ISP interconnection and collaboration related policy and regulatory concerns. Issues related to challenges for establishing CDN in the country and how CDN Industry can be incentivized, were also discussed.
- To address these issues, TRAI has recommended that CDN players should be registered with DoT through a simple online registration process. The suggestive draft for guidelines for registration of CDN players along with registration form and registration certificate has been recommended with one time registration fee of ₹ 10,000.
- The incentives recommended for DCs should also help in proliferation of CDNs in the country and this would in turn provide the boost to digital infrastructure ecosystem, including CDNs and IXPs.

## C) Interconnect Exchanges Providers (IXPs)

- Currently, IXPs are required to take Internet Service Providers license which has several onerous licensing conditions related to subscriber verifications, security etc which are not relevant to them. This creates artificial entry barriers. To address this issue and promote setting up of more IXP exchanges, especially in Tier-II and Tier-III cities, TRAI has recommended that a separate authorization in Unified License may be created for IXPs with terms and conditions that are much less onerous than ISP license authorization.
- Following terms and conditions include:

License Fee	Minimum Equity	Minimum Net worth	Entry Fee (₹)	PBG (₹)	FBG (₹)	Application Processing Fee (₹)
NIL	Nil	Nil	20,000	10,000	2,000	10,000

- All existing players, including, NIXI should be brought within this licensing framework in a stipulated time not exceeding six months.
- Government should extend the existing list of products under PLI and PPP-PMI schemes to explicitly include classifications of equipment related to CDN and IXP.

The recommendations on “Regulatory Framework for Promoting Data Economy Through Establishment of Data Centres, Content Delivery Networks, and Interconnect Exchanges in India” have been placed on TRAI’s website [www.trai.gov.in](http://www.trai.gov.in).

### **2.5.1.7 Recommendations dated 29<sup>th</sup> November, 2022 on “Licensing framework for establishing and operating Satellite Earth Station Gateway (SESG)”**

The Department of Telecommunications (DoT), through their letter dated 10<sup>th</sup> September, 2021 had sought TRAI’s Recommendations on licensing framework for establishment of satellite gateway.

In this regard, a Consultation Paper on ‘Licensing Framework for Establishing Satellite Earth Station Gateway’ was issued on 15<sup>th</sup> November, 2021. An Open House Discussions (OHD) with stakeholders was held on 25<sup>th</sup> February, 2022.

Based on the comments/ inputs received from the stakeholders and on its own analysis, TRAI finalized its Recommendations on “Licensing Framework for Establishing and Operating Satellite Earth Station Gateway (SESG)” and forwarded them to the Government on 29<sup>th</sup> November, 2022.

The salient features of these Recommendations are as follows:

- i. There shall be a separate Satellite Earth Station Gateway (SESG) License under the Section 4 of Indian Telegraph Act. The SESG License will not form part of the Unified License (UL). The Service Area for the SESG License shall be at National Level.
- ii. The SESG Licensee may establish, maintain, and work SESGs anywhere within the territory of India for all types of satellite systems for which the Government has given the permission.
- iii. The SESG Licensee may provide satellite-based resources to any entity, which holds license/ permission granted by DoT or Ministry of Information & Broadcasting (MIB) and is permitted to use satellite media for the provision of services under its license/ permission.
- iv. The SESG Licensee may establish SESGs in respect of one or more Government approved satellite systems.
- v. The SESG Licensee shall not be permitted to provide any kind of telecommunication service or broadcasting service directly to the consumers, for provision of which, a separate license/ authorization/ permission is required from the Government.
- vi. The SESG license shall be valid for a period of 20 years from the effective date of the license with a provision of renewal for 10 years.
- vii. The Licensee shall adhere to the instructions/ guidelines issued by the Government in respect of connecting Trusted Products in its network.
- viii. The SESG Licensee shall meet the instructions/ directions of the Licensor (i.e. DoT) issued from time to time in the interest of national security.
- ix. Only the companies registered under the Companies Act, 2013 of India shall be eligible to apply for grant of SESG License.

- x. A non-refundable one-time Entry Fee of ₹ 10 lakh shall be levied for grant of SESG License.
- xi. As the SESG licensees will not provide any service directly to end consumers, only a token License Fee of ₹ 1 per annum shall be levied on SESG License.
- xii. In respect of the application for grant of SESG License, a Processing Fee of ₹ 5,000 shall be levied. Further, a Processing Fee of ₹ 5,000 shall be levied in respect of every application for grant of permission to establish an additional SESG.
- xiii. The mandate to compulsorily establish Land Earth Station Gateway/ Hub Station/ Uplink Earth Station in the relevant licenses/ permissions granted by DoT and MIB shall be removed.
- xiv. The telecommunication and broadcasting service licensees/ permission holders, who are eligible to provide satellite-based communication services in India, shall have the option to establish their own satellite earth station gateways, if permitted under their licenses/ permissions, or use the SESGs established by the SESG licensees by connecting their baseband equipment with the SESGs at the terms and conditions offered by the SESG licensees.
- xv. The service licensee/ permission holders, being served by the SESG Licensee, shall install their own baseband equipment at the SESG established by the SESG Licensee.

Frequency spectrum (gateway-side spectrum, as well as user terminal-side spectrum) should be assigned to the eligible service licensees/ permission holders as per the allocation of transponder bandwidth in the concerned satellite system. No frequency spectrum shall be assigned to SESG licensees.

The recommendations have been placed on TRAI's website [www.trai.gov.in](http://www.trai.gov.in).

#### **2.5.1.8 Recommendations dated 29<sup>th</sup> November, 2022 on "Use of Street Furniture for Small Cells and Aerial Fiber Deployment"**

In order to resolve inter-sectoral co-ordination issues to ensure fastest possible deployment of small cells using street furniture, TRAI issued recommendations on "Use of Street Furniture for Small Cells and Aerial Fibre deployment" dated 29<sup>th</sup> November, 2022.

As India plans to launch 5G, small cells can play a pivotal role in network upgradation and expansion. Use of higher frequency bands for 5G rollout will have shorter coverage as signals in these bands cannot travel through buildings or obstacles. Therefore, the macro cells will be required to be complemented with extensive deployment of small cells so as to support all kinds of uses and applications, at all locations. Small cells will also be used for traffic offloading since the carrying capacity of lower frequencies, used by macro radio sites, are limited. Use of already available street furniture like poles, for mounting 5G Small Cells can obviate the need for erecting thousands of new towers resulting in economical and fast deployment of small cells. The Small cells will require backhaul connectivity which again can be provided very fast through aerial fibre deployment using street furniture.

The deployment of small cells and aerial fiber on street furniture can face many issues like identifying the suitable street furniture based on availability of backhaul, power, capabilities of street furniture for mounting suitable equipment, scalability, and concerns related to local approval, and safety. The right of way procedure, sharing of the street furniture amongst various users, permissions needed for power supply under state electricity laws, exemptions or bulk permissions for small cell deployment will also be required to be addressed. To seek inputs from stakeholders on these issues, the Authority issued a Consultation Paper on “Use of Street Furniture for Small Cell and Aerial Fiber Deployment” dated 23<sup>rd</sup> March, 2022.

With the objectives of developing cross-sectoral framework which promotes sharing of street furniture infrastructure among various central, state and municipal authorities to develop state of the art 5G network, TRAI had simultaneously initiated pilots at Bhopal Smart City, GMR International Airport New Delhi, Deendayal Port Kandla and Namma Metro Bengaluru on use of street furniture for Small Cells and aerial fibre deployment. Based on the consultation process and learning from these pilots, TRAI has prepared its comprehensive recommendations to the Government on conducive regulatory and policy framework to ensure successful and rapid rollout of small cells and optical fibre using street furniture in all smart cities, other cities and towns, ports, airports, metro rails, Industrial parks, and estates, etc. The emphasis of recommendations is on creating a regulatory framework which facilitates collaboration and participation among various departments, central and state agencies, local bodies and service provider.

The salient features of the recommendations on “Use of Street Furniture for small cell and aerial fibre deployment” are as follows:

**A. RoW issues and adequacy of current provisions in ROW Rules 2016, as amended**

- While appreciating the efforts of DoT in bringing out the August, 2022 Amendment to RoW Rules, 2022 the Authority has recommended to amend the rules further to bring clarity on the term “street furniture” (to include DoT clarification dated 26<sup>th</sup> October, 2022 on the same) and also to include provision of bulk processing of applications.
- Enhance the scope of the proposed national portal to grant RoW permissions for all utility providers especially the power sector. A provision in the National RoW portal for accepting single application for bulk processing of sites for granting various permissions, including RoW and power connection.
- Creation of a catalogue of GIS mapped Street furniture assets in the National RoW portal capturing.
  - ❖ Height, load bearing, and wind load capability of the structure.
  - ❖ Wattage, type of power (AC/DC), voltage, etc. if power is available.
  - ❖ Picture of the SF.
  - ❖ Non-discriminatory terms and conditions offered for hiring.
  - ❖ Contact details (Mobile number, landline number and email ID) of the nodal person for the particular Street Furniture.



- Use of Drone based mapping in the GIS system should be considered for quick assessment of the location of small cell infrastructure and for the creation of the street furniture catalogue.
- Amend RoW Rules to incorporate provision that in case more than one TSP makes requests to use the same SF and there is insufficient space available to meet the demands of all the requesting TSPs, they should coordinate among themselves to work out a technically feasible solution for shared use of the structure for the installation of equipment. In case the TSPs fail to reach an agreement, they should accept the decision of the CAA which may use a fair and reasonable method to select the TSP(s) who will use the SF.
- The Draft Telecommunications Bill 2022 has provisions for countering vandalism of telecom assets. However, till the Bill is passed as a law, the Government should specifically monitor action taken by the police, for security of Telecommunications Asset, through a DoT & MHA joint committee.

#### **B. Infrastructure sharing by the Controlling Administrative Authorities (CAA) with TSPs and IP-Is**

- DoT should issue advisory guidelines to the states for mandating CAAs that own/control traffic lights to share these assets with TSPs/IP-Is for deployment of small cells subject to structural stability.
- All Central Government entities to earmark dedicated spaces in their existing and planned buildings/structures, for installing digital connectivity infrastructure (DCI) including small and macro cells. Dedicated spaces on rooftops should be identified for deploying small/macro cells. Such spaces are to be GIS mapped and made available on GatiShakti Sanchar portal for charge free use by TSPs/IP-Is on non-discriminatory basis. Advisory guidelines should also be issued to State Governments for similar action by their entities and local bodies. DoT should also follow up with State Governments to implement the guidelines.
- Enabling provisions or suitable terms and conditions shall be introduced in all telecom licenses and IP-I registration agreement prohibiting the TSPs/IP-I providers from entering into any exclusive contract or right of ways with infrastructure owners/CAAs or any other authority.
- The Authority has reiterated its earlier recommendations on formation of National Fiber Authority (NFA) in priority and that the scope of NFA should be expanded beyond common ducts and telegraph posts, to undertake responsibilities related to above-ground contrivances, appliances, and apparatus.
- DoT should include the following in their advisory guidelines to the states:
  - ❖ All CAAs or asset controlling authorities should prohibit entering into exclusive rights/exclusive tie-up with any licensee/registration holder. SF infrastructure should be offered in a non-exclusive and non-discriminatory manner.

- ❖ In future, tenders for setting up new SF structures by the appropriate authorities, the possibility of sharing of SF on non-exclusive basis, for hosting DCI like small cells and aerial fiber, should be kept in mind.
- ❖ In line with GatiShakti initiative, in all future projects of utility providers that are partially or fully funded by government to put-up new assets (such as gas pipelines, HT power lines, streetlights) or expand existing assets, provisions to host/support DCI such as small cells, towers, and aerial fiber should be in-built.
- ❖ DoT should immediately act on TRAI's letter dated 1<sup>st</sup> February, 2022 and bring clarity on the provisions of sharing of infrastructure under different licenses to remove the ambiguity in infrastructure sharing provisions in Unified License mentioned in the Chapters related to generic conditions and authorization specific chapters.

#### **C. Street furniture and small cell sharing among TSPs and IP-Is**

- To nudge service provider for sharing infrastructure, the Authority has recommended that charges paid by lessee TSP to lessor TSP for use of shared infrastructure should be reduced from the Gross Revenues of the lessor TSP to arrive at Applicable Gross Revenue (ApGR) of such Lessor TSP. Specifics for implementing the same have also been recommended.
- The guidelines and registration agreement of IP-I providers should be modified to exclusively mention the term 'poles' in their scope of work.

#### **D. Permission exemption for small cells and standardization of small cells and installation practices**

- Low Power Base Transceiver Stations (LPBTS) should be defined as those BTS that radiate EIRP  $\leq 600$  W. Such equipment/small cells should be exempted from seeking any kind of permission from any Authority except from the Street Furniture/building owning Agency at all places.
- DoT's simplified EMF compliance framework should redefine normally compliant class to include those LPBTS with EIRP  $> 2$  and  $\leq 600$  Watt and TEC should accordingly modify the compliance tables for this class.
- Recent actions have been taken by DoT for simplifying the process for SACFA compliance, for low power equipment/small cell radiating EIRP  $\leq 100$  W. DoT should increase this limit to 600 W to cover most of the Small Cells/LPBTSs that are being deployed.
- The criterion of audit of 10% sites by TERM Cells for which TSPs have submitted EMF self-certification may be relaxed. DoT should consult Ministry of Statistics and Programme Implementation (MOSPI) to come up with a scientific sample size for auditing BTS/small cell sites.
- Self-certification criteria for LPBTS should be relaxed to five years.



#### E. Power related issues and solutions

- DoT should take up the case with Ministry of Power, State governments and SERCs for implementation of following:
  - ❖ DISCOMs should make provisions to provide connections for telecom sites to TSPs/IP-Is on priority. The timelines for providing the connection should be fixed (preferably 15 days) and monitored through portal.
  - ❖ Given the importance of DCI for socio-economic development of States, DISCOMs should not charge the TSPs/IP-Is for installation/upgradation of transformer or for pulling the last mile of the electrical connection. If required, states should make necessary provisions for compensating DISCOMs for such waiver of charges.
  - ❖ As the power requirements for small cells remain almost flat throughout the day, DISCOMs should charge TSPs/IP-Is on the basis of running load and not on the sanctioned load.
  - ❖ All DISCOMs should treat Street Furniture Address as Commercial Address for the purpose of providing a power connection and allow multiple power connections at the same SF commercial address to different commercial entities.
  - ❖ DISCOMs should allow sub-letting of connections at street furniture locations.
  - ❖ Smart pre-paid electricity meters should be installed in all existing telecom installations on priority and in a time-bound manner. Also on all new installations, including that for small cells, DISCOMs should only install smart prepaid electric meter.
  - ❖ Provision for one application for bulk processing of electric connection requests for multiple sites should be made available through portals for promoting ease of doing business.
  - ❖ Telecom sites should be provided electricity connection under Utility/Industrial tariff.
  - ❖ DISCOMs should adopt One DISCOM-One Bill-One Payment policy for all Telecom sector service/infra providers users that use electricity connections at multiple locations.
  - ❖ Open Access policy for using solar/renewable energy sources needs to be modified to incorporate provision to aggregate demand from all sites of a TSP/IP-I that are served by a DISCOM.
  - ❖ DISCOMs should share their maintenance schedules with TSPs/IPs (site owners) in advance so that site owners can be prepared in the event of power cuts. The actual duration of all power outages should also be made available area-wise on their website.

- In line with PM GatiShakti initiative, to promote collaborative use of assets, DoT to take up with states that whenever land is provided on favourable terms to utility company and those utility company shares the same for utilization with other utility company, then terms of use of land should not change.

**F. Institutional mechanism for enabling collaboration between Controlling Administrative Authorities and TSPs/IP-Is**

- The Authority has recommended for the expansion of the scope of the National Broadband Mission (NBM) committees and its constituent members to include monitoring small cell deployment on street furniture. The representation of the Broadband Steering Committee should be expanded to co-opt other Ministries or Departments like Civil Aviation, Defense, Ports, Shipping and Waterways, Power, etc. as per requirement.
- In cities where street furniture is controlled by multiple agencies, the concerned State/Local government should nominate one of the assets owning agencies as lead/nodal Authority to monitor the permissions related to small cells.
- The Authority has reiterated its earlier recommendation in the context of defining clear roles for the Central, State, and Local Body authorities in the RoW portal and that the scope of e-market place using a common GIS platform, should be expanded to include small cells as well.

**2.5.1.9 Recommendations dated 12<sup>th</sup> December, 2022 on “Improving Telecom Connectivity/ Infrastructure in far-flung areas of Himachal Pradesh”**

Considering the poor telecom connectivity situation in some parts of hilly state of Himachal Pradesh (HP) and to address the digital divide in the state, the Authority interacted with relevant stakeholders viz Department of Information Technology (DIT) of the Govt. of HP, Senior State government officials, Telecom Service Providers, Bharat Broadband network Limited (BBNL) and local consumer representatives. The Authority identified four worst affected revenue districts i.e, Lahaul & Spiti, Chamba, Kullu and Mandi, in the state where there is a need to take suitable action to improve coverage/connectivity gaps.

To access the present status of telecom infrastructure gap and to bridge the extant digital divide in the state, TRAI obtained the current status of available telecom network connectivity in above mentioned four districts from operating TSPs, BBNL, USOF, Power generation/ transmission companies operating in the state and analyzed data for gaps in telecom infrastructure.

Based on the extensive gap analysis, the Authority made its recommendations on “Improving Telecom Connectivity/ Infrastructure in far-flung areas of Himachal Pradesh”, which was sent to DoT on 12<sup>th</sup> December, 2022 for its consideration.

The Salient points of the Recommendations on “Improving Telecom Connectivity/ Infrastructure in far-flung areas of Himachal Pradesh” are given below:

- a. Capital Expenditure (CAPEX) and Operating Expenditure (OPEX) required for providing telecom infrastructure and connectivity to the 25 uncovered villages (falling under the three revenue districts of Lahaul & Spiti, Kullu and Chamba) of Himachal Pradesh (HP) should be funded by Government through USOF.
- b. As the extant provisions in USOF sponsored “Saturation Of 4G Mobile Services in Uncovered Villages Across the Country” allows for inclusion of additional 20% communities under its present scope, it has been recommended that USOF should immediately include these 25 uncovered villages under its 20% additional scope for providing 4G after carrying out on ground survey of the uncovered villages (falling under the three revenue districts of Lahaul & Spiti, Kullu and Chamba) The requisite overall additional expenditure has also been suggested for providing 4G coverage in these 25 left out villages.
- c. Cellular mobile infrastructure at 38 villages having non-4G based coverage, has also been recommended to be upgraded to 4G based telecom service under the 20% additional scope that exists in USOF sponsored “Saturation Of 4G Mobile Services in Uncovered Villages Across the Country”.
- d. It has been recommended that for 4G saturation scheme, USOF should initially plan VSAT based backhaul connectivity for all such villages where OFC or other backhaul media is not currently available. The VSAT equipment can be taken on monthly rental model or other prevailing models including shared bandwidth model. The VSAT connectivity can be surrendered as soon as the OFC backhaul is made available.
- e. DoT should take it up with Ministry of Defence (MoD), for allocation of one/ two pair of OFC on NFS network for extending telecom coverage (including broadband services) to the villages located in far-flung or border areas in the state under BharatNet project. In case the same is not feasible, MoD may be approached to allocate suitable bandwidth on its existing functional OFC to extend the telecom coverage to such villages.
- f. For revenue districts of Himachal Pradesh viz. Chamba, Kullu, Lahaul & Spiti, and Mandi, the villages that are yet to be connected under Bharat Net Project should be immediately connected on VSAT media. The VSAT connectivity can be surrendered as soon as the OFC backhaul is made available.
- g. For the identified districts of Himachal Pradesh, apart from providing mobile coverage to uncovered villages, a core transmission backhaul network in a ring structure covering all tehsils/talukas should also be funded through USOF. TRAI will work on a detailed investment plan for the same and will recommend it separately.
- h. DoT may take up the case with the State Government of HP for not levying any RoW charges to TSPs/IP-Is for connecting remote and hilly areas in the State including all locations in four districts of Lahaul & Spiti, Mandi, Kullu and Chamba. The RoW rules of the State should also immediately be aligned to the latest amendments carried out by DoT in ROW Rules 2016.

- i. DoT should take up with the State Government to consider providing electricity to telecom sites on priority (within 15 days of connections request) at Utility/Industrial tariff. DoT should also take up with the State Government of HP to consider waiving off last mile installation charges for extending electric connection to telecom sites in remote and hilly areas (including all locations in districts of Lahaul & Spiti, Mandi, Kullu and Chamba) as this will facilitate early roll out of telecom services in these areas and will help bridging the digital divide.
- j. DoT should pursue it with State Government, NHAI and BRO, that in all road construction, road widening or other related works prior coordination with TSPs should be done (through prior notice) and liability of Contractor for making payments for damages to telecom networks should be in-build in the contracts. DoT should also take up with the state government of HP to explore the possibility of constructing utility ducts in all future road widening and new road construction projects. This will help in quick rollout of all utility infrastructure, including telecom, in the state.
- k. The Authority recommends that DoT should take it up with the MNRE and Himachal Pradesh Government for coming up with a scheme to fund installation of solar panels at important strategic telecom sites in remote hilly areas.
- l. DoT should do a site wise analysis of all such sites that are being run by BSNL on VSAT in remote and hilly areas of Himachal Pradesh. For all such sites that are being run to serve strategic or service delivery needs of the Government, the entire operational costs of running these sites should be borne by the Government.

The recommendations on “Improving Telecom Connectivity/ Infrastructure in far-flung areas of Himachal Pradesh” have been placed on TRAI's website [www.trai.gov.in](http://www.trai.gov.in).

#### **2.5.1.10 Recommendations dated 28<sup>th</sup> December, 2022 on “Spectrum Requirements of National Capital Region Transport Corporation (NCRTC) for Train Control System for RRTS Corridors”**

Department of Telecommunications (DoT) through their letter dated 29<sup>th</sup> November, 2021 sought TRAI to furnish its:

- i. Recommendations on administrative assignment of spectrum to NCRTC and the quantum, pricing/ charging thereof and any other terms and conditions, for separate spectrum requirements of NCRTC in 700 MHz band.
- ii. Any other recommendations deemed fit for the purpose, including assignment of the same spectrum for other RRTS / Metro rail network pan-India.

In this regard, a Consultation Paper on “Spectrum Requirements of National Capital Region Transport Corporation (NCRTC) for Train Control System for RRTS Corridors” was issued on 9<sup>th</sup> June, 2022. Comments from 20 stakeholders and counter comment from 1 stakeholder were received. An Open House Discussion (OHD) was held on 25<sup>th</sup> August, 2022 through virtual mode.

Based on the comments received from the stakeholders and its own analysis, TRAI has finalized its Recommendations on “Spectrum Requirements of National Capital Region Transport Corporation (NCRTC) for Train Control System for RRTS Corridors” and sent it to the Government on 28<sup>th</sup> December, 2022.

The salient features of these Recommendations are as follows:

- (a) 5 MHz (paired) spectrum in 700 MHz band be assigned to NCRTC for use in RRTS corridors along the railway tracks. The frequency spectrum to be assigned to NCRTC, shall be adjacent to the frequency spectrum assigned to Indian Railways in 700 MHz band.
- (b) The frequency spectrum assigned to NCRTC may also be assigned to other RRTS/ Metro rail networks, which are geographically separated and not likely to cause any interference to one another.
- (c) To ascertain the feasibility of assigning the same frequency spectrum (assigned to NCRTC and other RRTS/ Metro rail network) to the telecom service providers on non-interference basis, a field trial may be conducted involving the Ministry of Railways and the telecom service providers, under the supervision of DoT.
- (d) To ascertain feasibility of RAN sharing, a field trial of RAN sharing through MOCN may be conducted by the Ministry of Railways involving IR and NCRTC, under the supervision of DoT.
- (e) A separate category of Permission/ License for Captive Non-Public Network for Railway Networks (CNPN-R) may be created. However, the permission/ licensing regime for CNPN-R may be kept very simple and light touch.
- (f) Spectrum charging mechanism and payment terms: -
  - i. The Auction Determined Price for 10 year allocation should be equal to 0.5 times (half times) the Auction Determined Price discovered in the latest 2022 Auction for 700 MHz spectrum band for the respective LSA.
  - ii. The Auction Determined Price of the respective LSAs through which the RRTS/metro rail network passes should be used as a benchmark, adjusted for the corridor area relative to the total geographical area of a particular LSA on a pro-rata basis.
  - iii. In order to design a clear roadmap a similar methodology shall be applicable to other RRTS/Metro rail networks as well as for existing RRTS/Metro rail network, in case of future spectrum requirement.
  - iv. The payment terms shall be flexible providing options of full upfront payment, part upfront payments as well as equal annual instalments.

A copy of these Recommendations has been placed in the TRAI website [www.trai.gov.in](http://www.trai.gov.in).



### 2.5.1.11 Recommendations dated 20<sup>th</sup> February, 2023 on “Rating of Buildings or Areas for Digital Connectivity”

TRAI undertook the process of consultation on suo-moto basis to provide a framework for establishment of an eco-system for development of Digital Connectivity Infrastructure (DCI) in buildings or areas. TRAI issued a Consultation Paper (CP) on “Rating of Buildings or Areas for Digital Connectivity” on 25<sup>th</sup> March, 2022, to seek inputs from stakeholders, on issues raised therein, by 07<sup>th</sup> July, 2022. Based on the comments received, discussions held with stakeholders during the Open House Discussion and analysis thereof, the recommendations of the TRAI on “Rating of Buildings or Areas for Digital Connectivity” were sent on 20<sup>th</sup> February, 2023.

The emphasis of these recommendations is on creating an ecosystem for making Digital Connectivity Infrastructure (DCI) an intrinsic part of any building development plan, which shall facilitate collaboration among various stakeholders including Property Managers (owner or developer or builder etc.), service providers, infrastructure providers, DCI Professionals and Authorities at various urban/local bodies. This framework shall also open job opportunities for the young professionals to be DCI Professional and be part of Designing, Deployment and Evaluation of Digital Connectivity Infrastructure.

TRAI has also recommended to modify “Addendum to Model Building Bye Laws 2016” titled “Provisions for In-Building Solutions Digital Communication Infrastructure” issued by TCPO, MoHUA in March, 2022 and proposed a new draft chapter on Digital Connectivity Infrastructures in Buildings, to be included in Model Building Bye Laws 2016. TRAI emphasized that it is imperative to have a comprehensive framework for the development of Digital Connectivity Infrastructure (DCI) in all types of buildings for accessing the digital services and the Property Manager should provide access of DCI owned by him, to service providers without any charge.

TRAI has made a total of 39 recommendations to the Government, grouped under different sub-headings. The Salient features of the recommendations on “Rating of Buildings or Areas for Digital Connectivity” are:

#### A. Digital Connectivity: An Essential Service

1. Model Building Byelaws (MBBL) and National Building Code of India (NBC) should be amended to incorporate necessary provisions on Digital Connectivity Infrastructure (DCI).
2. DCI should be made an essential component of the building development plans on the line of water supply, electrical services, gas supply, fire protection and fire safety requirements, etc.
3. The Government may work with State Governments/ UTs for incorporation of suitable provisions for DCI development in the respective bye-laws or other relevant laws or other relevant laws of the State Governments/ UTs.
4. Provisions for mandating DCI inside the Buildings, its maintenance, timely upgradation, etc. should be incorporated in the builder-buyer agreement for covering it under the jurisdiction of RERA act and its enforceability by the RERA.

**B. Entities for Development of DCI**

5. The actors to design, deploy and evaluate the DCI should include the Property Manager and DCI Professionals i.e., DCI Designer, DCI Engineer and DCI Evaluator.
6. Any person who possesses the requisite skills, as may be prescribed, can perform the functions as DCI Designer or DCI Engineer or DCI Evaluator.

**C. Procedures and Standards of DCI**

7. A separate chapter should be included in MBBL on comprehensive framework for development of DCI.
8. The Bureau of Indian Standards (BIS) should be tasked to review existing standards and procedures of DCI for Buildings.
9. The “National Building Code Sectional Committee” constituted under NBC, should include members from the Department of Telecommunication and Telecom Industry.
10. The Panel on ‘Information and Communication Enabled Installations’ under NBC should be expanded to include representatives from Telecommunication Engineering Centre (TEC) and Telecommunications Standards Development Society India (TSDSI) and, experts on telecom RF planning and experts on digital modelling of Buildings. The convener of this panel should be the representative nominated by DoT.

**D. On standards for products and procedures for DCI:**

- 11.a) The BIS should prescribe and update standard templates which will be used by Property Managers for collecting building-related information and connectivity requirements of users.
- b) The standards and procedures framed, and templates prescribed for DCI by BIS should be made part of the National Building Code (NBC).
- c) TEC should continue to work as the equipment standardisation and certification agency for standard products and equipment required for DCI.
- d) TEC should prescribe necessary specifications in respect of new products required for upgradation of DCI.
- e) TEC should also ensure that the certified products for DCI are shareable and interoperable.
- f) TEC should enlist and publish such DCI products and equipment which require certification.
12. BIS should prescribe different standards for different classes of Buildings for DCI.
13. BIS should also prescribe such provisions of DCI that would be mandatorily required (essential requirements) to be completed for issuance of completion/occupancy certificate for Buildings.



#### E. Ownership and Access to DCI

14. The Property Manager shall be the owner of the deployed DCI whether created by himself or through his agent and shall be responsible for maintenance, expansion and upgradation of such DCI. The Property Manager shall allow access of DCI to all service providers in fair, non-chargeable, transparent and non-discriminatory manner and shall not have any exclusive arrangements or agreements with any infrastructure/ service provider.

Provided that in case active wireless equipment is installed by a licensee, the licensee will be responsible for maintenance, expansion and upgradation of such DCI and to that extent, the ownership lies with that licensee. However, this installation of active wireless equipment will be carried out on behalf of the Property Manager and Property Manager shall be responsible for ensuring that the licensee compulsorily gives access of such active wireless equipment to all service providers on fair, transparent, non-discriminatory, and non-exclusive manner.

15. An amendment to the present Unified License conditions with a proviso for compulsory sharing of active wireless equipment in the Buildings may be carried out by DoT.
16. The revenues earned by sharing of active wireless equipment, as part of DCI, by lessor licensees should not attract License Fee (LF). For the same, such revenues should be reduced from the Gross Revenues (GR) of the lessor licensee to arrive at Applicable Gross Revenue (ApGR) of such lessor licensee.
17. For existing Buildings where DCI is partly created, the Authority recommends a collaborative approach among stakeholders to decide ownership i.e., Property Manager for development, upgradation and expansion of DCI. However, in cases where DCI is developed by a service provider/ IP-I(s), till no suitable arrangement is worked out to transfer the DCI to the Property Manager, such service providers/ IP-Is shall be governed by the mandatory provisions of the license/ registration conditions.
18. The Authority reiterates its recommendation in para 2.90 of its recommendations dated 29<sup>th</sup> November, 2022 on “Use of Street Furniture for Small Cell and Aerial Fibre Deployment” wherein it was recommended that “enabling provisions or suitable terms and conditions shall be introduced in all telecom licenses and IP-I registration agreement prohibiting the TSPs/IP-I providers from entering into any exclusive contract or right of ways with infrastructure owners/CAAs or any other authority”.

#### F. Provisions for Expansion and Upgradation of DCI

19. In case of introduction of new spectrum bands, change in technologies, increased users' demands etc.,
  - a) DoT should take up with BIS and MoHUA for incorporation of amendments in National Building Code and Model Building Bye-Laws, respectively.
  - b) BIS should also prescribe essential provisions that would be required to be carried out by Property Manager for upgradation and expansion of DCI.

20. The MBBL should have appropriate provisions for the approval of upgradation and expansion of DCI.
21. The Property Manager should ensure upgradation and expansion of DCI in the timeline as will be prescribed in the MBBL.
22. In all existing Buildings owned by the Government, PSUs or autonomous bodies of the Government, commercial buildings and public places such as airports, ports, railway stations, bus stations, metro stations or any other Building as may be decided by MoHUA in consultation with DoT, DCI shall be upgraded or provided to meet the requirements of state-of-the-art digital connectivity. In such cases, the building bye-laws should prescribe a reasonable time frame so as to ensure availability and accessibility of upgraded DCI.
23. For other existing Buildings, the new building bye-laws should be issued by MoHUA within three years after due consultation with various stakeholders. Till then, the Property Managers of such existing Buildings shall implement the new bye-laws voluntarily.

#### **G. Institutional Mechanism for Capacity Building of the DCI Professionals**

24. The Indian Telegraph Act, 1885 should be amended as follows:
  - a) The Central Government may prescribe through rules for formation of Council of Digital Connectivity Infrastructure (CoDCI).
  - b) The rules may specify the manner of certification of persons to design, deploy and evaluate DCI.
  - c) Such rules may specify the qualification of and terms and conditions subject to which, such certification may be granted, including through conduct of examinations for granting such certifications, the fees and charges to be paid thereof, and other connected matters.
25. A Council of DCI (CoDCI) should be established under the Department of Telecommunications (DoT), Ministry of Communication in collaboration with the Ministry of Housing and Urban Affairs (MoHUA), All India Council for Technical Education (AICTE), National Skill Development Council (NSDC), Telecom Sector Skill Council (TSSC), and Construction Skill Development Council (CSDC) or any other organisation/institution as deemed appropriate. The CoDCI shall be responsible for taking all decisions in respect of certification, registration and capacity building of DCI Professionals.
26. Broad roles and responsibilities of CoDCI are as follows:
  - a) To prescribe the qualification, roles and responsibilities of DCI Professionals.
  - b) To study the content of existing similar courses within and outside India and their suitability for DCI Professionals in India.

- c) To suggest appropriate Graduate and Diploma courses including elective/certification courses at various levels for DCI Professionals.
  - d) To accredit institutes and organisations for offering courses related to DCI. Considering that there are large number of Buildings in each State and UT, there may be a requirement of accreditation of institutions across all States and UTs for offering such courses and development of the workforce.
  - e) To conduct examination and certify DCI Professionals.
  - f) To organise training for trainers and skill upgradation of DCI professionals.
  - g) To register qualified and certified DCI Professionals, on similar lines to the CoA. Such Professionals once engaged by Property Managers for development of DCI and declared on their plan documents shall be Persons on Record.
  - h) To maintain a register of DCI Professionals and publish the same on online portal for access and use by various stakeholders.
  - i) To keep a track of various activities related to capacity building and dissemination of the information to all stakeholders, the council needs to develop a digital platform for the cohesive implementation of DCI and linking of the same with various agencies.
  - j) Any other work related to capacity building as deemed fit by the council.
27. The CoDCI, within one year of its establishment or three years from the date of these recommendations, whichever is earlier, should establish a mechanism for certification, registration and capacity building of DCI Professionals including setting up of digital platform for the cohesive implementation of DCI.
28. Till the time CoDCI is established, the provisions in new building bye-laws for DCI as recommended herein must be implemented by utilizing the services of the existing professionals already working in the field of design and development of Buildings and DCI.

#### **H. Digital Platforms and Tools for Development of DCI**

29. A digital platform should be developed and maintained by CoDCI. The broad objectives of the digital platform include but not limited to the following:
- a) Activities related to capacity building of DCI Professionals:
    - i. Publish details of the courses, accredited institutions and the process for admissions, and applicable fee structures if any.
    - ii. Facility for conducting examinations for certification of DCI Professionals.
    - iii. Registration facility for certified DCI Professionals.
  - b) Publish the list of registered DCI Professionals and certified products and tools.

- c) Provide a marketplace for buying and selling certified products. Such e-marketplace should be linked with Open Network for Digital Commerce (ONDC).
  - d) Enable Property Managers to hire the services of registered DCI Professionals.
  - e) Enable interaction and collaboration among various stakeholders through various technologies and tools.
  - f) To provide a feedback mechanism for the services delivered by registered DCI Professionals and certified products used.
  - g) To maintain details regarding development projects/ Buildings approved – ongoing, completed and put to use by the local bodies and other competent authorities.
  - h) To create a repository in respect of the service providers along with technologies and spectrum bands, who are offering services in the area and update the same from time to time.
  - i) To create a repository of knowledge based on past learning of implementation of DCI projects to support in standardization of the processes.
  - j) To make available on a regular basis the information on standards, technology and best practices within India and at global level related to DCI.
  - k) To publish analytical reports/articles on DCI development and related issues.
  - l) To make available acts/ laws/ byelaws/ rules/ regulations related to DCI.
  - m) To facilitate online application, clearance and approval process for service providers seeking access to DCI created in Buildings.
30. Till the time CoDCI is established, the digital platform should be created by DoT to meet immediate objectives, which can later be handed over to the CoDCI.

#### **I. Rating Framework for Digital Connectivity**

- 31. Appropriate provisions for Rating of Buildings for Digital Connectivity should be included in the MBBL, on the lines of the provisions made in the MBBL for rating of green buildings.
- 32. To start with, the Rating of Buildings for digital connectivity should be made mandatory for all existing as well as new Buildings of public importance within two years of issue of the regulatory framework by TRAI or two years from obtaining occupancy certificate, whichever is later. The Authority further recommends that Rating of the following Buildings of public importance should be made mandatory:
  - a) Airports,
  - b) Ports,
  - c) Railway/ metro stations,

- d) Bus stations,
  - e) Buildings of Central/ State/ UT Governments/ Local authorities/ Government agencies/ PSUs,
  - f) Government residential colonies,
  - g) Industrial estates including industrial parks, SEZs, multi-modal logistic parks,
  - h) Large commercial office complexes,
  - i) Large commercial shopping complexes,
  - j) All institutes of higher education including research institutes,
  - k) All multi-specialty hospitals, and
  - l) Any other Buildings as Government may decide.
33. The Rating of Buildings for digital connectivity should be made mandatory for all new Buildings, excluding the class of Buildings as may be decided by MoHUA in consultation with the States/ UTs and other stakeholders.
34. The Property Manager should get Buildings rated for digital connectivity within two years of obtaining the occupancy certificate once TRAI has issued the regulatory framework.
35. For Buildings other than those mandated, the Property Manager may get their Buildings rated for digital connectivity on voluntary basis.

**J. Proposed amendment in the MBBL and NBC**

36. Approval of DCI design, implementation and use of Buildings should remain with the existing institutions as per statute of State/UT Governments for the purpose.
37. The Authorities of the States/UTs responsible for approval of development plans should hire the services of a suitable expert/agency on DCI design and evaluation duly registered and certified by the Council of DCI (CoDCI).
38. A new draft chapter on DCI for the Buildings, as suggested, should be included in the Model Building Bye Laws in line with the recommendations.
39. The BIS Panel on 'Information and Communication Enabled Installations' should develop standards in respect of DCI for the Buildings, to be included in the National Building Code.



## 2.5.2 BROADCASTING SECTOR

Sl. No.	List of Recommendations & Back References and Responses
1	TRAI's response dated 1 <sup>st</sup> August, 2022 to back reference dated 13 <sup>th</sup> January, 2022 received from MIB on TRAI's Recommendations on "Reserve Price for Auction of FM Radio Channels" dated 10 <sup>th</sup> April, 2020.
2	Recommendations dated 7 <sup>th</sup> September, 2022 on "Market Structure/ Competition in Cable TV services".
3	Recommendations dated 29 <sup>th</sup> December, 2022 on "Renewal of Multi-System Operators (MSOs) Registration".
4	Recommendations dated 22 <sup>nd</sup> March, 2023 on "Issues related to Community Radio Stations".
5	Recommendations dated 31 <sup>st</sup> March, 2023 on "Promoting Local Manufacturing in the Television Broadcasting Sector".

### Recommendations & Responses to Back References

#### 2.5.2.1 TRAI's response dated 1<sup>st</sup> August, 2022 to back reference dated 13<sup>th</sup> January, 2022 received from MIB on TRAI's Recommendations on "Reserve Price for Auction of FM Radio Channels" dated 10<sup>th</sup> April, 2020

Ministry of Information and Broadcasting (MIB) vide its reference No. 38032/43/2021-FM/13 dated 13<sup>th</sup> January, 2022 referred back TRAI's Recommendations on "Reserve Price for Auction of FM Radio channels" dated 10<sup>th</sup> April, 2020 requested TRAI to relook the certain points i.e, current trends in data on Gross State Domestic Product (GSDP) data, Gross Revenue (GR), FM radio listenership values in view of the altered scenario due to COVID-19 pandemic, issues related to auction of remaining channels of Phase III and provide further recommendations under section 11(1) of the TRAI Act, 1997.

On the points raised in the MIB's back reference dated 13<sup>th</sup> January, 2022, the TRAI's response dated 1<sup>st</sup> August, 2022 was sent to the Ministry of I&B. Further, as far as the recommendation related auction of remaining channels of Phase-III should be done by delinking them from technology is concerned, for facilitating smooth transition from analog to digital radio broadcasting, radio broadcasters may be permitted to use any technology (analog or digital) for radio broadcasting on the frequency allocated to them through auction in the future, based on their business plan. A service provider has the commercial interest and will be the best judge to decide on most suitable technology. Any restrictions of choice of technology will only impair the development. Accordingly, TRAI reiterated the following recommendation given in its recommendations on "Reserve Price for Auction of FM Radio channels" dated 10<sup>th</sup> April, 2020:

*"The Authority recommends that the auction of remaining channels of Phase-III should be done by delinking them from technology. Broadcasters should be permitted to use any technology (analog or digital or both) for radio broadcasting on the frequency allocated to them through auction in future. In case radio broadcasters opt for digital technology, they should be permitted to broadcast more than one channel subject to technical feasibility on single frequency allocated to them."*

#### 2.5.2.2 Recommendations dated 7<sup>th</sup> September, 2022 on “Market Structure/ Competition in Cable TV services”

On 7<sup>th</sup> September, 2022, TRAI released the Recommendations on “Market Structure/ Competition in cable TV services”. The salient features of the recommendations were:

- In view of sufficient competition in the cable television distribution sector at present, the Authority recommended that there is no need to introduce any additional regulations or take any corrective measures to enhance the level of competition in cable TV distribution sector. However, developments may be monitored, and intervention as felt necessary shall be considered at appropriate time.
- The Authority recommended that the Government may take suitable measures to facilitate and promote sharing of cable infrastructure by Local cable operator with Telecom Service Providers to enable last mile for provision of broadband services. The Government may issue necessary amendments to existing rules/ guidelines, to enable use of last mile infrastructure created by cable operator by TSPs for promoting broadband connections.
- The Government may amend the rules under the Cable Television Networks (Regulation), Act 1995 to explicitly indicate the following:

*“Cable operators may strive to provide last mile access to Access service providers/Internet Service Providers in a fair, transparent and non-discriminatory manner for proliferation of broadband services.”*

#### 2.5.2.3 Recommendations dated 29<sup>th</sup> December, 2022 on “Renewal of Multi-System Operators (MSOs) Registration”

On 29<sup>th</sup> December, 2022, TRAI released the Recommendations on “Renewal of Multi-System Operators (MSOs) Registration”. The salient features of the recommendations were:

- The renewal of MSO registration should be done for a period of 10 years.
- The Authority recommends that at the time of renewal, the processing fee should be kept at ₹ 1 lakh.

Full text of the recommendations is available on TRAI’s website.

#### 2.5.2.4 Recommendations dated 22<sup>nd</sup> March, 2023 on “Issues related to Community Radio Stations”

On 22<sup>nd</sup> March, 2023, TRAI released the Recommendations on “Issues related to Community Radio Stations”. The salient features of the recommendations were:

- Non-profit companies established under Section 8 of Companies Act 2013 are already covered in the extant eligibility criteria for CRS.
- The existing criteria prescribed in MIB guidelines barring certain type of entities for setting up Community Radio Stations are equally applicable to Section 8 companies also.



- Authority reiterates recommendations regarding disqualification of religious bodies from owning broadcasting channels including Community Radio Station as mentioned in its “Recommendations on Issues relating to entry of certain entities into Broadcasting and Distribution activities” dated 12<sup>th</sup> November, 2008.
- The initial period of permission should be increased from five years to ten years, at a time.
- Present policy guidelines for extension/ renewal of CRS license are adequate and should continue to be the same.
- Community Radio Stations will be required to obtain continued service report from the SDM of the concerned District for grant of license extension.
- The duration of advertisement on a CRS should be increased from seven minutes per hour to twelve minutes per hour.
- Not-for-profit organizations, operating in multiple districts, should be allowed to set up multiple CRS in their area of operation.
- An organisation should be allowed to set up a maximum of six CRS throughout the country.
- An organisation seeking to set up multiple stations should submit an undertaking confirming that the programs will be prepared locally and not sent from other CRS.
- MIB may actively pursue with Central and State Governments to sponsor more programmes on CRS for helping CRS in their sustainability.
- All the universities of Central/ State Governments may be provided budgetary support to establish and operate Community Radio Stations. MIB may actively pursue providing license/ spectrum for such universities.
- All the processes for granting CRS should be made online through a single window system.
- SACFA clearance should be granted within one month of application.
- Grant of WOL license should also have a prescribed period preferably within one month of application.

#### **2.5.2.5 Recommendations dated 31<sup>st</sup> March, 2023 on “Promoting Local Manufacturing in the Television Broadcasting Sector”**

On 31<sup>st</sup> March, 2023, TRAI released the Recommendations on “Promoting Local Manufacturing in the Television Broadcasting Sector”. The salient features of the recommendations were:

- There is a need to focus on emerging technologies and tenets of era of convergence and aim at building an ecosystem for broadcast equipment. Centre of Excellence may be established for broadcast equipment or existing Telecom Centres of Excellence may be upgraded to focus on broadcast equipment as well.

- Enable organisation like Telecom Export Promotion Council (TEPC) or some similarly placed organization to promote and facilitate exports of locally manufactured broadcast equipment.
- Telecom Engineering Centre (TEC), Department of Telecommunications should be mandated to test and standardise all the broadcast equipment.
- Strengthen existing R&D Centres in public sector, such as C-DOT. Develop local R&D ecosystem along with industry participation through PPP route. Create 'Technology development Fund' to promote R&D and development of local products/ technologies for Broadcasting Sector. Incentivize use of local CAS, review outcome of such measures to promote R&D and standardisation.
- A go-to market strategy may also be adopted for the products developed through local R&D.
- Linear Set-up boxes should be brought under PLI scheme.
- Periodically review the availability of indigenous components required for broadcasting equipment including chipsets. The availability of local components shall be taken into consideration while setting the localisation levels under the PLI scheme. Review the investment outlay required for obtaining benefits under the PLI scheme with a view to promote manufacturing by MSME for some selected equipment as may be identified from time to time.
- Promote local manufacturing of other relevant components of the television broadcasting sector along the lines of Semicon India Program.
- Define the scope of 'local manufacturing' for different equipment categories in the television broadcasting sector in terms of the percentage of the locally sourced components/services.
- Review FTAs and such agreements with regard to their impact on local manufacturing in the television broadcasting sector.

## 2.6 Additional Information with respect to the Important Recommendations furnished to the Government previously

Over the last few years, TRAI has sent several recommendations to DoT and MIB on important issues concerning growth of telecommunications services and Broadcasting and Cable Services in the country either on reference or suo moto. During the year, TRAI has worked with both DoT and MIB and by the concerted efforts, a number of these recommendations have been accepted during the period. However, many of the important recommendations are still pending for decision/implementation by DoT and MIB which, if implemented, would have significant positive impact on the Telecommunication and Broadcasting Sector. It is felt that the technological advancements and changes keep on happening in the Telecom and Broadcasting Sector, and if decisions are not taken in a reasonable time-frame, the recommendations lose their relevance and the whole purpose of making the Recommendation as envisaged by TRAI is defeated. Sometimes the Recommendations are accepted/implemented partially which defeats the very intent envisaged in comprehensive approach towards a subject while making

recommendations. Further, mere acceptance of recommendations does not help the sector, until they are implemented on ground. If the Recommendations are accepted, but implemented after a lapse of many years, the impact that a particular Recommendation is supposed to make on the sector reduces due to this delay.

Therefore, there is a need for feedback mechanism through which the Ministries may share information with TRAI about the acceptance/implementation or otherwise of TRAI's Recommendations. In cases of non-acceptance/partial acceptance/delay in acceptance, the reasons of rejection/partial acceptance/pendency of TRAI's recommendations with relevant details need to be shared with TRAI by the concerned ministry (DoT/MIB). This mechanism whereby there is periodic review of implementation of pending recommendations of TRAI in DoT/MIB, will help TRAI in future formulation of policies and regulatory framework.

With above objective in view and to create central repository for real-time tracking of status of all recommendations, TRAI has developed a Recommendation Status Portal which can be accessed jointly by TRAI, DoT and MIB for updating the recommendations made and the details regarding the action taken/status of Recommendations.

#### **2.6.1 Accepted recommendations related to the Telecom Sector during the period**

Out of the several Recommendations made by TRAI to DoT in the past, the following important recommendations which have been accepted by the Government during the year 2022-23 (as per the status provided by DoT) and the resultant positive impact of implementation of these Recommendations on the Telecom sector are detailed below:

- (i) Recommendations on "Auction of spectrum in frequency bands identified for IMT/5G" were forwarded on 11<sup>th</sup> April, 2022. The Government accepted these recommendations which paved the way for the Government to Auction the 5G Spectrum in July/August 2022. 5G services have since been launched in India in October, 2022.

#### **2.6.2 Accepted Recommendations related to the Broadcasting & Cable Services Sector during the period 2022-23**

One important Recommendation on "Issues relating to Uplinking and Downlinking of Television channels in India" was forwarded to the Government on 25<sup>th</sup> June, 2018. During the year 2022-23, Ministry of Information and Broadcasting (MIB) vide its order dated 09<sup>th</sup> November, 2022 has issued Guidelines for Uplinking and Downlinking of Satellite Television Channels in India, 2022.

#### **2.6.3 Pending recommendations related to the Telecom Sector**

Some of the important Recommendations, which were forwarded to the Department of Telecommunication (DoT) in the past, are pending. The list of such Recommendations that are pending with the Government for acceptance and implementation as on 31<sup>st</sup> March, 2023 are detailed below:

Sl. No.	Topic	Date of Forwarding
1	Recommendations on “Privacy, Security and Ownership of the Data in the Telecom Sector”.	16-07-2018
2	Recommendations on “Reforming the Guidelines for Transfer/Merger of Telecom Licenses”.	21-02-2020
3	Recommendations on “Cloud Services”.	14-09-2020
4	Recommendations on “Traffic Management Practices (TMPs) and Multi-Stakeholder Body for Net Neutrality”.	22-09-2020
5	Recommendations on “Regulatory Framework for Promoting Data Economy Through Establishment of Data Centres, Content Delivery Networks, and Interconnect Exchanges in India”.	18-11-2022
6	Recommendations on “Licensing framework for establishing and operating Satellite Earth Station Gateway (SESG)”.	29-11-2022
7	Recommendations on “Improving Telecom Connectivity/ Infrastructure in far-flung areas of Himachal Pradesh”.	12-12-2022
8	Recommendations on “Rating of Buildings or Areas for Digital Connectivity”.	20-02-2023

#### 2.6.4 Pending Recommendations related to the Broadcasting & Cable Services Sector.

Several Recommendations were made by the Authority to the Ministry of Information and Broadcasting from time to time. However, 11 Recommendations forwarded to the Ministry of Information and Broadcasting which are pending with Government are given below:

Sl. No.	TOPIC	Date of Forwarding
1	Recommendations on “Restrictions on certain entities from entering business of broadcasting and distribution of TV channels”.	28-12-2012
2	Recommendations on “Issues related to Radio Audience Measurement and Ratings in India”.	15-09-2016
3	Recommendations on “Issues related to Digital Terrestrial Broadcasting (DTT) in India”.	31-01-2017
4	Recommendations on “Issues related to Digital Radio Broadcasting in India”.	01-02-2018
5	Recommendations on “Reserve Price for auction of FM Radio Channels in new cities”.	10-04-2020
6	Recommendations on “Interoperability of Set-Top Box”.	10-04-2020
7	Recommendations on “Review of Television Audience Measurement and Rating System in India”.	28-04-2020
8	Recommendations on “Market Structure / Competition in Cable TV services”.	07-09-2022
9	Recommendations on “Renewal of Multi-System Operators (MSOs) Registration”.	29-12-2022
10	Recommendations on “Issues related to Community Radio Stations”.	22-03-2023
11	Recommendations on “Promoting Local Manufacturing in the Television Broadcasting Sector”.	31-03-2023

**2.7** During the year 2022-23, the Authority in discharge of its functions assigned under the Telecom Regulatory Authority of India Act, 1997, has framed the following Regulations in the Broadcasting sector:

#### BROADCASTING SECTOR

Sl. No.	List of Regulations
1	Amendments to the “Regulatory Framework for Broadcasting and Cable Services” dated 22 <sup>nd</sup> November, 2022.

#### 2.7.1 Amendments to the “Regulatory Framework for Broadcasting and Cable Services” dated 22<sup>nd</sup> November, 2022

TRAI on 22<sup>nd</sup> November, 2022, notified the Telecommunication (Broadcasting and Cable) Services (Eighth) (Addressable Systems) Tariff (Third Amendment) Order, 2022 and the Telecommunication (Broadcasting and Cable) Services Interconnection (Addressable Systems) (Fourth Amendment) Regulations, 2022. The main features of the amendments were as follows:

- (i) Continuance of forbearance on MRP of TV channels.
- (ii) Only those channels which are having MRP of ₹19/- or less will be permitted to be part of a bouquet.
- (iii) A broadcaster can offer a maximum discount of 45% while pricing its bouquet of pay channels over the sum of MRPs of all the of pay channels in that bouquet.
- (iv) Discount offered as an incentive by a broadcaster on the maximum retail price of a pay channel shall be based on combined subscription of that channel both in a-la-carte as well as in bouquets.

## 2.8 TARIFF ORDERS

During the year 2022-23, the Authority issued the following Tariff Orders in the Telecom Sector:

### TELECOM SECTOR

Sl. No.	List of Tariff Order
1.	Telecom Tariff (68 <sup>th</sup> Amendment) Order, 2022 dated 7 <sup>th</sup> April, 2022.
2.	Telecom Tariff (69 <sup>th</sup> Amendment) Order, 2022 dated 6 <sup>th</sup> December, 2022.

#### 2.8.1 Telecom Tariff (68<sup>th</sup> Amendment) Order dated 7<sup>th</sup> April, 2022

After following an exhaustive consultation process and online Open House Discussion, the TRAI notified the Telecom Tariff (68<sup>th</sup> Amendment) Order, 2022 on “Regulatory framework for USSD-based tariff” was issued on 7<sup>th</sup> April, 2022 which is available at link [https://traigov.in/sites/default/files/Regulation\\_07042022.pdf](https://traigov.in/sites/default/files/Regulation_07042022.pdf).

TRAI had earlier issued the Telecommunication Tariff (56<sup>th</sup> Amendment) Order dated 22<sup>nd</sup> November, 2013 prescribing a ceiling tariff of ₹ 1.50 per USSD session for USSD-based mobile banking service. Subsequently, the Authority through Telecommunication Tariff (61<sup>st</sup> Amendment) Order, 2016 reduced USSD-based tariff for banking and payment services ceiling from ₹ 1.50 to ₹ 0.50 per session.

In order to review the existing regulatory framework for USSD based tariffs, the Authority issued draft Telecommunication Tariff (66<sup>th</sup> Amendment) Order on 24<sup>th</sup> November, 2021 whereby proposing ‘Nil’ charge for USSD sessions for mobile banking and payment services. The comments and counter comments on the same were invited from the stakeholders by 8<sup>th</sup> December 2021 and 17<sup>th</sup> December, 2021, respectively.

After analysing the comments received from stakeholders and other data/ information available with it, the Authority was of the view that, to protect the interests of the USSD users and to promote digital financial inclusion, rationalization of USSD charges is required. In view of the same, the Authority decided that the subscribers would not be charged for USSD for mobile banking and payment service. Accordingly, Telecommunication Tariff (68<sup>th</sup> Amendment) Order, 2022 was notified on 7<sup>th</sup> April, 2022 prescribing ‘Nil’ charge for USSD



sessions for mobile banking and payment services. The Authority would continue to keep a watch on the progress of service and may review the charge after a period of two years.

## 2.8.2 Telecom Tariff (69<sup>th</sup> Amendment) Order dated 6<sup>th</sup> December, 2022

After following an the due consultation process and Open House Discussion, the TRAI notified the Telecom Tariff (69<sup>th</sup> Amendment) Order, 2022 on 6<sup>th</sup> December, 2022 on “Tariff for SMS and Cell Broadcast alerts disseminated through Common Alerting Protocol (CAP) platform during disasters/non-disasters” which is available at [https://traigov.in/sites/default/files/Regulation\\_06122022.pdf](https://traigov.in/sites/default/files/Regulation_06122022.pdf)

The Amendment Order inserted Schedule XIII to Principal Tariff Order, in clause 3 of the Telecommunication Tariff Order, 1999, which provides the following Tariff for Short Message Service (SMS) and Cell Broadcast alerts disseminated by service providers through Common Alerting Protocol platform.

ITEM	Per SMS (in ₹)	Per Cell Broadcast (in ₹)
(1) Alerts or messages sent during non-disaster situations, other than those sent as per directions issued under the Disaster Management Act, 2005 (53 of 2005)	0.02	Nil
(2) Alerts or messages sent prior to notification of disaster or after the expiry of disaster, as per directions issued under the Disaster Management Act, 2005 (53 of 2005)	Nil	Nil
(3) Alerts or messages sent during a disaster situation, as per directions issued under the Disaster Management Act, 2005 (53 of 2005)	Nil	Nil
(4) Alerts or messages sent during a disaster situation, other than those sent as per directions issued under the Disaster Management Act, 2005 (53 of 2005)	0.02	Nil

## 2.9 DIRECTIONS

TRAI issued the following Directions and Order to the Service Providers during the year 2022-23 for compliance of its order/Regulations: -

## TELECOM SECTOR

Sl. No.	List of Directions
1	Direction dated 6 <sup>th</sup> December, 2022 issued to all Service Providers regarding revising proforma for submission of quarterly Revenue and usage report.
2	Order dated 12 <sup>th</sup> December, 2022 issued to all Service Providers to furnish information on Gross Revenue, Applicable Gross Revenue, Adjusted Gross Revenue, Spectrum Usage Charges and Licence Fee, etc.
3	Direction dated 16 <sup>th</sup> February, 2023 issued to all Access Service Providers regarding measures to curb unauthorised activities using telecom resources and amendment in Codes of Practice under Telecom Commercial Communication Customer Preference Regulation, 2018.
4	Direction dated 16 <sup>th</sup> February, 2023 issued to all Access Providers regarding measures to curb misuse of Headers and Content Templates under Telecom Commercial Communication Customer Preference Regulation, 2018.
5	Direction dated 23 <sup>rd</sup> February, 2023 issued to Telecom Service Providers to submit compliance reports of benchmarks of Quality of Service parameters for each State and Union Territory.
6	Direction dated 28 <sup>th</sup> March, 2023 issued to Telecom Service Providers regarding reporting of major network outages to TRAI.

### 2.9.1 Direction dated 6<sup>th</sup> December, 2022 issued to all Telecom Service Providers regarding submission of periodical reports on revenue and usage

The Authority on 6<sup>th</sup> December, 2022 issued direction to all the TSPs to submit quarterly report on revenue and usage to the Authority within forty five days from the end of each quarter, except the fourth quarter of the financial year for which the report shall be submitted within 60 days from the end of the quarter, in the revised Format-A (for wireless services) and Format-B (for wireline services) annexed with this Direction.

The Direction is available at link [https://www.trai.gov.in/sites/default/files/Direction\\_06122022.pdf](https://www.trai.gov.in/sites/default/files/Direction_06122022.pdf).

### 2.9.2 Order dated 12<sup>th</sup> December, 2022 issued to all Service Providers to furnish information on Gross Revenue, Applicable Gross Revenue, Adjusted Gross Revenue, Spectrum Usage Charges and Licence Fee, etc.

The Authority on 12<sup>th</sup> December, 2022 issued an Order to all the Service Providers to furnish to the Authority both hard copy and soft copy of the quarterly Statements of Revenue, Applicable Gross Revenue, Adjusted Gross Revenue, Spectrum usage Charge and Licence Fee file with the licensor (DoT) within forty five days from the end of each quarter, except the fourth quarter of the financial year for which the Statements shall be submitted within sixty days from the end of the quarter.

Copy of statements of annual reconciliation between the figures appearing in the quarterly statements and those appearing in Annual Accounts of such service provider, along with the copy of Auditor's Certificate, within one month of filing them with the licensor (DoT).

The Order is available at link [https://www.trai.gov.in/sites/default/files/Direction\\_13122022.pdf](https://www.trai.gov.in/sites/default/files/Direction_13122022.pdf).

### **2.9.3 Direction dated 16<sup>th</sup> February, 2023 issued to all Access Service Providers regarding measures to curb unauthorised activities using telecom resources and amendment in Codes of Practice under Telecom Commercial Communication Customer Preference Regulation, 2018**

The Authority on 16<sup>th</sup> February, 2023 issued direction to all Access Providers to ensure traceability of messages from PE to the recipient by obtaining from the PE the complete chain of the telemarketers engaged by such PE. Access Providers were also directed to ensure that - the promotional messages are not transmitted through unregistered telemarketers (UTM) or telemarketers using telephone numbers and to take measures to stop misuse of headers and content templates by any registered telemarketer (RTM) or unauthorized telemarketers for transmission of such messages. Access Providers were also directed to take action against all such erring telemarketers as per the provisions of the regulations and also initiate actions as per relevant legal laws and to notify details of such telemarketers to other Access Providers, who shall, in turn, bar these entities from sending any kind of commercial communications through their networks.

The Direction is available at link [https://www.trai.gov.in/sites/default/files/Direction\\_16022023.pdf](https://www.trai.gov.in/sites/default/files/Direction_16022023.pdf).

### **2.9.4 Direction dated 16<sup>th</sup> February, 2023 issued to all Access Providers regarding measures to curb misuse of Headers and Content Templates under Telecom Commercial Communication Customer Preference Regulation, 2018**

The Authority on 16<sup>th</sup> February, 2023 issued direction to all Access Providers to-

- a) reverify all registered Headers & Message Templates on DLT platform and block all unverified Headers and Message Templates within 30 and 60 days, respectively.
- b) ensure to develop, within 60 days, a system to (i) temporarily deactivate all headers which remain unused in last 30 days; (ii) reactivate headers by PEs through an online process and (iii) ensure that PE shall classify every header at the time of registration as 'temporary' or 'permanent' header, as the case may be, and that the 'temporary' header shall be deactivated after the time duration for which such 'temporary' header has been registered;
- c) ensure that each Header is distinct and shall reject, during registration, such Headers which are similar by virtue of combination of small case or large case letters.
- d) incorporate procedure for quarterly re-verification of Headers and content templates in their respective CoPs.

- e) limit the number of variable portions in content template of messages to two variables only provided that, for the reasons to be recorded, a third variable may be allowed in case of exigency; and ensure that variables in the content templates are non-contiguous.

The Direction is available at link [https://www.trai.gov.in/sites/default/files/Directions\\_16022023.pdf](https://www.trai.gov.in/sites/default/files/Directions_16022023.pdf).

### **2.9.5 Direction dated 23<sup>rd</sup> February, 2023 issued to Telecom Service Providers to submit compliance reports of benchmarks of Quality of Service parameters for each State and Union Territory**

The Authority has observed that submission of State and UT-wise data for Quality-of-Service parameters is an essential requirement for optimum analysis of quality of service provided in various States and UTs.

The TSPs have been directed to submit State and Union Territory-wise reports, in respect of QoS parameters specified in regulation 3 for Basic (wireline) Services and 'Network Service Quality parameters' of regulation 5 for Cellular Mobile Telephone Services, on quarterly basis starting from the quarter ending 31<sup>st</sup> March, 2023.

In this regard, a letter dated 28<sup>th</sup> March, 2023 had been received from COAI regarding extension of time for submitting the State wise PMR data for QoS parameters to TRAI, starting from the quarter ending 30<sup>th</sup> September, 2023. In this regard, a letter dated 19<sup>th</sup> April, 2023 was issued to COAI, to grant two months of extension for submission of PMR data for QoS parameter starting from quarter ending March, 2023.

### **2.9.6 Direction dated 28<sup>th</sup> March, 2023 issued to Telecom Service Providers regarding reporting of major network outages to TRAI**

The Authority has observed that incidences of major network outages of telecom networks occurring due to technical reasons or due to natural calamities are not reported by TSPs to TRAI. These major network outages in the country for prolonged duration, especially in border and hilly areas, adversely affect the availability or quality of service in affected areas.

TRAI had issued a direction dated 28<sup>th</sup> March, 2023 to all Telecom Service Providers (TSPs) to report the following major network outages to TRAI.

- a) all incidences of major network outages affecting the telecom services to the entire consumers of a district (revenue district as defined by the Union/State Government) continuously for a period of more than four hours, within twenty-four hours of their occurrence, in the format specified in the Direction.
- b) the root cause of such major network outage and corrective actions taken thereof, within seventy-two hours of restoration of services, in the format specified in the Direction.

## BROADCASTING SECTOR

During the year 2022-23, no directions were issued for this sector.

### 2.10 CONSULTATION PAPERS

TRAI issued following Consultation Papers to seek views of the stakeholders on the various issues:

## TELECOM SECTOR

Sl. No.	List of Consultation Papers
1	Consultation Paper dated 9 <sup>th</sup> June, 2022 on “Spectrum Requirements of National Capital Region Transport Corporation (NCRTC) for Train Control System for RRTS Corridors”.
2	Consultation Paper dated 25 <sup>th</sup> July, 2022 on “Embedded SIM for M2M Communications”.
3	Consultation Paper dated 26 <sup>th</sup> July, 2022 on “Rationalization of Entry Fee & Merger of Bank Guarantees in Unified License (UL)/Unified License (VNO)”.
4	Consultation Paper dated 5 <sup>th</sup> August, 2022 on “Leveraging Artificial Intelligence (AI) and Big Data (BD) in Telecommunication Sector”.
5	Consultation Paper dated 29 <sup>th</sup> November, 2022 on “Introduction of Calling Name Presentation (CNAP) in Telecommunication Networks”.
6	Consultation Paper dated 10 <sup>th</sup> December, 2022 on “Data Communication Services Between Aircraft and Ground Stations Provided by Organizations Other Than Airports Authority of India”.
7	Consultation Paper dated 23 <sup>rd</sup> December, 2022 on “Licensing Framework and Regulatory Mechanism for Submarine Cable Landing in India”.
8	Consultation Paper dated 13 <sup>th</sup> January, 2023 on “Telecommunication Infrastructure Sharing, Spectrum Sharing, and Spectrum Leasing”.
9	Consultation Paper dated 30 <sup>th</sup> January, 2023 on “Regulating Converged Digital Technologies and Services - Enabling Convergence of Carriage of Broadcasting and Telecommunication services”.
10	Consultation Paper dated 9 <sup>th</sup> February, 2023 on “Consultation Paper on Introduction of Digital Connectivity Infrastructure Provider (DCIP) Authorization under Unified License (UL)”.
11	Consultation Paper dated 24 <sup>th</sup> February, 2023 on “Draft Regulation on Review of The Quality of Service (Code of Practice for Metering and Billing Accuracy) Regulations, 2023”.



### 2.10.1 Consultation Paper dated 9<sup>th</sup> June, 2022 on “Spectrum Requirements of National Capital Region Transport Corporation (NCRTC) for Train Control System for RRTS Corridors”

Department of Telecommunication (DoT) through their letter dated 29<sup>th</sup> November, 2021 have informed TRAI that National Capital Region Transport Corporation (NCRTC) has requested DoT for allotment of spectrum for Train Control System for Regional Rapid Transit System (RRTS) being implemented by NCRTC in 8 rail corridors including 3 rail corridors of approximate length of 350 Km along Delhi – Ghaziabad – Meerut, Delhi – Gurugram – Alwar, Delhi – Panipat in Phase-I.

In this background, DoT requested TRAI to provide:

- i. Recommendations on administrative assignment of spectrum to NCRTC and the quantum, pricing / charging thereof and any other terms and conditions, for separate spectrum requirements of NCRTC in 700 MHz band.
- ii. Any other recommendations deemed fit for the purpose, including assignment of the same spectrum for other RRTS / Metro rail network pan-India.

In this regard, a Consultation Paper on “Spectrum Requirements of National Capital Region Transport Corporation (NCRTC) for Train Control System for RRTS Corridors” was released on 9<sup>th</sup> June, 2022 seeking inputs from the stakeholders have been placed on TRAI’s website ([www.trai.gov.in](http://www.trai.gov.in)). In this consultation paper, specific issues have been raised for consideration of stakeholders on the above-mentioned issues.

The Consultation Paper is available on TRAI’s website [www.trai.gov.in](http://www.trai.gov.in).

### 2.10.2 Consultation Paper dated 25<sup>th</sup> July, 2022 on “Embedded SIM for M2M Communications”

Department of Telecommunication (DoT) through their letter dated 9<sup>th</sup> November, 2021 have sought TRAI’s recommendations, under TRAI Act, 1997, for holistic deployment of e-SIM in Indian Telecom network including implementation mechanism under different profile – configurations and switch over of profiles by TSPs.

In this regard, a Consultation Paper on "Embedded SIM for M2M Communications" was released on 25<sup>th</sup> July, 2022 seeking inputs from the stakeholders. In this consultation paper, issues pertaining to holistic deployment of eUICC (Embedded Universal Integrated Circuit Card) in Indian Telecom network including implementation mechanism under different profile configurations and switch over of profiles by TSPs have been raised, for consideration and comments of stakeholders.

The Consultation Paper is available on TRAI’s website [www.trai.gov.in](http://www.trai.gov.in).

### 2.10.3 Consultation Paper dated 26<sup>th</sup> July, 2022 on “Rationalization of Entry Fee & Merger of Bank Guarantees in Unified License (UL)/Unified License (VNO)”

As per the current UL/ UL (VNO) regime, there is a provision of different Entry Fee and two separate bank guarantees (BGs) i.e., Financial Bank Guarantee (FBG) and Performance Bank Guarantee (PBG) for each service authorization.



In this connection, a reference was received from DoT on 3<sup>rd</sup> March, 2022 on rationalization of Entry Fee and Bank Guarantees in Unified Licence (UL) and Unified Licence Virtual Network Operator {UL (VNO)}, wherein DoT is of the view that –

- ❖ Entry Fee should be reduced and made uniform across all authorizations.
- ❖ Both FBG & PBG should be merged, and the amount of single BG may be prescribed for each authorization.

Accordingly, the Department of Telecommunications (DoT) requested TRAI to provide recommendations on rationalization of Entry Fee and Bank Guarantees in Unified Licence (UL) and Unified Licence Virtual Network Operator {UL (VNO)}.

TRAI on 26<sup>th</sup> July, 2022, released the Consultation Paper “Rationalization of Entry Fee & Merger of Bank Guarantees in Unified License (UL)/ Unified License (VNO) (New Reference)” to solicit the comments of stakeholders before finalizing recommendations on the rationalization of the Entry Fee, merger of bank guarantees, and prescribing a single amount of BG for different authorizations/licenses/registrations/permissions.

The last date for submitting comments was 23<sup>rd</sup> August, 2022 and counter comments was 6<sup>th</sup> September, 2022.

Later, in view of various requests received from stakeholders, the last date of submission of comments was extended till 6<sup>th</sup> September, 2022 and counter comments till 20<sup>th</sup> September, 2022.

The Consultation Paper is available on TRAI’s website [www.trai.gov.in](http://www.trai.gov.in).

#### **2.10.4 Consultation Paper dated 5<sup>th</sup> August, 2022 on “Leveraging Artificial Intelligence (AI) and Big Data (BD) in Telecommunication Sector”**

On 5<sup>th</sup> August, 2022, the Authority issued a Consultation Paper on “Leveraging Artificial Intelligence (AI) and Big Data (BD) in Telecommunication Sector”. This is with reference to the Department of Telecommunications (DoT)’s letter dated 6<sup>th</sup> June 2019 through which DoT has requested TRAI to furnish recommendations on the provision no. 2.2(g) of NDCP i.e., “Leveraging Artificial Intelligence and Big Data in a synchronized and effective manner to enhance the overall quality of service, spectrum management, network security and reliability”. The aspects of AI and BD referred by the DoT for seeking recommendations from TRAI mainly focus on the telecom sector. AI is contributing to the development and revolutionization of each and every sector. Therefore, the scope of the Consultation Paper has been widened to cover all the sectors. The opportunities and risks in adoption of AI and BD have been discussed in the Consultation paper. The issue related to various constraints and possible solutions and initiatives that may be taken to address the risks and concerns, and also for faster adoption of AI.

The Consultation Paper is available on TRAI’s website [www.trai.gov.in](http://www.trai.gov.in).

#### **2.10.5 Consultation Paper dated 29<sup>th</sup> November, 2022 on “Introduction of Calling Name Presentation (CNAP) in Telecommunications Networks”**

Department of Telecommunications (DoT) through a reference dated 21<sup>st</sup> March, 2022 requested the Authority to provide its recommendations under relevant Section of TRAI Act, 1997 (as amended) on introducing the Calling Name Presentation (CNAP) facility in the Indian Telecommunication Network.

In this regard, a Consultation Paper on “Introduction of Calling Name Presentation (CNAP) in Telecommunication Networks”, was released on 29<sup>th</sup> November, 2022 seeking comments/ counter comments from the stakeholders.

The Consultation Paper is available on TRAI’s website [www.trai.gov.in](http://www.trai.gov.in).

#### **2.10.6 Consultation Paper dated 10<sup>th</sup> December, 2022 on “Data Communication Services Between Aircraft and Ground Stations provided by Organizations Other Than Airports Authority of India”**

Department of Telecommunication (DoT), through a letter dated 12<sup>th</sup> April, 2022, has inter-alia stated that VHF data link services consist of data to track aircrafts for the safety of flights. The Ministry of Communications has made frequency assignments to M/s Société Internationale de Télécommunications Aéronautiques (SITA) and M/s Bird Consultancy Services (BCs) to operate VHF Data Communication Link between aircrafts and ground stations. Considering that VHF Data Link Services to provide Aircraft Communication Addressing and Reporting (ACAR) service can be beneficial to track aircrafts on a real-time basis and help investigations/ search and rescue operations in the unfortunate event of aviation disaster, DoT has requested TRAI under the terms of clause 11(1)(a) of TRAI Act, 1997 (as amended) to provide recommendations on the following:

- i. An appropriate mechanism to regulate the services provided by these organizations.
- ii. The manner in which the frequency assignment should be made to these organizations, in light of the Supreme Court Judgment made in the 2G case in 2012 - frequencies only through auction to assign radio.

In this regard, a Consultation Paper on "Data Communication Services Between Aircraft and Ground Stations Provided by Organizations Other Than Airports Authority of India" was released on 10<sup>th</sup> December, 2022 seeking inputs from stakeholders have been placed on TRAI's website ([www.trai.gov.in](http://www.trai.gov.in)).

A copy of the Consultation Paper is available in the TRAI website [www.trai.gov.in](http://www.trai.gov.in).

#### **2.10.7 Consultation Paper dated 23<sup>rd</sup> December, 2022 on “Licensing Framework and Regulatory Mechanism for Submarine Cable Landing in India”**

Department of Telecommunications (DoT) through its reference letter dated 12<sup>th</sup> August, 2022 has approached TRAI, sharing its concern over some Indian International Long Distance Operators (ILDOS) for not having any stake in submarine cable system yet seeking clearance on behalf of the owners of submarine cable for laying/ maintaining such cables in Indian Territorial water/ Exclusive Economics Zones and also for applying to set up of Cable Landing

Station (CLS) for such submarine cables. DoT has sought recommendations of TRAI on licensing framework and regulatory mechanism for submarine cables landing in India within existing UL-ILD/ standalone ILD license.

Accordingly, TRAI issued a Consultation Paper (CP) on “Licensing Framework and Regulatory Mechanism for Submarine Cable Landing in India” on 23<sup>rd</sup> December, 2022 seeking views of stakeholders on the issues flagged in the reference received from DoT. The said Consultation Paper is also available on TRAI’s website [www.trai.gov.in](http://www.trai.gov.in).

#### **2.10.8 Consultation Paper dated 13<sup>th</sup> January, 2023 on “Telecommunication Infrastructure Sharing, Spectrum Sharing, and Spectrum Leasing”**

Department of Telecommunications (DoT), through its letter dated 10<sup>th</sup> February, 2022, informed TRAI that to promote optimum resource utilization among the licensees, it is proposed to allow sharing of all kinds of telecom infrastructure and network elements among all categories of service providers, licensed under the Section 4 of Indian Telegraph, Act, 1885, for provision of authorized telecom services. Through the said letter, DoT sought TRAI's recommendations under Section 11(1)(a) of TRAI Act, 1997 (as amended) on this issue.

Considering the request of the stakeholders to permit inter-band spectrum sharing and leasing of spectrum, the issues related to spectrum sharing and leasing of spectrum have also been taken up along with the issues relating to infrastructure sharing.

In this regard, TRAI released a Consultation Paper on “Telecommunication Infrastructure Sharing, Spectrum Sharing, and Spectrum Leasing” on 13<sup>th</sup> January, 2023, seeking comments from the stakeholders by 3<sup>rd</sup> March, 2023 and counter comments by 17<sup>th</sup> March, 2023.

A copy of the Consultation Paper is available on the TRAI website [www.trai.gov.in](http://www.trai.gov.in).

#### **2.10.9 Consultation Paper dated 30<sup>th</sup> January, 2023 on “Regulating Converged Digital Technologies and Services – Enabling Convergence of Carriage of Broadcasting and Telecommunications services”**

The Authority on 30<sup>th</sup> January, 2023 issued a Consultation Paper on “Regulating Converged Digital Technologies and Services – Enabling Convergence of Carriage of Broadcasting and Telecommunication services” for seeking views of stakeholders on changes required, if any, in legal, administrative, and licensing framework to deal with the challenges posed by converging technologies.

#### **2.10.10 Consultation Paper dated 9<sup>th</sup> February, 2023 on “Introduction of Digital Connectivity Infrastructure Provider (DCIP) Authorization under Unified License (UL)”**

DoT vide its reference dated 11<sup>th</sup> August, 2022 sought recommendations of TRAI regarding creation of a new category of license namely “Telecom Infrastructure License (TIL)” license and its terms and conditions of such license, applicable license fee etc. under section 11(1) (a) of the TRAI Act 1997.

The National Digital Communications Policy (NDCP-2018) emphasizes a lot on digital infrastructure stating that “Digital infrastructure and services are increasingly emerging as key enablers and critical determinants of a country’s growth and well-being”. NDPC-2018 also envisages “Enabling unbundling of different layers (e.g., infrastructure, network, services, and applications layer) through differential licensing” as one of the strategies for fulfilling its ‘Propel India’ mission.

A robust Digital Connectivity Infrastructure (DCI) contributes significantly to economic development both by increasing productivity and by providing amenities that enhance the quality of life. In context of DCI development, various countries have aligned their telecom licensing framework to increased utilization of resources (including spectrum), reduction of cost, attract investment and strengthen the service delivery segment by segregating the infrastructure/network layer and service/ application layers. The advantage of such frameworks is that they simplify the licensing process and provide a more conducive environment for market growth and improvement of the socio-economic welfare of society while considering the convergence of technologies.

DCI plays a vital and leading role in successful implementation of various Government schemes under Digital India, Make in India, Ayushman Bharat Digital Mission (ABDM), and development of Smart Cities. The recently launched 5G will transform India into a broadband superhighway and improve the country's socio-economic structure. In this light, it's also imperative that new players are encouraged through conducive licensing framework for creation of both active and passive infrastructure. This is likely to result in increased common sharable DCI and network resources, reduction in cost, attract investment, strengthen the service delivery segment, and could also prove to be catalyst in proliferation of 5G services for Industry 4.0, enterprise segment and various other use cases.

Accordingly, TRAI issued a Consultation Paper (CP) on “Introduction of Digital Connectivity Infrastructure Provider (DCIP) Authorization under Unified License (UL)” on 9<sup>th</sup> February, 2023. A copy of the consultation paper is also available on TRAI’s website [www.trai.gov.in](http://www.trai.gov.in).

#### **2.10.11 Consultation Paper dated 24<sup>th</sup> February, 2023 on Draft Regulation on Review of The Quality of Service (Code of Practice for Metering and Billing Accuracy) Regulations, 2023**

TRAI issued a Consultation Paper on 24<sup>th</sup> February, 2023 seeking comments of stakeholders on Draft Regulation and Draft Guidelines on "Quality of Service (Code of Practice for Metering and Billing Accuracy) Regulations, 2023".

The consultation paper issued is available at link: <https://tra.gov.in/draft-regulation-review-quality-service-code-practice-metering-and-billing-accuracy-regulations-2023>.

## BROADCASTING & CABLE TV SECTOR

Sl. No.	List of Consultation Papers
1	Consultation Paper dated 12 <sup>th</sup> April, 2022 on “Issues relating to Media Ownership”.
2	Consultation Paper dated 7 <sup>th</sup> May, 2022 on “Issues related to New Regulatory Framework for Broadcasting and Cable Services”.
3	Consultation Paper dated 20 <sup>th</sup> July, 2022 on “Renewal of Multi-System Operators (MSOs) Registration”.
4	Consultation Paper dated 21 <sup>st</sup> July, 2022 on “Issues related to Community Radio Stations”.
5	Consultation Paper dated 9 <sup>th</sup> September, 2022 on “Draft Telecommunication (Broadcasting and Cable) Services Interconnection (Addressable Systems) (Fourth Amendment) Regulations, 2022”.
6	Consultation Paper dated 13 <sup>th</sup> January, 2023 on “License Fee and Policy Matters of DTH Services”.
7	Consultation Paper dated 9 <sup>th</sup> February, 2023 on “Issues related to FM Radio Broadcasting”.

### 2.10.12 Consultation Paper dated 12<sup>th</sup> April, 2022 on “Issues relating to Media Ownership”

The idea of media pluralism acts as a bulwark of strong and healthy democracy in a country. It is antithetical of the phenomenon of concentration of media ownership. Concentration of media ownership has been identified with a number of problems. Undoubtedly the most significant of these is the threat it poses to freedom of expression and democracy. Media, being the fourth pillar of democracy, performs a vital role in the personification of constitutional goals and aspirations.

On 19<sup>th</sup> February, 2021, the Authority received a reference from the Ministry of Information and Broadcasting seeking reconsideration of its 2014 Recommendations and issuance of a fresh set of recommendations in light of the emerging changes in the media and entertainment industry, particularly with the advent of new digital technologies such as Over-the-top platforms (OTT).

Accordingly, on 12<sup>th</sup> April, 2022, Authority released Consultation paper on “Issues relating to Media Ownership”. The paper seeks views of the stakeholders on need, nature, and levels of safeguards with respect to issues relating to media ownership, particularly cross-media ownership and vertical integration in the broadcasting sector. Looking at the importance of the issue, TRAI is in the process of framing the recommendations on the issues relating to media ownership.

### 2.10.13 Consultation Paper dated 7<sup>th</sup> May, 2022 on “Issues related to New Regulatory Framework for Broadcasting and Cable Services”

On 7<sup>th</sup> May, 2022, TRAI floated a consultation paper on “Issues related to New Regulatory Framework for Broadcasting and Cable services” for seeking comments of the stakeholders on



points / issues which are pending for full implementation of Regulatory Framework 2020. This paper primarily discussed issues related to discount given in the formation of the bouquet, ceiling price of channels for inclusion in bouquet, and discount offered by broadcasters to DPOs in addition to distribution fee. Pursuant to the consultation process, TRAI on 22<sup>nd</sup> November, 2022, notified amendments to the Regulatory framework 2017.

#### **2.10.14 Consultation Paper dated 20<sup>th</sup> July, 2022 on “Renewal of Multi-System Operators (MSOs) Registration”**

Digitalization of the Indian broadcasting sector began in the year 2012 and was completed across the country by March, 2017. Ministry of Information & Broadcasting (MIB) issued first of new registrations to Multi System Operators (MSOs) during the DAS implementation in June 2012, which became due for renewal/extension in June 2022. The Cable Television Networks Rules, 1994, however, do not mention provision about renewal of MSO registrations.

In view of this, on 7<sup>th</sup> February, 2022, the Authority received a reference from MIB seeking recommendations on the issues pertaining to MSO Renewal procedure.

Accordingly, on 20<sup>th</sup> July, 2022, released a consultation Paper on "Renewal of Multi-System Operators (MSOs) Registration". The Consultation paper sought comments of the stakeholders on the relevant issues pertaining to renewal of MSO registration including the quantum of fee to be paid for such renewal'. Recommendations on “Renewal of Multi-System Operators (MSOs) Registration” was sent to the Government on 29<sup>th</sup> December, 2022.

#### **2.10.15 Consultation Paper dated 21<sup>st</sup> July, 2022 on “Issues related to Community Radio Stations”**

Community Radio Stations (CRS) serves a local and well-defined community focusing on the day-to-day concerns of its audience and satisfy their specific information and entertainment needs. The Government announced its policy for the grant of permission for setting up of CRS in December 2002 permitting well established educational institutions, including IITs/IIMs to establish CRS. In order to allow greater participation by the civil society on issues relating to development and social change, the Government on 4<sup>th</sup> December, 2006 announced a revised policy for CRS that has been duly amended in 2017.

MIB vide its references dated 11<sup>th</sup> November, 2021 and 17<sup>th</sup> January, 2022 requested the Authority to provide its recommendations, under section 11(1)(a)(ii) and 11(1) (d) of the TRAI Act, 1997 on the following issues:

- (i) Inclusion of not-for-profit companies, registered under Section 8 of Companies Act 2013, in the list of eligible organizations.
- (ii) Increase of permission period from existing period of 5 years to 10 years.
- (iii) Maximum duration of advertisement per hour of broadcast on CRS.
- (iv) Number of CR Stations operated in each district of operation by Not-for-profit organizations, operating in multiple districts.

Accordingly, on 21<sup>st</sup> July, 2022, the Authority released consultation paper on “Issues related to Community Radio Stations” wherein comments/views of the stakeholders were sought on the



issues related to CRS'. Recommendations on "Issues related to Community Radio Stations" were sent to the Government on 23<sup>rd</sup> March, 2023.

#### **2.10.16 Consultation Paper dated 9<sup>th</sup> September, 2022 on "Draft Telecommunication (Broadcasting and Cable) Services Interconnection (Addressable Systems) (Fourth Amendment) Regulations, 2022"**

Digital Right Management (DRM) is a systematic approach to copyright protection for digital media. The purpose of DRM is to prevent unauthorized redistribution of digital media and restrict the ways consumers can copy content they've purchased. DRM products were developed in response to the rapid increase in online piracy of commercially marketed material, which proliferated through the widespread use of peer-to-peer file exchange programs. Typically, DRM is implemented by embedding code that prevents copying, specifies a time period in which the content can be accessed or limits the number of devices the media can be installed on.

The Schedule III of the Interconnection Regulations does not provide for the requirements / specifications of DRM based systems. The Authority, during its consultations on Audit manual, received the feedback that owing to its benefits the IPTV based DPOs are switching to DRM technology. It is necessary that the Audit regime covers the DRM based networks and provides for enabling provisions for such operators.

Accordingly, Draft Regulations dated 27<sup>th</sup> August, 2019 mentioned above, included DRM specifications in Schedule III.

During the consultation process, the Authority received numerous comments and suggestions from various stakeholders on this issue. Numerous modification/additions were proposed by several stakeholders. Hence, the Authority was of the opinion that system requirements for DRM will be dealt with in a separate consultation paper.

Accordingly, on 9<sup>th</sup> September, 2022, TRAI issued draft Telecommunication (Broadcasting and Cable) Services Interconnection (Addressable Systems) (Fourth Amendment) Regulations, 2022 proposing to include system requirement for Digital Right Management (DRM) as a new schedule in the Interconnection Regulation. Accordingly, comments from stakeholders were invited on the draft Regulations 2022 (and schedule thereof).

#### **2.10.17 Consultation Paper dated 9<sup>th</sup> February, 2023 on "Issues related to FM Radio Broadcasting"**

The Authority on 11<sup>th</sup> May, 2022 received a reference from Ministry of Information and Broadcasting (MIB) seeking recommendations of the TRAI on the two issues i.e, (i) Remove the linkage to Non-Refundable One Time Entry Fee (NOTEF) in the formula for annual fee as prescribed in the FM Phase-III Policy Guidelines dated 25<sup>th</sup> July, 2011 & (ii) Extend the existing FM license period of 15 years by 3 years.

In order to discuss various issues related to FM Radio broadcasting, a meeting was convened with the representatives of AROI wherein they have raised the two issues for consideration of the Authority i.e, (i) Permitting private FM Radio channels to broadcast independent news bulletins & (ii) Availability of FM Radio Receivers in Mobile Handsets.

Accordingly, on 9<sup>th</sup> February, 2023, the Authority released a Consultation Paper on “Issues related to FM Radio broadcasting” seeking comments/views of the stakeholders on the issues raised in MIB’s reference and representatives of AROI related to FM Radio broadcasting. TRAI is in the process of analysis and framing the recommendations on the issues relating to FM Radio broadcasting.

#### **2.10.18 Consultation Paper dated 13<sup>th</sup> January, 2023 on “License Fee and Policy Matters of DTH Services”**

The Department of Telecommunications (DoT) in October, 2021 has carried out amendments in the Unified License (UL) Agreement for AGR and Bank Guarantees (BG). In view of the aforesaid amendments, and on the request of the DTH association, on 2<sup>nd</sup> February, 2022, the Authority received a reference from Ministry of Information and Broadcasting (MIB) requesting TRAI to examine the issues of exclusion of non-licensed activities from definition of GR/AGR and rationalization of BGs.

Accordingly, on 13<sup>th</sup> January, 2023, TRAI released a Consultation Paper on “License Fee and Policy Matters of DTH Services” based on the said reference from MIB. The paper seeks comments from the stakeholders on the issues related to License Fee payable and the Bank Guarantee furnished by DTH operators. TRAI is preparing the recommendations on the issues raised in consultation.

## REVIEW OF WORKING AND OPERATION OF THE TELECOM REGULATORY AUTHORITY OF INDIA

The working and operation of Telecom Regulatory Authority of India in the specific context of policy framework is reviewed in the following paragraphs in respect of (a) Rural Telephone Network; (b) Expansion of Telephone Network; (c) Entry of Private Sector in basic and value-added service; (d) Technical Compatibility and effective interconnection with service providers; (e) Telecommunication Technology; (f) Implementation of National Telecom Policy; (g) Quality of Service; and (h) Universal Service Obligation as elaborated below:-

### (a) Rural Telephone Network

**2.11** As on 31<sup>st</sup> March, 2023, the rural wireline subscriber base stood at 2.25 (22,47,975) million as compared to 1.96 million at the end of 31<sup>st</sup> March, 2022, registering an increase of 14.92% over the year.

### (b) Expansion of Telephone Network

**2.12** The total wireline subscriber base as on 31<sup>st</sup> March, 2023 stood at 28.41 million as compared to 24.84 million subscribers on 31<sup>st</sup> March, 2022, registering an increase of 14.73% during the year 2022-23. Out of 28.41 million wireline subscribers, 26.16 million are urban subscribers and 2.25 million are rural subscribers.

### (c) Entry of Private Sector in basic and value-added service

**2.13** The list of service providers in various service areas is given in the table below:

**Access Service Providers as on 31<sup>st</sup> March, 2023**

Sl. No.	Service Providers	Licensed Service Area
1	Bharti Airtel Ltd.	All India
2	BSNL	All India (Except Delhi & Mumbai)
3	MTNL	Delhi & Mumbai
4	Reliance Communications Ltd.	All India (Except Assam & Northeast)
5	Reliance Jio Infocomm Ltd.	All India
6	Vodafone Idea Ltd.	All India

### UL Virtual Network Operators Licensees with access services authorization providing wireless services as on 31<sup>st</sup> March, 2023

Sl. No.	Service Providers	Licensed Service Area
1	ADPAY Mobile Payment India Pvt. Ltd.	Tamil Nadu including Chennai
2	Surftelcom Pvt Ltd (Formerly Plintron India Pvt. Ltd.)	All India

Source: As reported by Service Providers.

### UL/ UASL/UL(VNO) Access Services licenses who are providing services as on 31<sup>st</sup> March, 2023

Sl. No.	Type of Licence	* Total No. of Licensees issued as on 31 <sup>st</sup> March, 2023	* No. of Licenses issued during FY 2022-23
1	UL	42	17
2	UASL	06	0
3	UL(VNO)	196	51

\* Data collected from DoT website.

#### (d) Technical Compatibility and effective interconnection with service providers

**2.14** Interconnection is the lifeline of telecommunication services. Subscribers of telecommunication services cannot communicate with each other or connect with services they require unless necessary interconnection arrangements are in place. Availability of effective and expeditious interconnection plays an important role in the growth of the telecommunication services sector.

During the financial year i.e., 2020-21, TRAI notified the Telecommunication Interconnection (Second Amendment) Regulations, 2020<sup>1</sup> on 10<sup>th</sup> July, 2020, which makes the interconnection easier between any two Public Switched Telephone Network (commonly referred to as the Fixed Line Networks), and between Public Telephone Network (PSTN) and National Long Distance (NLD) Network.

The synopsis of the above amendments to the “Telecommunication Interconnection Regulations, 2018”, is as follows:

- Within a service area, the location of POI, for calls between PSTN and PSTN or between PSTN and NLD network, shall be at such place as may be mutually agreed between the interconnection provider and the interconnection seeker.
- In case the interconnection provider and the interconnection seeker fail to agree, the location of POI, for calls between PSTN and PSTN, or between PSTN and NLD network, shall be at LDCC. In such a case, the carriage charge for carriage of calls from LDCC to SDCC and vice versa, as applicable shall be paid by the interconnection seeker to the interconnection provider.

- iii) The existing POIs at the SDCC level, for calls between PSTN and PSTN, or between PSTN and NLD network, shall remain in operation for a period of at least five years or till such time the interconnected service providers mutually decide to close such POIs, whichever is earlier.
- iv) The existing POI at the SDCC level, for calls between PSTN and PSTN, or between PSTN and NLD network, can be closed if the services of either of the interconnected service providers are discontinued in that SDCA.

**(e) Telecommunication Technology**

**2.15** Following technological measures were taken by the Authority to enhance the outreach and interaction of the Authority with the Telecom Consumers:

**i. Comprehensive IT Ecosystem for Data Reporting, Analytics and process automation:**

TRAI is in the process of implementation of application based integrated system for data reporting, compliance, analytics and process automation with report analysis and publication. In this regard, a consultant will be engaged for preparation of detailed Project Report, based on which an integrated system will be developed.

**ii. Empanelment of Application Service Provider for providing ICT based solutions to TRAI:**

To cater to the needs of various divisions of TRAI, TRAI is in the process of empanelment of Application Service Providers for providing various ICT based solutions to TRAI.

**iii. eHRMS:**

TRAI has implemented an IT application for automating HR related activities. The application is developed by NIC. Out of various modules, service book, leave, reimbursement (Newspaper & Children Education Allowance), helpdesk and analytics dashboard has been implemented.

**iv. SPARROW:**

In TRAI for automation of Annual Performance Appraisal activities, an application named as SPARROW (Smart Performance Appraisal Report Recording Online Window) developed by NIC has been approved.

**v. Reporting automation:**

Data reporting to TRAI by various stakeholders in compliance of Regulation/Directions is a regular activity. A system to collect data online from stakeholders is in place. The system has been updated to ease data submission by including new reports, UI changes and security enhancements.

**vi. TRAI Recommendation Status Portal:**

The Authority from time to time makes recommendations to the Government of India for Telecom and Broadcasting Sector. To track the status of recommendations, a portal was implemented with access to TRAI and to the Government. The portal has been updated to

capture additional details of status like uploading of reference documents, UI changes and security enhancements. The status is being monitored through an analytical dashboard.

**vii. Legal Case Management Software:**

Legal Cases Management System has been implemented to cater to the need of Legal Division for fetching all case details from Lower Court, Consumer Court, District Court, TDSAT, Green Tribunal, High Courts, and Supreme Court etc. wherein TRAI was made party, maintain details entered by the legal division, give alerts before any case hearing, maintain month-wise hearing calendar, generate various reports, have dashboard to monitor progress on cases, etc.

**viii. Cloud Management and Maintenance of Apps & Portals:**

TRAI has implemented various portals and apps. The portals and back-ends services are hosted on Cloud. Maintenance of all the portals/Apps are being done at the level of cloud infrastructure & application. The necessary actions have been taken to secure them from cyber-attack on the basis of alerts received from NIC, CERT-IN and other organizations.

**ix. Infrastructure Upgradation:**

- To strengthen the infrastructure, TRAI has upgraded Unified Threat Management (UTM) firewall, as UTM is the primary wall / single point of protection against threats, including viruses, worms, spyware and other malware, and network attacks. It combines security, performance, management, and compliance capabilities into a single installation, making it easier for administrators to manage networks.
- For efficient working, the desktops are very essential IT Infrastructure for any organization, hence, IT Division has initiated the procurement of 104 desktops for various divisions of TRAI.
- For digital signature purpose in the e-Office, 115 DSC have been procured for various levels in TRAI.
- IT team is also finalizing IT infrastructure requirements for new building. For smooth planning and implementation of IT infrastructure, IT division is interacting with various consultants to finalize state of the art IT infrastructure which will be future ready.
- For smooth functioning of all the services in TRAI, the timely monitoring of various licenses i.e., Tableau, Adobe Acrobat, MS Office 365, SSL Certificate etc., are being carried out and upon expiry of the same, the necessary renewal is being carried out.

**(f) Implementation of National Telecom Policy**

- 2.16** The Department of Telecommunications (DoT) through its letter dated 8<sup>th</sup> May, 2019, inter-alia, informed that the National Digital Communications Policy (NDCP), 2018 released by the Government of India under its 'Propel India' mission envisages one of the strategies as 'Reforming the licensing and regulatory regime to catalyse Investments and Innovation and promote Ease of Doing Business'. Enabling unbundling of different layers (e.g., infrastructure, network, services, and application layer) through differential licensing is one of the action plans for fulfilling the afore-mentioned strategy. Through the said letter dated 8<sup>th</sup> May, 2019,



DoT, inter alia, requested TRAI to furnish recommendations on enabling unbundling of different layers through differential licensing. After a detailed consultation process, on 19<sup>th</sup> August, 2021, the Authority submitted its recommendations on “Enabling Unbundling of Different Layers Through Differential Licensing”. DoT, through its letter dated 2<sup>nd</sup> August, 2022 sent its back reference to the said Recommendations. After reconsidering the views expressed by DoT, response to the back reference was sent to DoT on 6<sup>th</sup> September, 2022.

### (g) Quality of Service (QoS)

**2.17** TRAI has laid down the benchmark for various Quality of Service parameters through the following regulations:

- a) The Standards of Quality of Service of Basic Telephone Service (wireline) and Cellular Mobile Telephone Service Regulations, 2009.
- b) The Quality of Service of Broadband Service Regulations, 2006.
- c) The Standards of Quality of Service for Wireless Data Services Regulations, 2012.

The regulations for Wireline, Cellular and Broadband provide the network and customer parameters for compliance. The Quality of Service performance of service providers against the benchmarks is assessed through compliance reports submitted by service providers. The compliance reports for Cellular Mobile Telephone Services, Wireless Data Services, Basic services (Wireline) and Broadband (Wireline) services are submitted on quarterly basis.

For ensuring compliance with the Quality of Service benchmarks and to protect the interests of the consumers, TRAI prescribed the system of imposing financial disincentives for non-compliance with the prescribed benchmarks, delay in submission of compliance reports and false reporting. Based on the compliance reports, wherever non-compliance with the benchmarks is observed, the explanation of the service provider is called for and considering the explanation submitted by the service provider, gravity of non-compliance, action taken to improve the service, financial disincentives are imposed on service providers.

For delay in submission of compliance report, financial disincentives of ₹ 5,000/- per day and for false reporting, financial disincentive is ₹ 10,00,000/- per parameter is prescribed for cellular, Basic (Wireline) and Broadband (Wireline) services.

The details of financial disincentives for Non-Compliance are as given below:

#### Cellular Services:

- i. For parameters other than Network\_QSD (90,90) and Network\_QTD (97,90):
  - a) Not exceeding Rupees one lakh per parameter for first non-compliance with the benchmark in a quarter.
  - b) Non-compliance with the benchmark of the same parameter consecutively in two or more subsequent quarters, not exceeding Rupees one and a half lakhs for second consecutive contravention and not exceeding Rupees two lakhs for each consecutive contravention thereof.

- c) Non-compliance with the benchmark for the same parameter in any subsequent quarter, which is not a consecutive non-compliance, Rupees one lakh per parameter.
- ii. For parameters other than Network\_QSD (90,90) and Network\_QTD (97,90):
- a. Network\_QSD (90,90)

Value of Network_QSD (90,90) in quarterly report	Amount of Financial Disincentives in rupees
More than 2% but not exceeding 4%	not exceeding One lakh
More than 4% but not exceeding 6%	not exceeding Two lakh
More than 6% but not exceeding 8%	not exceeding Three lakh
More than 8% but not exceeding 10%	not exceeding Four lakh
More than 10%	not exceeding Five lakh

- b. Network\_QTD (97,90)

Value of Network_QTD (97,90) in quarterly report	Amount of Financial Disincentives in rupees
More than 3% but not exceeding 5%	not exceeding One lakh
More than 5% but not exceeding 7%	not exceeding Two lakh
More than 7% but not exceeding 9%	not exceeding Three lakh
More than 9% but not exceeding 11%	not exceeding Four lakh
More than 11%	not exceeding Five lakh

- c. Non-compliance with the benchmark of the same parameter consecutively in two or more subsequent quarters, an amount not exceeding one and half times of financial disincentive payable, for the consecutive contravention and not exceeding twice the financial disincentive liable to be paid as specified in the table above for each consecutive contravention occurring thereafter
- d. The total amount payable as financial disincentives for parameter Network\_QSD (90,90) and Network\_QTD (97,90) shall not exceed rupees ten lakhs, in a quarter.

### Basic Services (Wireline)

For non-compliance with the benchmarks the financial disincentive is ₹ 50,000/- per parameter.

### Broadband Wireline Services

For non-compliance with the benchmarks, for the first instance, the financial disincentive is ₹ 50,000/- per parameter and for second or subsequent such contravention, the financial disincentive is ₹ 1,00,000/- per parameter for each contravention.

The total financial disincentive imposed by TRAI during the financial year 2022-23 is ₹ 88,55,000/-. The total amount of financial disincentive received during the financial year 2022-23 on account of QoS regulations violations is ₹ 1,84,30,000/-.

In addition to the above, the amount overcharged by TSPs and not refunded by them during the stipulated time period of 60 days, as per metering and billing regulation, financial disincentive is imposed. The total financial disincentive imposed and received by TRAI during the Financial Year 2022-23 is ₹ 47,89,435.82/-.

The performance of the service providers is evaluated every quarter based on the compliance reports submitted by service providers and also based on the reports of the audit agencies engaged by TRAI. Wherever deficiencies in achieving the quality-of-service benchmarks have been noticed through close monitoring of the performance of service providers by way of periodic reports, audit and assessment of quality of service through independent agencies is conducted. TRAI has been following up with the service providers to address such deficiencies in achieving the benchmarks for the various parameters.

In this regard, various meetings were held in TRAI with the service providers from time to time. These meetings and follow-up action with the service providers have been pivotal in improving the quality of service.

TRAI also publishes information about the Quality of Service performance by service providers, the results of Audit and assessment of Quality of Service undertaken by Independent Agencies or through its officers on its website for the information of stakeholders. The publishing of Quality of Service related information has also been nudging the service providers to improve the Quality of Service performance and also to address deficiencies in meeting the benchmarks.

### **Unsolicited Commercial Communications (UCC)**

To curb the Unsolicited Commercial Communications (UCC), Telecom Regulatory Authority of India (TRAI) notified Telecom Commercial Communication Customers Preference Regulation, 2018 (TCCCPR-2018) to deal with unsolicited commercial communication (UCC). The TCCCPR-2018 regulations were followed by a number of directions on implementation of provisions of the regulations.

TCCCPR-2018 provides for registration of Principal Entities (PEs), an individual, business or legal entity that sends commercial communication with the Access Providers. The entities who facilitate PEs to connect with Access Providers and may execute functionalities as provided under the regulations are called Registered Telemarketers (RTMs). PEs can send their commercial communications by engaging Registered Telemarketers (RTM) or directly through the ecosystem developed and established by the Access Providers for the purpose. PEs and RTMs can get registered with any of the Access Providers and can have connectivity with any of the Access Providers to send commercial communications.

PEs are required to get content templates registered with the Access Providers. Any commercial communication coming via RTM route is subjected to scrubbing against the content template registered by the system at Access Provider end and, if it fails, then it is not allowed to go forward.

To avoid the inconvenience caused by UCC, a telecom subscriber can opt to block all commercial communications or can selectively block commercial communications as per preference categories. As per these regulations, every Access Provider shall ensure that no

commercial communication is made to any Recipient, except as per the preferences or digitally registered consents registered in accordance with these regulations.

TCCCPR-2018 was the first of a kind in the world that mandated the use of a RegTech blockchain/distributed ledgers in addressing the Unsolicited Commercial Communication (UCC) problem. With the onboarding of processes on DLT platform, now preference registration is near real time. Time required for all the activities such as registration of Principal Entities, Header, Content Template, Complaint Resolution, etc. has significantly reduced.

In case a subscriber receives UCC, then he/ she can lodge a complaint by sending SMS or making a voice call at 1909 or through TRAI/ Access Provider's App.

As per TCCCPR-2018 regulations, if Access Provider fails to curb UCC, Financial Disincentives for not controlling the Unsolicited Commercial Communications (UCC) from RTMs by the access provider in each License Service Area for one calendar month is as given below:

	Value of "Counts of UCC for RTMs for one calendar month"	Amount of financial disincentives in Rupees
(a)	More than zero but not exceeding hundred	Rupees one thousand per count
(b)	More than hundred but not exceeding one thousand	Maximum financial disincentives at (a) plus Rupees five thousand per count exceeding hundred
(c)	More than one thousand	Maximum financial disincentives at (b) plus Rupees ten thousand per count exceeding one thousand

The total amount payable as financial disincentives under the regulation shall not exceed rupees fifty lakh per calendar month.

A sender of commercial communication, not registered for the purpose of telemarketing with the Access Provider is Unregistered Telemarketers (UTMs). In case of UTMs, Access Providers are required to act against UTMs by giving a warning, putting them under Usage Cap or disconnecting services for repeat violations. Usage Cap means a limit put on a telephone number for making a maximum of 20 outgoing voice calls per day and a maximum of 20 outgoing messages per day. Following provisions are made in the Regulations for action against UTMs-

- (a) On the first instance of violation- Warning shall be issued and during investigation temporary usage cap will be imposed.
- (b) On second instance of violation- Usage Cap for a period of six months.
- (c) On third and subsequent instances of violations- All Telecom resources of the sender shall be disconnected for a period up to two years and Originating Access Provider (OAP) shall put the sender under blacklist category, during which period no new telecom resource shall be provided by any other service provider.

## Joint Standing Committee of Regulators (JCoR)

A joint standing committee of Regulators has been formed at the initiative of TRAI to study future regulatory implications in the digital world and to collaboratively work on future regulations. Representatives from Securities and Exchanges Board of India (SEBI), Reserve Bank of India (RBI), Ministry of Consumer Affairs and TRAI are members of the committee. The focus of last few meetings was to frame joint action plan to curb unsolicited commercial communications (spams) using telecom resources. Representatives of Department of Telecommunications (DoT) and Ministry of Home Affairs (MHA) are also invited to attend the meetings.

### (h) Universal Service Obligation

**2.18** Considering the poor telecom connectivity situation in four districts of Himachal Pradesh namely Lahaul & Spiti, Chamba, Kullu and Mandi, TRAI has suo-moto initiated a consultation process with the relevant stakeholders viz. Department of Information Technology (DIT) of the Govt. of HP, Local State Government Officials, Telecom Service Providers, Bharat Broadband Network Limited (BBNL) and local consumer representatives. Based on the comments/inputs received from Stakeholders and its own analysis, the Authority made its recommendations on “Improving Telecom Connectivity/ Infrastructure in far-flung areas of Himachal Pradesh” on 12<sup>th</sup> December, 2022, which was sent to the Government for its consideration.

### 2.19 Broadcasting Sector

#### 2.19.1 Implementation Plan - New Regulatory Framework 2020

- Letter dated 1<sup>st</sup> June, 2022 to broadcasters & DPOs asking to submit compliance report on “Implementation plan- New Regulatory Framework 2020” by 31<sup>st</sup> August, 2022 & 30<sup>th</sup> September, 2022 respectively and migrating consumers by 30<sup>th</sup> November, 2022.
- Letter dated 1<sup>st</sup> September, 2022 to Broadcasters & DPOs asking to submit compliance report on “Implementation plan- New Regulatory Framework 2020” by 30<sup>th</sup> November, 2022 & 31<sup>st</sup> December, 2022 respectively and migrating consumers by 28<sup>th</sup> February, 2022.

#### 2.19.2 Letter dated 12<sup>th</sup> April, 2022 issued to Ministry of Information and Broadcasting on MSO registration

TRAI issued letter dated 12<sup>th</sup> April, 2022 to Ministry of Information & Broadcasting for appropriate action against 13 multi-system operators including cancellation of their MSO registration due to non-compliance of TRAI’s regulation/direction/order etc by these MSOs.

#### 2.19.3 Letter dated 20<sup>th</sup> June, 2022 issued to service providers for compliance with the provision of sub-regulation (1) of regulation 15 of the Interconnection Regulations 2017, as amended

TRAI on 20<sup>th</sup> June, 2022 issued letters/emails to 1320 such DPOs who have not got their system audited so far for the calendar year 2021, with advice to comply with the provision of sub-regulation (1) of regulation 15 of the Interconnection Regulations 2017, as amended and get their system audited within 90 days of issue of the said letter/email, for all the un-audited period, if not audited so far, including compliance for calendar year 2022.





**2.19.4 Letter dated 7<sup>th</sup> July, 2022 issued to MIB in response to the reference received on 27<sup>th</sup> June, 2022 stating that Government should consider doing away with the NOCC charges for use of space segment for operators of Broadcasting sector also**

TRAI recommendation of 26<sup>th</sup> August, 2021 on “Licensing Framework for Satellite-based connectivity for Low Bit rate Applications” is not restricted for telecom licenses but is also applicable to TV/broadcasting operators and it is not necessary to make any further recommendations on the subject.

**2.19.5 Letter dated 22<sup>nd</sup> November, 2022 issued to all DPOs to comply with the provision of sub-regulation (1) of regulation 15 of the Interconnection Regulations 2017, as amended**

TRAI on 22<sup>nd</sup> November, 2022 issued letters/emails to all DPOs, with advice to comply with the provision of sub-regulation (1) of regulation 15 of the Interconnection Regulations 2017, as amended and get their system audited by 31<sup>st</sup> December, 2022, for all the un-audited period, if not audited so far, including compliance for the calendar year 2022.

**2.19.6 Letter to DPOs for compliance of various provisions of the Telecommunication (Broadcasting and Cable) Services (Eighth) (Addressable Systems) Tariff (Third Amendment) order, 2022 (4 of 2022) dated 22<sup>nd</sup> November, 2022**

TRAI on 19<sup>th</sup> January, 2023 sent a letter to all the Distribution Platform Operators (DPOs) for compliance of various provisions of the Telecommunication (Broadcasting and Cable) Services (Eighth) (Addressable Systems) Tariff (Third Amendment) Order, 2022 (4 of 2022) dated 22<sup>nd</sup> November, 2022. According to this letter, all such DPOs, who have not declared tariff as per the provisions of Tariff Amendment Order, are directed to comply with the provisions of the Tariff Amendment Order and report compliance to the Authority immediately.

**2.19.7 Expression of Interest (EoI) for empanelment of auditor to carry out Digital Addressable System (DAS)**

TRAI issued an Expression of Interest (EoI) on 6<sup>th</sup> April, 2022 for empanelment of auditor to carry out Digital Addressable System (DAS) in compliance of the Telecommunication (Broadcasting and Cable) Services Interconnection (Addressable Systems) Regulation 2017, as amended.

**2.19.8 Empanelment of auditor to carry out audit of digital addressable system (DAS)**

As on 31<sup>st</sup> March, 2023, 52 auditors have been empanelled by TRAI to carry out audit of DAS. The updated list of empanelled auditors is available in public domain on TRAI’s website for the reference of stakeholders. As per reports received from the empanelled auditors and BECIL, during the calendar year 2022, a total number of 776 audit of digital addressable systems were undertaken by them. Out of these 776 audits, DPO-caused audits were 409 and Broadcasters-caused audit were 367 during the year 2022.

**2.19.9 Show Cause notices (SCN) to Service Providers**

- Show Cause Notice dated 8<sup>th</sup> March, 2022 issued to Multi System Operator namely M/s. Thamizhaga Cable TV and Communication Pvt. Ltd. (TCCL), for non-compliance of the



provisions of the Telecommunication (Broadcasting and Cable) Services (Eighth) (Addressable Systems) Tariff Order, 2017 dated 3<sup>rd</sup> March, 2017 and the Telecommunication (Broadcasting & Cable) Services Standards of Quality of Service and Consumer Protection (Addressable Systems) Regulations, 2017, dated 3<sup>rd</sup> March, 2017.

- Show Cause Notice dated 9<sup>th</sup> January, 2023 to Multi System Operator namely M/s Take One JK Media Pvt Ltd for non-compliance of the provisions of the Telecommunication (Broadcasting and Cable) Services Interconnection (Addressable Systems) Regulation, 2017 related to mandatory annual DAS audit.

#### **2.19.10 Orders issued to service providers for contravention of provisions of the Interconnection Regulation 2017, as amended, related to mandatory annual audit of their Digital Addressable Systems**

- TRAI on 20<sup>th</sup> January, 2023 issued orders of financial disincentive to the following three multi system operators (MSO) for contravention of provisions of the Interconnection Regulation 2017, as amended, related to mandatory annual audit of their Digital Addressable Systems for the calendar years 2020 and 2021;
  - M/s Lucky Cable Network, Daman
  - M/s Alwar Telelink Pvt Ltd, Alwar
  - M/s Gentle Entertainment Pvt Ltd, Raipur
- TRAI on 27<sup>th</sup> March, 2023 issued orders of financial disincentive to the following two multi system operators (MSO) for contravention of provisions of the Interconnection Regulation 2017, as amended, related to mandatory annual audit of their Digital Addressable Systems for the calendar years 2020, 2021 and 2022;
  - M/s Take One JK Media Pvt Ltd, Jammu
  - M/s Digital Entertainment Network Pvt Ltd, Srinagar

## **2.20 Other Activities**

### **2.20.1 Open House Discussion (OHD)**

#### **❖ Open House Discussion (OHD) on Consultation Paper on “Ease of Doing business in Telecom and Broadcasting Sector”**

An Open House Discussion (OHD) was held on 21<sup>st</sup> April, 2022 through video conferencing on Consultation Paper on “Ease of Doing business in Telecom and Broadcasting Sector”.

#### **❖ OHD held on 6<sup>th</sup> May, 2022 through Video Conferencing on Consultation Paper on “Regulatory Framework for Promoting Data Economy Through Establishment of Data Centres, Content Delivery Networks, and Interconnect Exchanges in India”**

TRAI on 6<sup>th</sup> May, 2022 convened an Open House Discussion through video conferencing on Consultation Paper on “Regulatory Framework for Promoting Data Economy Through Establishment of Data Centres, Content Delivery Networks, and Interconnect Exchanges in India”.

The OHD was convened to obtain the valuable inputs of the concerned stakeholders. Several stakeholders including Telecom Service Providers, Industry Associations and Individuals, etc. participated in the OHD. There was a good response for the OHD conducted through video conferencing.

❖ **Open House Discussion (OHD) held on 23<sup>rd</sup> August, 2022 through Video Conferencing on the Consultation Paper on “Use of Street Furniture for Small Cell and Aerial Fiber Deployment”**

TRAI on 23<sup>rd</sup> August, 2022 convened an Open House Discussion (OHD) through video conferencing on the Consultation Paper on “Use of Street Furniture for Small Cell and Aerial Fiber Deployment”.

The OHD was convened to obtain valuable inputs of the concerned stakeholders. Several stakeholders including telecom service providers, industry associations, etc. participated in the OHD. There was good response for the OHD conducted through video conferencing.

❖ **OHD held on 25<sup>th</sup> August, 2022 through Video Conferencing on the Consultation Paper on “Spectrum Requirements of National Capital Region Transport Corporation (NCRTC) for Train Control System for RRTS Corridors”**

TRAI on 25<sup>th</sup> August, 2022 convened an Open House Discussion through Video Conferencing on the Consultation Paper on “Spectrum Requirements of National Capital Region Transport Corporation (NCRTC) for Train Control System for RRTS Corridors”.

The OHD was convened to obtain the valuable inputs of the concerned stakeholders. Several stakeholders including telecom service providers, Industry associations, etc. participated in the open house discussion. There was a good response for the OHD conducted through Video Conferencing.

❖ **OHD held on 29<sup>th</sup> August, 2022 through Video Conferencing on the Consultation Paper on “Rating of Buildings or Areas for Digital Connectivity”**

TRAI on 29<sup>th</sup> August, 2022 convened an Open House Discussion through Video Conferencing on the Consultation Paper on “Rating of Buildings or Areas for Digital Connectivity”. The OHD was convened to obtain the valuable inputs of the concerned stakeholders. Several stakeholders including telecom service providers, Industry associations, Consumer Advocacy Groups (CAGs), Individuals etc. participated in the open house discussion.

❖ **Open House Discussion (OHD) on Consultation paper on “Issues related to Community Radio Stations”**

An Open House Discussion (OHD) was held on 11<sup>th</sup> November, 2022 through video conferencing on Consultation Paper on “Issues related to Community Radio Stations”.

❖ **OHD held on 14<sup>th</sup> December, 2022 through Video Conferencing on the Consultation Paper on “Recommendations on Embedded SIM for M2M Communications”**

TRAI on 14<sup>th</sup> December, 2022 convened an Open House Discussion through Video Conferencing on the Consultation Paper on “Recommendations on Embedded SIM for M2M Communications”.

The OHD was convened to obtain the valuable inputs of the concerned stakeholders. Several stakeholders including telecom service providers, Industry associations etc participated in the open house discussion. There was a good response for the OHD conducted through Video Conferencing.

❖ **Open House Discussion (OHD) held on 11<sup>th</sup> January, 2023 on Consultation Paper on “Issues relating to Media Ownership”**

An Open House Discussion (OHD) was held on 11<sup>th</sup> January, 2023 through video conferencing on Consultation Paper on “Issues relating to Media Ownership”.

❖ **OHD held on 17<sup>th</sup> February, 2023 through Video Conferencing on the Consultation Paper on “Leveraging Artificial Intelligence (AI) and Big Data (BD) in Telecommunication Sector”**

TRAI on 17<sup>th</sup> February, 2023 convened an Open House Discussion through Video Conferencing on the Consultation Paper on “Leveraging Artificial Intelligence (AI) and Big Data (BD) in Telecommunication Sector”.

The OHD was convened to obtain the valuable inputs of the concerned stakeholders. Several stakeholders including telecom service providers, Industry associations, etc. participated in the open house discussion.

❖ **Open House Discussion (OHD) on Consultation Paper on “Draft Telecommunication (Broadcasting and Cable) Services Interconnection (Addressable Systems) (Fourth Amendment) Regulations, 2022”**

An Open House Discussion (OHD) was held on 24<sup>th</sup> February, 2023 through video conferencing on Consultation Paper on “Draft Telecommunication (Broadcasting and Cable) Services Interconnection (Addressable Systems) (Fourth Amendment) Regulations, 2022” related to System Requirement for Digital Right Management (DRM).

❖ **OHD held on 9<sup>th</sup> March, 2023 through Video Conferencing on the Consultation Paper on “Introduction of Calling Name Presentation (CNAP) in Telecommunication Networks”**

TRAI on 9<sup>th</sup> March, 2023 convened an Open House Discussion through Video Conferencing on the Consultation Paper on “Introduction of Calling Name Presentation (CNAP) in Telecommunication Networks”.

The OHD was convened to obtain the valuable inputs of the concerned stakeholders. Several stakeholders including telecom service providers, Industry associations etc participated in the open house discussion. There was a good response for conducting the OHD through Video Conferencing even during the Covid pandemic.

❖ **OHD held on 10<sup>th</sup> March, 2023 through Video Conferencing on the Consultation Paper on “Data Communication Services Between Aircraft and Ground Stations Provided by Organizations Other than Airports Authority of India”**

TRAI on 10<sup>th</sup> March, 2023 convened an Open House Discussion through Video Conferencing on the Consultation Paper on “Data Communication Services Between Aircraft and Ground Stations Provided by Organizations Other Than Airports Authority of India”.

The OHD was convened to obtain the valuable inputs of the concerned stakeholders. Several stakeholders including telecom service providers, Industry associations etc participated in the open house discussion. There was a good response for conducting the OHD through Video Conferencing even during the Covid pandemic.

### 2.20.2 Conference

#### ❖ **Conference on 16<sup>th</sup> November, 2022 at New Delhi on “Rating of Buildings or Areas for Digital Connectivity”**

TRAI organized a Conference on 16<sup>th</sup> November, 2022 at New Delhi, wherein all the relevant stakeholders viz. MoHUA, TCPO, DOT, builders, developers, COA, BIS, BEE, OEMs, TSPs, Telecom Industry Associations, Builders Associations etc., were invited to deliberate on the new ecosystem envisaged in the consultation paper on “Rating of Buildings or Areas for Digital Connectivity”.

### 2.20.3 Workshop on DAS Audit

Review of Reporting and Methodology in Broadcasting and Cable Service Sector was held on 27<sup>th</sup> May, 2022 in TRAI Headquarters, New Delhi through hybrid mode (physical and virtual). The workshop was organized for empanelled auditor of TRAI, who have been empanelled to carry out audit of Digital Addressable System (DAS). 47 participants attended the workshop physically and a number of participants attended the workshop virtually. Some nominated members of IBDF also attended the workshop.

### 2.20.4 Seminar

#### ❖ **Seminar dated 18<sup>th</sup> May, 2022 on “Collaborative Regulations: Co-creation and sharing of infrastructure (in sync with PM Gati-Shakti)”**

The Authority organised a Seminar on “Collaborative Regulations: Co-creation and sharing of infrastructure (in sync with PM Gati-Shakti)” on 18<sup>th</sup> May, 2022, at the Ashok Hotel, New Delhi. Various eminent speakers from key ministerial departments and establishments such as Secretary - Housing and Urban Affairs (MoHUA), Secretary - Ministry of Road Transport and Highways, Chairman - Central Electricity Regulatory Commission and Member Technology - DoT along with senior TRAI officials, shared their view on the seminar theme, with target audience. The event also included a 'High Level Ministerial Session' which was graced by Shri Piyush Goyal, Hon'ble Minister of Commerce & Industry, Consumer Affairs & Food & Public Distribution and Textiles as well as Shri Ashwini Vaishnaw, Hon'ble Minister for Communications, Electronics & Information Technology and Railways.

The Seminar was attended by approximately 250 participants including delegates from international regulatory bodies such as Bangladesh, Botswana, Cambodia as well as representatives of major Telecom/ Internet Service Providers, equipment vendors, telecom industry associations, Government departments, academic institutions etc.

Seminar was structured into different sessions. The sessions, broadly focused on the following specific areas:

- i. Secure, sustainable, scalable, and collaborative approach to creation of digital infrastructure solution for smart cities in India.



- ii. Multi-lateral approach to creation and feasibility of infrastructure sharing in telecom and power sector-possibilities and challenges.
- iii. Creation of common utility corridors, its impact and utilization strategy as a shared infrastructure for e-Kranti.
- iv. Cross-sectoral dynamics of public-private collaboration for creating innovative digital infrastructure.

❖ **Seminar on “Emerging Trends in Broadcasting Sector in India Mobile Congress, 2022”**

In the year 2022, when the country celebrated Azadi ka Amrit Mahotsav, TRAI completed 25 years of its existence. In continuation of its silver jubilee celebrations, on the esteemed platform provided by the India Mobile Congress, TRAI on 3<sup>rd</sup> October, 2022, organized a seminar on “Emerging Trends in Broadcasting Sector”. This seminar was organized in the backdrop of the recent technological developments in the sector and their impact.



The seminar was organized in the spirit of the pro-active role of TRAI to work in collaboration with the industry and other stakeholders and ensure that the regulatory framework fosters and not hinders new technological developments and their adoption. The seminar was successful in developing a foundational understanding of the emerging trends and foster discussions on their impact on the sector.

**2.20.5 5G readiness tested under TRAI Pilots at Bhopal Smart City, GMR International Airport New Delhi, Deendayal Port Kandla and Namma Metro Bengaluru for Small Cells deployed using street furniture**

The Authority had initiated pilots at Bhopal Smart City, GMR International Airport New Delhi, Deendayal Port Kandla and Namma Metro Bengaluru on use of street furniture for Small Cells and aerial fibre deployment in March, 2022. Major Telecom Service Providers and Infrastructure Providers like Bharti Airtel, Reliance Jio, Vodafone Idea and BSNL have

participated in these Pilots at different locations. These pilots will be very helpful to make cross sectoral infrastructure more accessible for quick roll out of the 5G networks for Telcos, post allotment of 5G frequencies by DoT. In July, 2022, before the auction of spectrum by DoT, the 5G readiness was tested at all the four pilot locations.

In Bhopal Smart City, the Project was carried out at 11 locations. With radiation and testing of 5G small cells by Telecom Service Providers under the pilot, Smart City Bhopal become the first smart city in the country to test 5G readiness for use of street furniture like Traffic signal pole, Street light pole, Smart Pole, Billboard, Direction Board, Road Signage, Foot over bridge and city Bus Shelter. Similarly, with deployment of 5G Small Cells over street furniture by Telecom service providers under TRAI pilot, Deendayal Port Kandla and GMR International Airport New Delhi have become the first port and airport respectively in the country to test 5G readiness. At Namma Metro Bengaluru, MG Road Metro station was selected as main station to target 5G coverage at road level, in its Concourse area, platform and tracks on both sides. After radiation of 5G Outdoor Small Cells at the station, Namma Metro became the first Metro rail system in India to test 5G readiness.

#### **2.20.6 Pilot Project Report on “Use of Street Furniture for Small Cells and Aerial Fiber Deployment” dated 29<sup>th</sup> November, 2022**

With the objectives of developing cross sectoral framework which promote sharing of street furniture infrastructure among various central, state and municipal authorities to develop state of the art 5G network, in March, 2022 TRAI had initiated pilots at Bhopal Smart City, GMR International Airport New Delhi, Deendayal Port Kandla and Namma Metro Bengaluru on use of street furniture for Small Cells and aerial fiber deployment.

Based on the learning from these pilots, the Authority issued Pilot Project Report on “Use of Street Furniture for Small Cells and Aerial Fiber Deployment” on 29<sup>th</sup> November, 2022. The report was expected to be able to bring together various industry and administrative stakeholders to develop consensus and strengthen the industry understanding of how these deployment practices can be used to enable proliferation of 5G small cells.

#### **2.20.7 Study Paper on “Promoting R&D in Telecom, Broadcasting and IT Sectors”**

The Authority on 25<sup>th</sup> January, 2021 issued an Expression of Interest for hiring a Consultancy Firm for preparing a study paper on "Promoting R&D in Telecom, Broadcasting and IT Sectors". Consequently, Request for Proposal (RFP) No. 01/2021-TD was issued on 31<sup>st</sup> May, 2021 and work order No. A-25/(2)/2021-IT/01 to M/s Ernst & Young LLP was issued on 29<sup>th</sup> September, 2021. The same was accepted by M/s Ernst & Young LLP on 1<sup>st</sup> October, 2021. Further, the Authority decided to initiate a Consultation Paper on "Encouraging R&D in Telecom, Broadcasting and IT (ICT) Sectors" with the aim to seek inputs from stakeholders in the country for R&D in telecom and broadcasting sectors and compare it with the international best practices to overcome the impediments to its growth.

#### **2.20.8 Consumer Outreach Programme (COP)**

Given the importance of reaching out to consumers all over the country, TRAI has a public interface with telecom subscribers through its website, social media platforms such as twitter, Facebook, YouTube channel and through Consumer Outreach Programmes conducted across



the country. TRAI has instituted a system for registration of consumer organizations as Consumer Advocacy Groups (CAGs). The registered CAGs act as interlocutors between consumers, Telecom Service Providers & TRAI and assist TRAI in consumer education. TRAI is also constantly working to enhance consumer awareness about their rights and service-related issues by bringing out educational/publicity material and undertaking media campaigns in the print and electronic media.

To enhance consumer education and awareness, TRAI organises Consumer Outreach Programmes (COPs) across the length and breadth of the country. These COPs also provide a platform to consumers to raise their local issues with TRAI and telecom service providers. During the year, TRAI organised 53 (Fifty-three) Consumer Outreach Programmes (COPs) through offline/online platform catering to different places all over the country. The list of COPs organized is annexed.

With regard to Regional Workshop for the Capacity building of CAGs, total 5 workshops were conducted - (i) on 11<sup>th</sup> November, 2022 at Dehradun (Uttarakhand), (ii) 29<sup>th</sup> November, 2022 at Puri (Odisha), 23<sup>rd</sup> February, 2023 (iii) Ekta Nagar (Gujarat), 17<sup>th</sup> March, 2023 (iv) Deogarh (Jharkhand) and (v) 29<sup>th</sup> March, 2023 at Goa, respectively.

#### **2.20.9 Registration of Consumer Advocacy Groups**

Consumer advocacy Groups (CAGs) registered with TRAI co-ordinate and assist TRAI in dissemination of information about TRAI activities to consumers awareness Programs in their areas. They also participate in consumer outreach programs conducted by TRAI. These CAGs also are members of the Advisory Committee to the Appellate Authorities of TSPs. A review of the performance of CAGs whose tenure were due for renewal w.e.f. 1<sup>st</sup> April, 2023 was carried out. As of now the total number of 84 CAGs are registered in TRAI.

#### **2.20.10 Consumer Education Literature and Media Campaigns**

UCC Videos in Hindi and English have been developed for Consumer Awareness and were used in Consumer Outreach Programs of TRAI. These videos can also be used by CAGs in their Consumer Awareness Programs. These videos are also made available on TRAI portal and YouTube channel for wider accessibility of consumers.

#### **2.20.11 Seminars/Webinars on Consumer Interests and Protection**

One of the important objectives of TRAI is to create awareness and safeguard consumer interests. To achieve this objective, TRAI organizes seminars on contemporary technological and consumer related issues. These seminars provide consumers to update themselves on the developments in Telecom and Broadcasting space. The webinars conducted through online platform enabled participants to join the events from any part of the country with a simple registration process. The 9 Webinars/Seminars organized by TRAI during the year are as follows:

S. No.	Topics	Conducted by RO	Date
1	5G Deployment in NE States Issues and Challenges	Kolkata	4 <sup>th</sup> November, 2022
2	Emerging Trends in Telecommunications	Jaipur	19 <sup>th</sup> November, 2022
3	Telecom Infrastructure	Hyderabad	15 <sup>th</sup> December, 2022
4	Telecommunications Infrastructure and Economic Growth-A Simultaneous Approach	Bhopal	16 <sup>th</sup> December, 2022
5	Telecommunications Infrastructure Development-Issues and Challenges	Bengaluru	24 <sup>th</sup> January, 2023
6	Digital Communication New Trends, Use Cases & Challenges	Bhopal	8 <sup>th</sup> February, 2023
7	Smart Farming in 5G Era	Bengaluru	1 <sup>st</sup> March, 2023
8	Impact of Community Radio on Sustainable Development	Jaipur	29 <sup>th</sup> March, 2023
9	Introduction to 5G Mobile Technology, Design, Development and Implementation Challenges and Use Cases	Hyderabad	31 <sup>st</sup> March, 2023

## 2.20.12 Redressal of Consumer Grievances

TRAI Act, 1997, does not envisage handling of individual consumer complaints by TRAI. However, complaints received in TRAI are forwarded to concerned service providers for taking appropriate action. During the period from 1<sup>st</sup> April, 2022 to 31<sup>st</sup> March, 2023, TRAI received 44096 complaints related to Telecom services and 5967 complaints in Broadcasting and Cable TV. All these complaints were forwarded to concerned service providers for appropriate action. Complaints of generic nature or requiring class action were handled to address the underlying issues.

To discuss the consumer centric issues, regular meetings were held with service providers on various issues like the number of consumer complaints and appeals, major areas of consumer grievances and efforts of service providers for improvement etc.

## 2.21 INTERNATIONAL RELATIONS

### 2.21.1 Bi-lateral Agreements signed by TRAI

TRAI is a Sector Member of International Telecommunications Union (ITU). TRAI has been actively involved in ITU related activities and in the activities related to APT (Asia Pacific Telecommunity), SATRC, ASEAN, GSMA, BRICS etc, thus getting opportunities to engage with other international regulators.

For further strengthening the existing friendly relations and to boost cooperation between TRAI and other International Regulators, it has signed bi-lateral agreements in the forms of Letter of Intent (LoI) and Memorandum of Understanding (MoU). These bi-lateral agreements

provide a platform for engagements in the areas of mutual interest through the exchange of ideas, information, and experience sharing, which is beneficial for the signatory countries.

During this year, TRAI signed a Bi-lateral Agreement in the form of Letter of Intent (LoI) with GSMA Association. The LoI was signed by Dr. P.D. Vaghela, Chairman TRAI and Mr. Mats Granryd, Director General - GSMA on the 28<sup>th</sup> February, 2023 at the sidelines of MWC-23 (Mobile World Congress 2023) at Barcelona.



**Signing of Letter of Intent by Dr. P.D. Vaghela, Chairman TRAI and Mr. Mats Granryd, Director General – GSMA in the presence of Mrs. Meenakshi Gupta, Member, and officers of TRAI, GSMA and representatives of the industry**

#### **2.21.2 International Events hosted by TRAI**

##### **A. International Regulators’ Roundtable held on 18<sup>th</sup> May, 2022 on “Collaborative Regulations using RegTech and Technology Platforms”**

Telecom Regulatory Authority of India organized an International Regulators’ Roundtable on the subject “Collaborative Regulations using RegTech and Technology platforms”. The objective of the roundtable was to collaborate and discuss the possibilities for bilateral/multilateral engagements between international regulatory bodies to share their experiences and methodologies adopted to mitigate the challenges arising due to spams and unsolicited communications. The roundtable was organized on 18<sup>th</sup> May, 2022 at New Delhi as a part of Silver Jubilee Celebrations of TRAI, coinciding with 75<sup>th</sup> year of India’s independence, celebrated as ‘Azadi Ka Mahotsav’.

Altogether, 15 international delegates from countries like Cambodia, Bangladesh, Botswana, Turkey, UAE and Asia Pacific Telecommunity (APT) participated in the roundtable.



**Inaugural session of International Regulators' Roundtable on "Collaborative Regulations using RegTech and Technology Platforms"**

**B. South Asian Telecommunications Regulators' Council (SATRC) Working Group meeting on Spectrum held from 21<sup>st</sup> to 23<sup>rd</sup> June, 2022 at TRAI**

TRAI conducted South Asian Telecommunications Regulators' Working Group meeting on Spectrum from 21<sup>st</sup> to 23<sup>rd</sup> June, 2022. The meeting was held in hybrid mode and was attended by 32 participants representing SATRC countries, GSMA, ITU-APT, DoT, TRAI etc. The meeting took place under the chairmanship of Shri S.T. Abbas, Principal Advisor, TRAI. Deliberations on various work items were done during the meeting as a part of SATRC Action Plan Phase - VIII. The meeting was very informative, and all the sessions were highly interactive.





**Inaugural session of South Asian Telecommunications Regulators' Council (SATRC) Spectrum Working Group meeting on Spectrum held on 21-23 June, 2022 at TRAI**

**C. Online Workshop on “Fostering Broadband Access and Connectivity” under ASEAN – India ICT Dialogue held on 30<sup>th</sup> – 31<sup>st</sup> August, 2022**

TRAI organized a two-day Online Workshop on “Fostering Broadband Access and Connectivity” on 30 – 31<sup>st</sup> August, 2022 in coordination with the Ministry of External Affairs (MEA), Government of India and Department of Telecom (DoT), Government of India, under ASEAN – India ICT Dialogue.

This workshop was attended by 25 participants representing six ASEAN Member countries (Lao PDR, Thailand, Cambodia, Myanmar, Indonesia, Singapore) and also there were participants from India representing Department of Telecommunications (DoT) and Telecom Regulatory Authority of India (TRAI). This Workshop is one among the series of capacity building programmes TRAI had committed to conduct for ASEAN member countries through the ASEAN India Fund (AIF).



**Inaugural session of Workshop on “Fostering Broadband Access and Connectivity” under ASEAN – India ICT Dialogue held on 30<sup>th</sup> – 31<sup>st</sup> August, 2022**

#### D. **South Asian Telecommunications Regulators' Council (SATRC) Workshop on Spectrum held from 31<sup>st</sup> January – 2<sup>nd</sup> February, 2023 at The Hotel Park, New Delhi**

A three-day SATRC Workshop on Spectrum was conducted by TRAI from 31<sup>st</sup> January – 2<sup>nd</sup> February, 2023 in New Delhi. This SATRC workshop was attended by international and domestic participants from Bangladesh, Bhutan, Nepal, Sri Lanka, Maldives, APT, Department of Telecommunications. Being the Chairman of SATRC Working Group on Spectrum, Shri S.T. Abbas, Principal Advisor, TRAI chaired the workshop.

There was enthusiastic participation in all the sessions by the participants. The international participants shared the best practice methods being followed in their respective countries on the subject Spectrum. The sessions were highly interactive and informative.



**Inaugural session of South Asian Telecommunications Regulators' Council (SATRC) Workshop on Spectrum held from 31<sup>st</sup> January – 2<sup>nd</sup> February, 2023 at The Hotel Park, New Delhi**

#### 2.21.3 Bi-lateral Visits by other Regulators

##### **Study Visit of delegation from TPRA – Sudan**

A delegation of eight members from Telecommunication and Post Regulatory Authority (TPRA) Sudan visited TRAI on a three-day Study tour from 8<sup>th</sup> – 10<sup>th</sup> February, 2023 for enhancing their knowledge on Indian experiences in Telecommunication Regulation and other regulatory issues. The officers of TRAI and Department of Telecom participated in the discussion sessions with the visiting delegation.





**Three-day Study tour visit of Telecommunication and Post Regulatory Authority (TPRA) Sudan from 8<sup>th</sup> – 10<sup>th</sup> February, 2023**

#### 2.21.4 Participation on Important International Platforms

##### A. **Global Annual Conference on 'Broadband for All' at Stockholm, Sweden held on 27<sup>th</sup> – 28<sup>th</sup> June, 2022**

Chairman, TRAI delivered the Keynote address at the Global Annual Conference 'Broadband For All' at Stockholm, Sweden held on 27<sup>th</sup> – 28<sup>th</sup> June, 2022.



**Keynote address at the Conference 'Broadband For All' at Stockholm, Sweden**

**B. GSMA Ministerial Programme Mobile World Congress held at Barcelona, Spain from 27<sup>th</sup> February to 1<sup>st</sup> March, 2023**

Chairman TRAI delivered Keynote address at Session - Ask the Regulator in a GSMA Ministerial Programme MWC 2023 held at Barcelona, Spain from 27<sup>th</sup> February to 1<sup>st</sup> March, 2023.



Keynote address at the Session - Ask the Regulator in a GSMA Ministerial Programme MWC 2023 held at Barcelona, Spain from 27<sup>th</sup> February to 1<sup>st</sup> March, 2023

**C. High-Level Policy session during World Summit on International Society (WSIS) 2023 Geneva, Switzerland – 13<sup>th</sup> to 16<sup>th</sup> March, 2023**



High-Level Policy sessions during World Summit on International Society (WSIS) 2023 at Geneva, Switzerland



**D. 22<sup>nd</sup> APT Policy and Regulatory Forum (PRF 21) held from 19<sup>th</sup> to 21<sup>st</sup> July, 2022**

Dr. P.D. Vaghela, Chairman, TRAI participated virtually in the Regulators' Roundtable and shared views on "Towards the new Concept of the Regulatory Framework" during 22<sup>nd</sup> APT Policy and Regulatory Forum (PRF 21) from 19<sup>th</sup> to 21<sup>st</sup> July, 2022.



**22<sup>nd</sup> APT Policy and Regulatory Forum (PRF 21) held from 19<sup>th</sup> to 21<sup>st</sup> July, 2022**

**E. 23<sup>rd</sup> Meeting of the South Asian Telecommunication Regulators' Council (SATRC-23) from 14<sup>th</sup> - 16<sup>th</sup> November, 2022**

Dr. P.D. Vaghela, Chairman, TRAI participated virtually in the Regulators' Roundtable and shared views on 'Universal and Meaningful Digital Connectivity – The Role of the Policymakers and Regulators' during 23<sup>rd</sup> Meeting of SATRC held from 14<sup>th</sup> - 16<sup>th</sup> November, 2022. This meeting was held in Tehran, Iran.



**23<sup>rd</sup> Meeting of the South Asian Telecommunication Regulators' Council (SATRC-23) from 14<sup>th</sup> - 16<sup>th</sup> November, 2022**

### 2.21.5 Participation of Officers on Important International Platforms

Officers of TRAI participated in the several international events such as - Global Annual Conference on 'Broadband for All' held on 27<sup>th</sup> - 28<sup>th</sup> June, 2022 at Stockholm, Sweden, 22<sup>nd</sup> APT Policy and Regulatory Forum (PRF 21), 19<sup>th</sup> - 21<sup>st</sup> July, 2022, at Bangkok, GSMA Mobile 360 Asia Pacific Conference and Policy Leaders Forum on 2<sup>nd</sup> and 3<sup>rd</sup> August, 2022 at Singapore, GSMA Ministerial Programme Mobile World Congress from 27<sup>th</sup> February to 1<sup>st</sup> March, 2023 at Barcelona, Spain, High-Level Policy session during World Summit on International Society (WSIS) 2023, 13<sup>th</sup> March - 16<sup>th</sup> March, 2023, Geneva, Switzerland.

### 2.21.6 Bi-lateral Meetings held during International Visits of Authority

#### A. The following bilateral meetings were held by Authority-TRAI on the sidelines of "Broadband For All" conference at Stockholm, Sweden (27<sup>th</sup> -28<sup>th</sup> June, 2022).

- i. **Bilateral Meeting with Mr. Starks Geoffrey, Commissioner, Federal Communications Commission (FCC) - US.**



- ii. **Bilateral Meeting with Mr. Dan Sjoblom, Director General PTS (Swedish Post and Telecom Authority -Sweden**





- iii. **Bilateral Meeting with Ms. Annemarie Spikes, Chair BEREC (Body of European Regulators for Electronic Commission)**



- iv. **Bilateral Meeting with Dr. Fadhlullah Suhaimi Abdul Malek, Chairman MCMC (Malaysian Communication and Multimedia Commission) - Malaysia**



**B. Bilateral meetings held by Authority-TRAI at the sidelines of “GSMA Mobile World Congress” at Barcelona, Spain (27<sup>th</sup> February to 1<sup>st</sup> March, 2023).**

- i. Bilateral Meeting with Dr. Mohammed Al Tamaimi, Governor of CST Communication and Space Technology (CST) – Saudi Arabia.
- ii. Bilateral Meeting with Mr. Kostas Masselos, Chair, BEREC (Body of European Regulators for Electronic Commission) Board, European Regulator.
- iii. Bilateral Meeting with Dr. Charley Lewis, Chairperson, ICASA (Independent Communications Authority of South Africa) – South Africa.

**C. Following Bilateral meetings were held by Authority-TRAI at the side-lines of “World Summit on International Society (WSIS)” at Geneva, Switzerland (13<sup>th</sup> to 16<sup>th</sup> March, 2023).**

- i. Bilateral Meeting with Ms. Doreen Bogdan-Martin Secretary General, ITU.
- ii. Bilateral Meeting with Dr Cosmas Luckyson Zavazava, Director (BDT), ITU.
- iii. Bilateral Meeting with Mr. Tomas Lamanauskas Deputy Secretary General - ITU.
- iv. Bilateral Meeting with Mr Dick Christophe NG SUI WA – Chairperson Information and Communication Technology Authority (ICTA), Mauritius.
- v. Bilateral meetings held with Mr. Giacomo Lasorella, President Autorità per le Garanzie nelle Comunicazioni (AGCOM) - Rome, Italian Regulator during their visit to Rome (17<sup>th</sup> – 18<sup>th</sup> March, 2023).



**2.22 Administrative and Legal issues under consideration of DoT**

In addition to the various matters discussed in the report, there are certain important Administrative and Legal issues which are under consideration of DoT as following:

**(i) Proposal for Amendment of TRAI Act 1997**

TRAI has been established under TRAI Act 1997, inter-alia to regulate the telecommunication services and to protect the interest of service providers and consumers of telecom sector. The Authority has been conferred powers to issue directions, regulations, and orders in discharge of its regulatory functions but does not have any power to take punitive action to secure compliance of the regulatory measures taken by it. In order to ensure effective discharge of its



functions under TRAI Act, 1997 the Authority sent a comprehensive proposal for amendment in the TRAI Act in the year 2007. Thereafter, several correspondences were made with DoT and two draft notes for Cabinet were also prepared by DoT but the proposed amendments are yet to be made. Therefore, a comprehensive proposal for amendment in TRAI Act was sent to DoT on 3<sup>rd</sup> June, 2016. Subsequently, several meetings have been held between TRAI and DoT to discuss the proposed amendments. TRAI also forwarded the detailed comments on 27<sup>th</sup> June, 2017. In this regard, last meeting was held on 1<sup>st</sup> December, 2017 and some clarifications were also forwarded to DoT on 5<sup>th</sup> December 2017, 10<sup>th</sup> April, 2018, 21<sup>st</sup> August, 2019 and 9<sup>th</sup> December, 2019. Another letter dated 12<sup>th</sup> February, 2021 was received from DoT requesting TRAI to furnish inputs on proposed amendments to TRAI Act, 1997 as well as on the draft Telecommunication Bill. Therefore, a comprehensive proposal for amendments to TRAI Act 1997 was again sent to DoT on 02<sup>nd</sup> June, 2021. A meeting was held with DoT on 18<sup>th</sup> August, 2021 and some clarifications were forwarded to DoT on 05<sup>th</sup> October, 2021. A reminder was also sent to DoT on 19<sup>th</sup> January, 2022 to expedite the proposed amendments. DoT, vide letter dated 22<sup>nd</sup> September, 2022, sought the comments of the Authority on the draft Indian Telecommunication Bill, 2022, under which some provisions of TRAI Act were proposed to be amended. The Authority, vide its letter dated 28<sup>th</sup> October, 2022, provided its comments and requested DoT to take up the amendment to TRAI Act separately and vide letter dated 10<sup>th</sup> January, 2023 requested DoT to expedite the proposal for amendment to TRAI Act.

The proposal for Amendment of TRAI Act, 1997 is under consideration of DoT.

**(ii) Amendment in Schedule I of TRAI (Salary, Allowances and other conditions of service of the officers and employee) Rules, 2002**

Schedule I of TRAI (Salary, Allowances and other conditions of service of the officers and employee) Rules, 2002 needs modifications to incorporate scales as per 7<sup>th</sup> Pay Commission.

TRAI had sent a proposal for amendment in the Schedule-I of TRAI (Salary, Allowances and other conditions of services of Officers and Employees) Rules, 2002 for the purpose of modification/ introduction of certain category posts in Schedule-I of the Rules. The proposal was to include some new category of posts that have been subsequently created by Pay Commissions and operated in all ministries and to exclude certain category of posts that are no more required/operational in TRAI.

Schedule-I of the TRAI (Salary, Allowances and other conditions of Service of the officers and employees) Rules, 2002 has been amended by DoT vide notification dated 11<sup>th</sup> February, 2022 published in the Official Gazette on 14<sup>th</sup> February, 2022 with the issue of Telecom Regulatory Authority of India (Salary, Allowances and other conditions of Service of the officers and employees) Amendment Rules, 2022. Vide this notification dated 11<sup>th</sup> February, 2022, the Central Govt. has amended part of the Schedule-I and restructured the post of Staff Car Driver into four Grades, insertion of the post of Photo Copy Machine Operator and Dispatch Rider and also redesignation of the post of Attendant to Multi-Tasking Staff. However, for remaining categories of posts, amendment in Schedule-I of the Rules is still pending.

In the light of new regulatory challenges associated with the fast changing technology landscape and increased workload, TRAI initiated deliberations on possible restructuring in TRAI. After due deliberations, a proposal of restructuring and creation of additional posts has been initiated and sent to DoT for obtaining requisite approval from the Ministry of Finance. During the year Authority has also initiated the process of direct recruitment in the cadre of Assistant & Personal Assistant through Staff Selection Commission (SSC).

**Annexure – I**

**List of COPs (Offline / Online) during the period 1<sup>st</sup> April, 2022 to 31<sup>st</sup> March, 2023**

S. No.	PLACE OF COPs	Date
1	Bihar (Online)	25.05.2022
2	Telangana (Online)	27.05.2022
3	Meghalaya & Mizoram (Online)	30.06.2022
4	Madhya Pradesh (Online)	15.07.2022
5	Haryana (Online)	29.07.2022
6	Gosaba, Sundarban (West Bengal)	03.08.2022
7	Rajasthan (Online)	05.08.2022
8	Visakhapatnam (Andhra Pradesh)	12.08.2022
9	Bhilai (Chhattisgarh)	23.08.2022
10	Warangal (Telangana)	25.08.2022
11	Patiala (Punjab)	31.08.2022
12	Ramgarh (Jharkhand)	02.09.2022
13	Bengaluru (Karnataka)	02.09.2022
14	Bhopal (Madhya Pradesh)	07.09.2022
15	Balasinor, Mahisagar (Gujarat)	12.09.2022
16	Jhansi (Uttar Pradesh)	14.09.2022
17	Ratnagiri (Maharashtra)	22.09.2022
18	Coimbatore (Tamil Nadu)	23.09.2022
19	Amingaon, Guwahati (Assam)	27.09.2022
20	Ahmednagar (Maharashtra)	30.09.2022
21	Bhilwara (Rajasthan)	11.10.2022
22	Maheshwar (Madhya Pradesh)	19.10.2022
23	Hosur (Tamil Nadu)	21.10.2022
24	Rampachodavaram (Andhra Pradesh)	10.11.2022
25	Amravati (Maharashtra)	22.11.2022
26	Rewari (Haryana)	23.11.2022
27	Rajnandgaon (Chhattisgarh)	23.11.2022
28	Churachandpur (Manipur)	26.11.2022
29	Moinabad (Hyderabad)	06.12.2022
30	Kutch (Gujarat)	12.12.2022
31	Kalamassery (Kerala)	13.12.2022
32	Bengaluru (Karnataka)	19.12.2022
33	Lalitpur (Uttar Pradesh)	21.12.2022
34	Gaya (Bihar)	22.12.2022
35	Gujarat (Online)	10.01.2023
36	Sehore (Madhya Pradesh)	18.01.2023
37	Jalpaiguri (West Bengal)	21.01.2023
38	Nellore (Andhra Pradesh)	24.01.2023

39	Rohtak (Haryana)	24.01.2023
40	Mussoorie (Uttarakhand)	09.02.2023
41	Guntur (Andhra Pradesh)	15.02.2023
42	Thrissur (Bengaluru)	23.02.2023
43	Odisha (Online)	24.02.2023
44	Bikaner (Rajasthan)	27.02.2023
45	Amritsar (Punjab)	03.03.2023
46	Gangtok (Sikkim)	14.03.2023
47	Gariaband (Chhattisgarh)	14.03.2023
48	Goa (Goa)	14.03.2023
49	Seoni (Madhya Pradesh)	15.03.2023
50	Kanchipuram (Tamil Nadu)	15.03.2023
51	Solan (Himachal Pradesh)	24.03.2023
52	Tumkur (Karnataka)	27.03.2023
53	Dimapur (Nagaland)	28.03.2023





## PART - III

**FUNCTIONS OF THE TELECOM REGULATORY  
AUTHORITY OF INDIA IN RESPECT OF MATTERS  
SPECIFIED IN SECTION 11 OF THE TRAI ACT**



## FUNCTIONS OF THE TELECOM REGULATORY AUTHORITY OF INDIA IN RESPECT OF MATTERS SPECIFIED IN SECTION 11 OF THE TRAI ACT

*Section 11 of the Telecom Regulatory Authority of India Act, 1997, as amended, provides that –*

- (1) *notwithstanding anything contained in the Indian Telegraph Act, 1885 (13 of 1885), the functions of the Authority shall be to—*
  - (a) *make recommendations, either suo motu or on a request from the licensor, on the following matters, namely:*
    - (i) *need and timing for introduction of new service provider.*
    - (ii) *terms and conditions of licence to a service provider.*
    - (iii) *revocation of licence for non-compliance of terms and conditions of licence.*
    - (iv) *measures to facilitate competition and promote efficiency in the operation of telecommunication services so as to facilitate growth in such services.*
    - (v) *technological improvement in the services provided by the service providers.*
    - (vi) *type of equipment to be used by the service providers after inspection of equipment used in the network.*
    - (vii) *measures for the development of telecommunication technology and any other matter relatable to telecommunication industry in general.*
    - (viii) *efficient management of available spectrum.*
  - (b) *discharge the following functions, namely:*
    - (i) *ensure compliance of terms and conditions of licence.*
    - (ii) *notwithstanding anything contained in the terms and conditions of the licence granted before the commencement of the Telecom Regulatory Authority of India (Amendment) Act, 2000, fix the terms and conditions of inter-connectivity between the service providers.*
    - (iii) *ensure technical compatibility and effective inter-connection between different service providers.*
    - (iv) *regulate arrangement amongst service providers of sharing their revenue derived from providing telecommunication services.*
    - (v) *lay-down the standards of quality of service to be provided by the service providers and ensure the quality of service and conduct the periodical survey of such service provided by the service providers so as to protect interest of the consumers of telecommunications service.*
    - (vi) *lay-down and ensure the time period for providing local and long-distance circuits of telecommunication between different service providers.*

- (vii) maintain register of interconnect agreements and of all such other matters as may be provided in the Regulations.*
- (viii) keep register maintained under clause (vii) open for inspection to any member of public on payment of such fee and compliance of such other requirement as may be provided in the regulations.*
- (ix) ensure effective compliance of universal service obligations.*
- (c) levy fees and other charges at such rates and in respect of such services as may be determined by Regulations.*
- (d) perform such other functions including such administrative and financial functions as may be entrusted to it by the Central Government or as may be necessary to carry out the provisions of this Act:*

*Provided that the recommendations of the Authority specified in clause (a) of this sub-section shall not be binding upon the Central Government.*

*Provided further that the Central Government shall seek the recommendations of the Authority in respect of matters specified in sub-clauses (i) and (ii) of clause (a) of this sub-section in respect of new licence to be issued to a service provider and the Authority shall forward its recommendations within a period of sixty days from the date on which that Government sought the recommendations:*

*Provided also that the Authority may request the Central Government to furnish such information or documents as may be necessary for the purpose of making recommendations under sub-clauses (i) and (ii) of clause (a) of this sub-section and that Government shall supply such information within a period of seven days from receipt of such request:*

*Provided also that the Central Government may issue a licence to a service provider if no recommendations are received from the Authority within the period specified in the second proviso or within such period as may be mutually agreed upon between the Central Government and the Authority:*

*Provided also that if the Central Government having considered that recommendation of the Authority, comes to a prima facie conclusion that such recommendation cannot be accepted or needs modifications, it shall, refer the recommendation back to the Authority for its reconsideration, and the Authority may within fifteen days from the date of receipt of such reference, forward to the Central Government its recommendation after considering the reference made by that Government. After receipt of further recommendation, if any, the Central Government shall take a final decision.*

- (2) Notwithstanding anything contained in the Indian Telegraph Act, 1885 (13 of 1885), the Authority may, from time to time, by order, notify in the Official Gazette the rates at which the telecommunication services within India and outside India shall be provided under this Act including the rates at which messages shall be transmitted to any country outside India:*

*Provided that the Authority may notify different rates for different persons or class of persons for similar telecommunication services and where different rates are fixed as aforesaid the Authority shall record the reasons there for.*

- (3) *While discharging its functions under sub-section (1) or sub-section (2) the Authority shall not act against the interest of the sovereignty and integrity of India, the security of the State, friendly relations with foreign States, public order, decency or morality.*
- (4) *The Authority shall ensure transparency while exercising its powers and discharging its functions.*

3. The Authority, in pursuance of achieving the objectives of ensuring growth of industry and protecting interest of consumers has made several Recommendations either suo moto or on matters referred to it by the Government; notified various Regulations to carry out purposes of the Act; taken action to enforce licence terms and conditions; and initiated work on several other issues. By discharging various recommendatory & regulatory functions, TRAI has contributed to growth of telecom services including the broadcasting and cable TV services in terms of increased number of consumers and a vast network providing telecom services across the length and breadth of the country. These continued measures have also resulted in overall benefits to the consumer in terms of choice of services, reduced tariff of telecom service, better quality of service etc. Some of the specific functions carried out by TRAI in respect of various matters specified in Section 11 of the TRAI Act are as follows:

**a) Telecommunication rates both within India and outside India including the rates at which message shall be transmitted to any country outside India**

3.1 Section 11 (2) of the Telecom Regulatory Authority of India Act, 1997 as amended by TRAI (Amendment) Act, 2000, empowers the Authority to notify in the Official Gazette the rates at which telecommunication services within India and outside India shall be provided, including the rates at which the messages shall be transmitted to any country outside India. It also provides that the Authority may notify different rates for different persons or class of persons for similar telecommunication services. Besides specifying the tariff regime applicable to various services, TRAI is also required to ensure that tariffs prevailing in the market are consistent with the specified tariff regime. For this purpose, the Authority monitors the rates at which the service providers provide the various telecom services. Further, the function of specifying norms for fixation of rates for Pay Channels as well as fixation of rates for Cable Services is also assigned to TRAI.

3.1.1 As per the existing tariff framework, the tariff for mobile services and data services is under forbearance. The service providers have the flexibility to decide the rates for various types of calls, SMS or internet data offers with multiple combinations for different service areas of their operation. However, the tariff offers are to be in accordance with the Telecommunication Tariff Orders and Telecom Consumer Protection Regulation.

TRAI looks after consumer interests through tariff regulation. Tariff regulation takes the form of ensuring clarity and transparency in tariff offers to consumers and fixing tariff charges where the market is not delivering optimal rates.



**b) Recommendations on (i) the need and timing of the new service providers; (ii) the terms and conditions of license to a new service provider; and (iii) revocation of licence for non-compliance of terms and conditions of licence**

**3.2** Under Section 11 (1) (a) of the TRAI Act 1997, the Authority is required to make recommendations either suo moto or on a request from the licensor, i.e., Department of Telecommunications (DoT) or Ministry of Information & Broadcasting (MIB) in the case of Broadcasting and Cable Services. Recommendations forwarded by TRAI to Government during 2022-23 are given below: -

- (i) Recommendations dated 11<sup>th</sup> April, 2022 on “Auction of Spectrum in frequency bands identified for IMT/5G”.
- (ii) Recommendations dated 7<sup>th</sup> September, 2022 on “Market Structure Competition in Cable TV services”.
- (iii) Recommendations dated 29<sup>th</sup> November, 2022 on “Licensing framework for establishing and operating Satellite Earth Station Gateway (SESG)”.
- (iv) Recommendations dated 29<sup>th</sup> November, 2022 on “Use of Street Furniture for Small Cells and Aerial Fiber Deployment”.
- (v) Recommendations dated 28<sup>th</sup> December, 2022 on “Spectrum Requirements of National Capital Region Transport Corporation (NCRTC) for Train Control System for RRTS Corridors”.
- (vi) Recommendations dated 29<sup>th</sup> December, 2022 on “Renewal of Multi-System Operators (MSOs) Registration”.
- (vii) Recommendations dated 20<sup>th</sup> February, 2023 on “Rating of Buildings or Areas for Digital Connectivity”.
- (viii) Recommendations dated 22<sup>nd</sup> March, 2023 on “Issues related to Community Radio Stations”.
- (ix) Recommendations dated 31<sup>st</sup> March, 2023 on “Promoting Local Manufacturing in the Television Broadcasting Sector”.

The details of these Recommendations have already been discussed in Part-II of this Report.

**c) Ensure technical compatibility and effective interconnection**

**3.3** Interconnection is the lifeline of telecommunication services. Subscribers of telecommunication services cannot communicate with each other or connect with services they require unless necessary interconnection arrangements are in place. Availability of effective and expeditious interconnection plays an important role in the growth of the telecommunication services sector.

TRAI notified, “The Telecommunication Interconnection (Second Amendment) Regulations, 2020” on 10<sup>th</sup> July, 2020, which makes the interconnection easier between any two Public Switched Telephone Networks (commonly referred to as the Fixed Line Networks), and

between Public Switched Telephone Network (PSTN) and National Long Distance (NLD) Network.

**d) Regulating arrangement amongst service providers of sharing their revenue derived from providing telecommunication service**

**3.4** Interconnection Usage Charges (IUC) regime is an essential requirement to enable subscribers of one service provider to communicate with subscribers of another service provider. Providing interconnection entails costs for which service providers need to be fairly compensated. The IUC regime not only determines the revenue accruable to the service providers but also how this revenue is to be distributed among them. An efficient interconnection and charging regime are central to efficient and seamless connectivity between various networks.

**e) Time period for providing local and long-distance circuits of telecommunication between different service providers**

**3.5** The timeframe for provisioning of ports for initial interconnection and augmentation of ports at POIs has been increased to 42 days in the year 2018-19 vide "The Telecommunication Interconnection (Amendment) Regulations, 2018" dated 5<sup>th</sup> July, 2018.

**f) Ensuring compliance of the Terms and Conditions of License**

**3.6** This function is discharged by TRAI from time to time through a multi-pronged approach. One of these approaches is through analysing reports received from the Service Providers and the other approach is through feedback/representations received from consumers/consumer organizations, experts etc.

**g) Steps taken to protect the Interest of the Consumers of Telecommunications Services**

**3.7** TRAI, with a view to enhance consumer education and awareness organizes Consumer Outreach Programmes, Seminars, Workshops on Capacity Building of TRAI registered consumer organization and brings out consumer education material and undertake media campaigns. Programmes organized and campaigns undertaken during 2022-23 have been detailed in the Part-II of the report. Additionally, other steps taken to protect the interest of the Consumers of Telecommunications Services are given in the following paragraphs.

**3.7.1 Auditing of Metering and Billing System**

In order to (i) bring uniformity and transparency in the procedures being followed by service providers with regard to metering and billing; (ii) prescribe standards relating to accuracy of measurement, reliability of billing; (iii) measure the accuracy of billing provided by the Service Providers from time to time and to compare them with the norms so as to assess the level of performance; (iv) minimize the incidences of billing complaints; (v) and to protect the interest of consumers of telecommunication services, TRAI had reviewed the Quality of Service (Code of Practice for Metering and Billing Accuracy) Regulation 2006 and issued the Quality of Service (Code of Practice for Metering and Billing Accuracy) (Amendment) Regulations, 2013 on 25<sup>th</sup> March, 2013.

The Regulation mandates the service providers to arrange audit of their Metering and Billing System on an annual basis through any one of the auditors notified by TRAI and to furnish to TRAI an audit certificate thereof not later than 31<sup>st</sup> July of every year.

The Regulation also provides that the service providers must take corrective action on the inadequacies, if any, pointed out by the Agency in the Certificate and to file with TRAI an Action Taken Report thereon not later than 15<sup>th</sup> November of every financial year. Further, for effective implementation of these regulations TRAI has also enforced financial disincentive at the rate of ₹1,00,000/- per week for delay in submission of Audit Reports and Action Taken Reports and Financial disincentive not exceeding an of ₹10,00,000/- per action taken report for false or incomplete information.

The service providers have submitted the audit reports and action taken reports within the time limit. The audit has helped in identifying billing and charging deficiencies leading to refunds of excess charges levied to affected customers and addressing systemic issues.

### 3.7.2 Spam Control

To curb the problem of Unsolicited Commercial Communication (UCC) through Telecom networks, TRAI has reviewed the framework and notified Telecom Commercial Communication Customer Preference Regulation, 2018 dated 19<sup>th</sup> July, 2018, mandating the adoption of new technological platform i.e., Distributed Ledger Technology (DLT). The regulations provide for Registration of senders (businesses and telemarketers), Headers, subscribers' consent, Message template etc. and fine-grained control over preferences. It is a Co-regulation where Telecom Service Providers/ Access Providers establish and arrange the framework, which is legally backed by regulation.

Financial Disincentives for not controlling the Unsolicited Commercial Communications (UCC) from RTMs by the access provider in each License Service Area for one calendar month is as given below:

	Value of "Counts of UCC for RTMs for one calendar month"	Amount of Financial disincentives (in Rupees)
(a)	More than zero but not exceeding hundred	Rupees one thousand per count
(b)	More than hundred but not exceeding one thousand	Maximum financial disincentives at (a) plus Rupees five thousand per count exceeding one hundred
(c)	More than one thousand	Maximum financial disincentives at (b) plus Rupees ten thousand per count exceeding one thousand

The total amount payable as financial disincentives under the regulation shall not exceed ₹ 50 lakh per calendar month.

The performance of the service providers is evaluated every Quarter based on the compliance reports submitted by service providers.

To facilitate consumers following measures have been taken under these regulations:

### **3.7.3 TRAI DND App**

This Mobile Application facilitates customers to register their Do-not-Disturb (DND) preference and complaints with any Service Provider through one common mode. It assists the subscribers in reporting their complaints, using an intelligent spam detection engine and Updates about action taken on complaints within the App.

### **3.7.4 Complaint Handling**

In case a subscriber receives unsolicited communication, he may make a complaint with its Access Provider. Various modes of registration of the complaint such as sending SMS to short code 1909, calling on 1909 and through mobile app has been prescribed. Access Providers are required to make the Customer Complaint Registration Facility (CCRF) available on 24 hours x 7-day basis throughout the year.

### **3.7.5 Header Information portal**

The Header Information Portal facilitates Customers to know the sender of Commercial and Government awareness communications. This portal may also help other principal entities to check whether any look-alike header is registered by any other entity. Anyone can query a particular header or download the complete list. TSPs can upload the list of alpha-numeric headers assigned to Principal Entities (Business or legal entities).

### **3.7.6 Exemption to Government organizations for sending SMS of public interest**

Portal for Exemption from SMS Termination Charges: This Portal facilitates Government entities to apply online for the exemption from SMS termination charges up to 5 paisa for registered headers under Regulation 35 of TCCCPR, 2018. This portal also helps Government entities to know about the renewal dates and other information related to 5 paisa exemption from SMS Termination charges.

### **3.7.7 Quality of Service improvement inside the Buildings**

TRAI has taken various initiatives from time to time to improve Quality of Service (QoS). The Authority issued a Consultation Paper (CP), on “Rating of Buildings or Areas for Digital Connectivity” on 25<sup>th</sup> March, 2022, emphasizing for creating an ecosystem for Digital Connectivity Infrastructure as an intrinsic part of any development works specially those related to building and townships. Comments/ counter comments were invited from the stakeholders on the issues raised in the consultation paper. Based on the comments received, deliberations held at various levels and TRAI’s own analysis, the recommendations on “Rating of Buildings or Areas for Digital Connectivity” have been finalized and submitted to Department of Telecommunications (DoT) on 20<sup>th</sup> February, 2023.

The emphasis of these recommendations is on creating an ecosystem for making Digital Connectivity Infrastructure (DCI)- an intrinsic part of any building development plan, which shall facilitate collaboration among various stakeholders including Property Managers (owner or developer or builder etc.), service providers, infrastructure providers, DCI Professionals and Authorities at various urban/local bodies. It is recommended that DCI should be made an essential component of the building development plans, on the line of water supply, electrical services, gas supply, fire protection and fire safety requirements, etc.

The recommendations also stress upon need to devise institutional mechanism for capacity building for the various players of the ecosystem envisaged and creation of a Council of DCI (Co-DCI). TRAI has also recommended to modify “Addendum to Model Building Bye Laws 2016,” titled “Provisions for In-Building Solutions Digital Communication Infrastructure” issued by TCPO, MoHUA in March, 2022, and proposed a new draft chapter on Digital Connectivity Infrastructures in Buildings, to be included in Model Building Bye Laws 2016. The National Building Code of India (NBC) is also recommended to be amended from time to time, to develop and include standards in respect of DCI for the Buildings.

TRAI through these recommendations also emphasized that it is imperative to have a comprehensive framework for the development of Digital Connectivity Infrastructure (DCI) in all types of buildings for accessing the digital services and the Property Manager should provide access of DCI owned by him, to service providers without any charge. To nudge property manager to have best quality of digital connectivity in Buildings, the recommendations also include development of framework to rate the buildings for digital connectivity.

### **3.7.8 Steps taken to protect the Interest of the Consumers of Broadcasting Services**

TRAI actively promotes protection of consumer interest through tariff regulation. Tariff regulation assures clarity and transparency in tariff offers. In the broadcasting sector, the Authority notified various tariff orders for DAS, DTH etc. for regulating the broadcasting tariff for safeguarding consumer interests.

### **h) Steps taken to facilitate competition and promote efficiency in the operation of telecommunication services to facilitate growth in such services**

**3.8** TRAI has always endeavoured to establish policies that are contemporary, in tune with the current developments, simple and pragmatic. They have desired impact on competition, infrastructure, revenue and customer welfare. It has been conscious of the fact that regulatory certainty is important for formulation of appropriate business strategies, promoting competition and thereby giving customer the fruits of innovation. TRAI has carried out the job of increasing competition and easing entry of competitive service providers in all seriousness. Measures in the form of recommendations/regulations/tariff orders/directions etc. have proved to be key for growth of the industry.

To facilitate competition and promote efficiency in the operation of telecommunications TRAI issued “The Telecommunication Interconnection Usage Charges (Sixteenth Amendment) Regulations, 2020” on 17<sup>th</sup> April, 2020. Through these Regulations, the regime of fixed International Termination charges (ITC) @ ₹ 0.30 per minute has been revised to forbearance



regime within a prescribed range of ₹ 0.35 per minute to ₹ 0.65 per minute. Further, to ensure the level playing field between standalone and integrated International Long-Distance Operators (ILDs), it is mandated that an Access Service Provider shall offer the non-discriminatory rate of ITC to everyone i.e., to its own associated ILDO as well as to standalone ILDOs. These Regulations came into force from 1<sup>st</sup> May, 2020.

**i) Levy of fees and other charges at such rates and in respect of such services as may be determined by Regulations**

**3.9** TRAI is mandated to decide the tariff policies for telecommunications and broadcasting services. TRAI looks after consumer interests through tariff regulation. Tariff regulation takes the form of ensuring clarity and transparency in tariff offers to consumers and fixing tariff charges where the market is not delivering optimal rates.

**j) Steps taken to ensure effective compliance of Universal Service Obligation (USO)**

**3.10** Universal Service Obligation was established on 1<sup>st</sup> April, 2002 under the Indian Telegraph (Amendment) Act 2003 and further amended in 2006, to provide financial support for the provision of telecom services in commercially unviable rural and remote areas of the country.

The Government has launched many schemes using Universal Service Obligation Fund (USOF) for proliferation of the broadband and improving internet/telecom connectivity to common people. Considering the poor telecom connectivity situation in four districts of Himachal Pradesh namely Lahaul & Spiti, Chamba, Kullu and Mandi, TRAI has suo-moto initiated interactions with relevant stakeholders viz Department of Information Technology (DIT) of the Government of HP, Local State Government Officials, Telecom Service Providers, Bharat Broadband Network Limited (BBNL) and local consumer representatives. Based on interactions with Stakeholders and analysis, the Authority finalized its recommendations on “Improving Telecom Connectivity/Infrastructure in far-flung areas of Himachal Pradesh” on 12<sup>th</sup> December, 2022 and sent to the Government for its consideration.

The Authority has also recommended that CAPEX and OPEX required for providing telecom infrastructure and connectivity to the 25 uncovered villages (falling under the three revenue districts of Lahaul & Spiti, Kullu and Chamba) of Himachal Pradesh should be funded by Government through USOF.

**k) Details of advice rendered to the Central Government in the matter relating to development of telecommunication technology and any other matter relatable in telecommunication industry in general**

**3.11** Details of advice rendered by TRAI to the Central Government in the matters relating to development of telecommunication is given below:

- a) Recommendations dated 18<sup>th</sup> November, 2022 on “Regulatory Framework for Promoting Data Economy Through Establishment of Data Centres, Content Delivery Networks, and Interconnect Exchanges in India”.

- b) Recommendations dated 29<sup>th</sup> November, 2022 on “Use of Street Furniture for Small Cells and Aerial Fiber Deployment”.

**l) Monitoring of the quality of service and details of promotional survey of such services by the service providers**

**3.12 Reports received from service providers**

**3.12.1 Basic and Cellular Mobile Services**

TRAI monitors the performance of Basic and Cellular Mobile service against the benchmarks prescribed by TRAI through quarterly performance monitoring report (PMR) received from service providers in accordance with the directions. In order to improve the quality of service provided by the service providers, TRAI has prescribed financial disincentive through The Standards of Quality of Service of Basic Telephone Service (Wireline) and Cellular Mobile Telephone Service (Second Amendment) Regulations, 2012 dated 8<sup>th</sup> November, 2012 on Basic Telephone Service (Wireline) and Cellular Mobile Telephone Service operators for non-compliance with the benchmark for the Network Service Quality Parameters and Customer Service Quality Parameters.

These regulations also provide for deterrent as financial disincentives against false reporting and delay in submission of report of the Quality of Service benchmarks.

**3.12.2 Broadband Service**

TRAI monitors the performance of the service providers against the Quality of Service benchmarks laid down by TRAI, through the quarterly Performance Monitoring Reports (PMRs) vide Regulation on Quality of Service of Broadband Service dated 6<sup>th</sup> October, 2006. The quarterly reports submitted by Broadband service providers are analysed for assessing their performance with regard to the QoS benchmark. To further strengthen the quality of standards TRAI on 25<sup>th</sup> June, 2014 issued “The Quality of Service of Broadband Service (Second Amendment) Regulations, 2012, for improving the speed of Broadband.

**3.12.3 TRAI MyCall App**

The “TRAI MyCall App” is intended to measure the call quality through crowd sourcing. TRAI MyCall is a mobile application for Crowd sourced Voice Call Quality Monitoring, available for android and iOS platforms. The Application helps Mobile phone users rate their experience about voice call quality in real time and help TRAI gather customer experience data along with Network data.

**3.12.4 TRAI MySpeed App**

This application allows subscribers to measure wireless data speed experience and sends the results to TRAI. The application captures and sends coverage, data speed and other network information along with device and location of the tests. Myspeed portal displays a comparison of the wireless data speeds from such samples across the service providers in each License service area.

A letter suggesting Improvement in MySpeed App was forwarded to IT Division on 14<sup>th</sup> February, 2023. The same had been intimated officially to M/s Red Mango Analytics through IT

Division. Multiple online meetings have taken place between IT Division and M/s Red Mango Analytics Ltd. Major points of improvement have been incorporated in Mysped App. Balance points of improvement in MySpeed App are being pursued with the vendor.

**m) Inspection of equipment used in the network and recommendation made on the type of equipment to be used by the service providers**

**3.13 The specific steps taken under this head are as under**

Recommendations dated 22<sup>nd</sup> April, 2020 on “Network Testing Before Commercial Launch of Services for Wireline Access Services”.

The Authority after due consultation process finalized its Recommendations on “Network Testing Before Commercial Launch of Services for Wireline Access Services” and forwarded the same to DoT on 22<sup>nd</sup> April, 2020 for its consideration.





## PART - IV

### ORGANISATIONAL MATTERS OF TELECOM REGULATORY AUTHORITY OF INDIA AND FINANCIAL PERFORMANCE



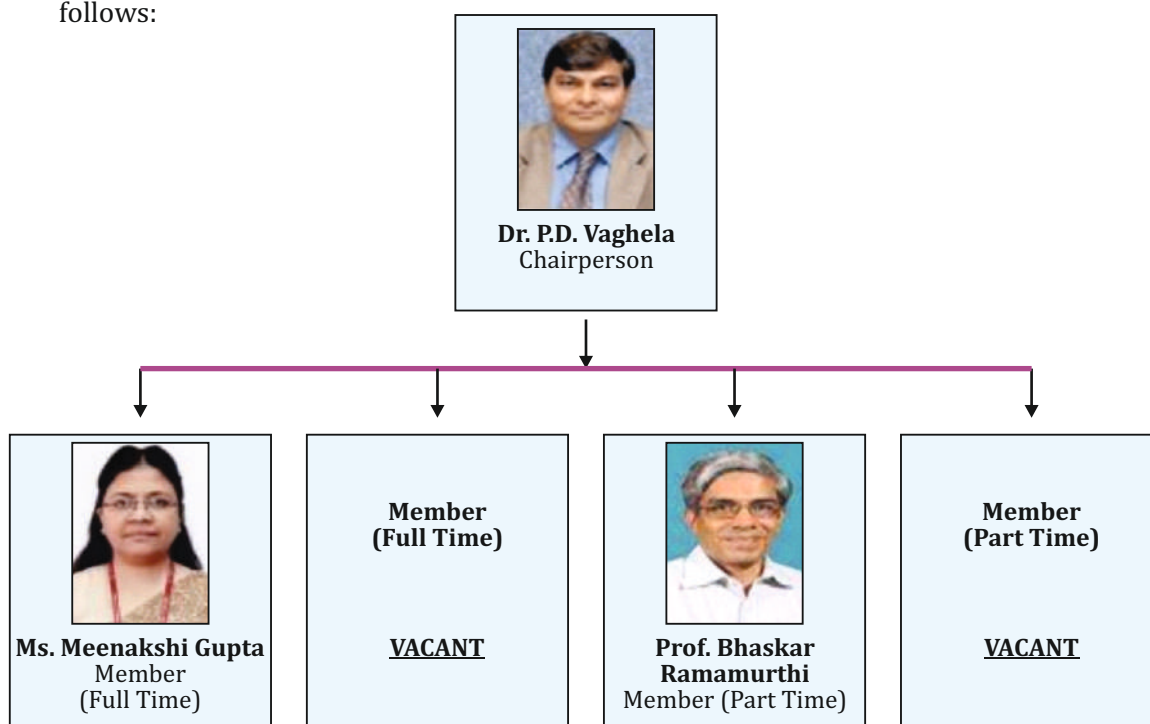


## (A) ORGANISATIONAL MATTERS OF TELECOM REGULATORY AUTHORITY OF INDIA AND FINANCIAL PERFORMANCE

**4.1** This section provides information on organizational matters of TRAI relating particularly to organization structure, funding, human resources covering the areas of recruitment, capacity building and other general issues.

### 4.2 Organisation

The Telecom Regulatory Authority of India was established under the Telecom Regulatory Authority of India Act, 1997 enacted on 28<sup>th</sup> March, 1997. The Telecom Regulatory Authority of India (Authority) is a body corporate by the name aforesaid, having perpetual succession and a common seal, with power, subject to the provisions of this Act, to acquire, hold and dispose of property, both movable and immovable, and to contract, and shall, by the said name, sue or be sued. The TRAI (Amendment) Act, 2000 led to the reconstitution of the Authority. The Authority consists of a Chairperson, not more than two whole-time Members and not more than two part-time Members that are appointed by the Central Government. The head office of the Authority is in New Delhi. The constitution of the Authority as on 31<sup>st</sup> March, 2023 was as follows:



### 4.3 Secretariat of TRAI (HQ)

The Authority functions with a Secretariat headed by the Secretary and assisted by seven divisions which are as follows:

- (i) Administration & International Relations (Admn. & IR);
- (ii) Broadcasting & Cable Services (B&CS);
- (iii) Financial & Economic Analysis (F&EA);

- (iv) Networks, Spectrum and Licensing (NSL);
- (v) Quality of Service (QoS);
- (vi) Legal; and
- (vii) Consumer Affairs, Information Technology & Technology Development (CA, IT & TD).

#### 4.4 Administration & International Relations (Admn. & IR) Division

Administration Division is responsible for all administrative and personnel functions which include planning and control of human resource development in TRAI as well as ensuring coordinated availability of information for the Authority's use. Administration Division has the responsibility of management and control of activities of Administration & Personnel Section (A&P), General Administration Section (GA), Communication & Public Relation (Comm. & PR) Section, Official Language (OL) Section, Management Representative and RTI (MR&RTI) Section. The Division has managed a well-equipped Library having a good collection of knowledge, which includes Technical Books, Legal Books, Literature books etc. It also has the institutional membership of DELNET to share the resources. The Division also handles International Relations which include coordination with International Organizations/bodies viz., ITU, APT, SATRC, ASEAN, GSMA, BRICS and Regulatory Bodies in other countries.

#### 4.5 Broadcasting & Cable Services (B&CS) Division

The Broadcasting and Cable Services (B&CS) Division is responsible for advising the Authority to lay down the overall regulatory framework; encompassing tariff, interconnection and quality of services aspects; for the broadcasting sector including broadcasting of satellite TV channels, Direct to Home (DTH) services, Cable TV services through Multi System Operators (MSOs) and Local Cable Operators (LCOs), Head-end in the Sky (HITS) services, Internet Protocol Television (IPTV) services, FM Radio broadcasting etc. The division is also responsible for examining the issues relating to modernization/digitalization of the broadcasting sector and making recommendations on various policy issues and terms & conditions of licenses/ permissions issued by the Government to various service providers in broadcasting sector. The division advises the Authority regarding the measures required to protect the interests of all the stakeholders of the broadcasting sector, which include facilitation of consumer choice, availability of services of desirable quality at affordable prices and promoting competition.

#### 4.6 Financial & Economic Analysis (F&EA) Division

F&EA Division is primarily responsible for ensuring compliance of the provisions contained in The Telecom Tariff Orders, certain provisions contained in the Telecom Consumer Protection Regulations, 2012 and Directions issued by the Authority on related aspects from time to time. Further, F&EA Division is also responsible for providing advice on various operational aspects of telecom sector viz., tariff regulation (including fixation of tariffs for telecom services wherever required, prescribing tariff principles to be followed by service providers, ensuring reporting of tariffs and examining those for consistency with regulatory framework etc.), fixation of cost based interconnections charges, fixation per port transaction charges for mobile portability, cost methodologies and costing for telecom services etc. The division is also

responsible for undertaking a review of financials statements, Accounting Separation Reports, AGR Reports etc., for ensuring consistency of the same with the extant regulatory framework. F&EA Division also compiles “The Indian Telecom Services Performance Indicators Report” and publishes it on quarterly basis.

#### 4.7 **Networks, Spectrum and Licensing (NSL) Division**

The Network, Spectrum and Licensing (NSL) Division is responsible for fixing the terms and conditions of Interconnection, ensuring effective interconnection between various Telecom Service Providers, handling of all interconnection issues including determination of Interconnection Usage Charges (IUC) and regular review thereof. The issues related to regulation of Access Facilitation and co-Location Charges of Submarine Cable Landing Stations are also handled by the Division. NSL Division also regulates Mobile Number Portability (MNP) service.

NSL division is responsible for making recommendations on matters related to license conditions of Access Service (both wired and wireless), Internet Service, National Long Distance (NLD) Service, Global Mobile Personal Communication by Satellite (GMPCS) Service, International Long Distance (ILD) Service, Mobile Radio Trunking Service, Very Small Aperture Terminal (VSAT) service, Public Mobile Radio Trunking Service (PMRTS), Virtual Network Providers (VNOs), Captive Non-Public Network (CNPN) and value-added services such as Audio Conferencing/ Audiotex/ Voice Mail etc.

The Division is also responsible for providing recommendations on matters related to introduction of new and evolving technologies and services such as space-based communication, Machine to Machine (M2M) Communication, Over-The-Top (OTT) communication etc.

NSL Division also provides recommendations on assignment of spectrum along with related conditions, efficient utilization and management of spectrum including its sharing, trading and re-framing. The matters related to cross-sector co-ordination such as, Infrastructure Sharing, Sustainable Telecommunications, Radio Communications Systems for Public Protection & Disaster Relief (PPDR) are also handled by the Division. It provides recommendations on issues related to Universal Service Obligation (USO) and all related matters. Issues like Convergence, Right of Way and Policy for using Street Furniture are also dealt. The NSL Division also deals with the issues related to National Numbering Plan, Intelligent Network (IN) Service, Calling Cards and Satcom Policy.

Apart from the above, the Division monitors compliance of license conditions by service providers for all types of services mentioned above and also monitors Wireline, Wireless, Internet and Broadband subscriptions in the country.

#### 4.8 **Quality of Service (QoS) Division**

QoS Division is responsible for laying down regulations to ensure the standards of quality of service (Basic Telephone Service, Cellular Mobile Telecom Service, Wireless Data Service, and Broadband Service) to be provided by the service providers; to protect the interest of Telecom Consumers; to ensure accuracy of metering and billing; to prevent Unsolicited Commercial Communications (UCC), spam.

The division monitors the Quality of Service through periodic performance reports submitted by the Service Providers on various Performance Indicators. Quality of service of the service providers is also assessed through field measurements conducted across the country. It handles recommendations on the references received before introduction of new technologies in telecom sector. The division is also responsible for maintaining a register of interconnect agreements and of all such other matters as may be provided in the regulations.

#### **4.9 Legal Division**

Legal Division is responsible for rendering legal advice to the Authority on all regulatory issues, drafting and vetting of all legal documents. The Division manages all litigation matters in which TRAI is a party.

#### **4.10 Consumer Affairs, Information Technology & Technology Development (CA, IT & TD) Division**

CA Division is responsible for development of consumer advocacy in the telecommunication sector and creating general awareness amongst consumers about various measures taken by the Telecom Regulatory Authority of India to protect the interest of consumers. The division facilitates registration of consumer organizations and non-governmental organizations from all over the country with TRAI and interacts with them on various issues concerning the consumers. The other activities of the division include organizing consumer education/outreach programmes, capacity building of consumer organizations registered with TRAI, by organising regional workshops & seminar on relevant topics, undertake media campaigns, developing and publishing consumer education material in Hindi, English and regional languages for enhancing consumer education etc.

IT Division in TRAI is responsible for catering various IT needs like analytics & visualization of data, implementation & maintenance of various portals & TRAI website, web applications, mobile app development, video conferencing, data storage, cloud management, SMS alerts, licensing, etc. TRAI's IT division also maintains computer hardware assets and LAN setup of TRAI.

TD Section has been entrusted with the responsibility of conducting technical sessions from time to time by inviting eminent persons from the concerned field to create awareness about new technology trends and potential among TRAI officials. Topics of technical sessions conducted by TD Section are AI/ML for telecommunication, Blockchain in telecom. Latest trends in optical fibres communication, Roadmap for chipset making, End-to-End security for network agnostic security, Centre of Excellence of 5G-IIT Delhi and 5G Broadcast/Multicast. TD Section has also been entrusted with the responsibility of publishing technical information papers in the form of 'Technology Digest' from time to time for dissemination of knowledge in telecom and broadcasting domain. One of the functions of Telecom Regulatory Authority of India (TRAI) is to recommend measures for the development of telecommunications technology. Accordingly, TD Section is working on a consultation paper "Encouraging R&D in Telecom and Broadcasting Section". TD Section also looks after the complaints regarding mobile towers such as installation/removal, radiations hazard, monetary frauds, court cases etc.



#### 4.11 TRAI Centre of Studies and Research (TRAI CSR)

TRAI has established its TRAI Centre of Studies and Research – TRAI CSR. The centre will conceptualize, coordinate and enable technological studies in collaboration with Industry, Academia and Policy making Institutions. TRAI Centre of Studies and Research would focus on the need for sustained research to identify future trends and assess evolving policy/regulatory challenges, to enable a Cross-Industry approach in connecting various stakeholders and facilitating innovation. The Centre will endeavour towards identifying policy/regulatory blind spots and sensitizing policy makers with the impending technological developments for advance planning and action. The Centre also aims to work in association with academic and research centres towards capacity building of user departments, thereby enabling appropriate focus on technology-based solutions.

TRAI CSR has been established with the following objectives:

- (i) Study and carry out research and surveys on important sectoral issues including new technology, technological disruptions etc. and their impact on sectors, overall economy and society.
- (ii) Publish the outcome of these studies/ research/surveys as expedient. Use such studies and reports in-house for policy recommendations and regulations.
- (iii) Empower the stakeholders and different Ministries/Departments with regards to digital literacy and adoption of new technologies.
- (iv) Collaborate with NITI Aayog, other Indian and International regulators, ITU and other international telecom organizations, departments and ministries of the Government of India, State Governments, Local self-government agencies and other organizations in India and abroad such as technology and management institutes, training institutes and centers, Standard Developing Organizations, etc.
- (v) Enable relevant discourse through conferences, seminars, workshops and training programs.

#### 4.12 Human Resources

A staff of 187 (as on 31<sup>st</sup> March, 2023) is handling the work in the Secretariat of TRAI (HQ), which performs the tasks assigned to it by the Authority in the discharge of its functions. Wherever necessary, Consultants are engaged.

#### 4.13 Staff strength of TRAI HQ (as on 31<sup>st</sup> March, 2023)

As on 31<sup>st</sup> March, 2023, the Staff strength of the TRAI (Headquarters) was as under:



S.No.	POSTS	SANCTIONED	ACTUAL
1.	SECRETARY	01	01
2.	PR. ADVISOR	14	15*
3.	ADVISOR		
4.	JT. ADVISOR	25	25
5.	DY. ADVISOR	10	10
6.	SR. PR. PRIVATE SECRETARY	03	03
7.	SR. RESEARCH OFFICER	30#	26
8.	PRINCIPAL PRIVATE SECRETARY	05	05
9.	TECHNICAL OFFICER	22**	16
10.	SECTION OFFICER	20	16
11.	PRIVATE SECRETARY	12	11
12.	ASSISTANT	48	30
13.	PERSONAL ASSISTANT	18	07
14.	JR. HINDI TRANSLATOR	01	00
15.	LDC	07	00
16.	STAFF CAR DRIVER SPECIAL GRADE	01	01
17.	STAFF CAR DRIVER GRADE-I	04	04
18.	STAFF CAR DRIVER GRADE-II	04	04
19.	STAFF CAR DRIVER ORDINARY GRADE	04	01
20.	PCMO	02	02
21.	DESPATCH RIDER	01	01
22.	MULTI TASKING STAFF	05	09
<b>TOTAL</b>		<b>237</b>	<b>187</b>

\* Including two TRAI Cadre Advisors who are on deputation to other Govt. organisations.

# Five (05) posts of SRO are being temporarily operated as Technical Officer.

\*\* Including 5 posts of Technical Officer (Engineering).

**4.14** Details of Secretary, Pr. Advisors / Advisors Level Officers in TRAI (HQ) as on 31<sup>st</sup> March, 2023

SNo.	Name of the Officer	Post held	Photograph
1	Shri V. Raghunandan	Secretary	
2	Shri S.T. Abbas	Principal Advisor (B&CS)	

SNo.	Name of the Officer	Post held	Photograph
3	Shri Kaushal Kishore	Principal Advisor (F&EA)-I/c	
4	Shri Rajiv Sinha	Principal Advisor (NSL)	
5	Shri Mahendra Srivastava	Principal Advisor (QoS, CA&IT)	
6	Ms. Vandana Sethi	Advisor (Admin. & IR)	
7	Shri Anil Kumar	Advisor (B&CS)	
8	Shri Sanjeev Kumar Sharma	Advisor (BB&PA)	
9	Shri Anand Kumar Singh	Advisor (CA&IT)	

SNo.	Name of the Officer	Post held	Photograph
10	Shri Amit Sharma	Advisor (F&EA-II)	
11	Shri Rajiv Ranjan Tiwari	Advisor (Legal)	
12	Shri Akhilesh Kumar Trivedi	Advisor (NSL-II)	
13	Shri Tejpal Singh	Advisor (QoS-I)	
14	Shri Jaipal Singh Tomar	Advisor (QoS-II)	

*Note: Two TRAI Cadre Advisors are on deputation to other Govt. organizations.*

**4.15** TRAI personnel were initially drawn on deputation from the Government Departments. These deputationists with relevant experience in the fields of telecommunication, economics, finance, administration, etc., are initially appointed for a period of two/three years and thereafter, if required, requests are sent to concerned Government Departments/Organizations for extending their deputations. Seeking extension of deputations in respect of trained and experienced existing employees has often proved to be difficult. While the scope, scale and complexity of Authority's functions continue to grow at a fast pace, the Authority is facing the problem of losing trained and experienced personnel due to their frequent repatriation to their parent departments. The Authority has, therefore, constituted a cadre of officers and staff with specialized expertise and skills with the option of permanent absorption in TRAI. In the light of new regulatory challenges associated with the fast changing technology landscape and increased workload, TRAI initiated deliberations on possible restructuring in TRAI. After due deliberations, a proposal of restructuring and creation of additional posts has been initiated and sent to DoT for obtaining requisite approval from the Ministry of Finance.

#### **4.16 Recruitment**

The Authority has constituted its own cadre of officers and staff by way of absorbing the officials who are on deputation to TRAI from various Ministries/Departments/PSUs. However, most deputationists, particularly in the senior and middle levels do not exercise the option for permanent absorption. Therefore, the recruitment of personnel for its Secretariat by way of deputation from other Ministries/Departments/PSUs still continues. This is due to the reason that among Government employees, the relevant expertise is available mainly in the Ministries or with the Government owned Telecom Operators. However, the Authority has been experiencing difficulty in recruiting specialized manpower on account of unattractive terms & conditions of service. TRAI has initiated the process of direct recruitment in the cadre of Assistant & Personal Assistant through Staff Selection Commission (SSC) in this year.

#### **4.17 Training**

TRAI accords utmost importance to human resource initiatives to develop expertise for its staff in the fields of Telecom and Broadcasting especially related to tariffs and quality of services standards, the conduct of surveys on Quality of Service and other consumer-related matters. A structured training policy has been put in place covering all the employees. The following types of training are being given to employees of TRAI:

- i. Orientation / Entry Level Training
- ii. Short Term Thematic Training
- iii. Long Term Training – Mostly online courses
- iv. Mid-Career Training Program
- v. Others – International training and On Job training

This initiative has proved to be useful for its officers and staff in participating effectively in the consultative process for the Authority, both through the preparation of consultation papers and analysing feedback and responses received and also during Open House Discussion. This has also helped in developing the policy framework to address various issues which arise in



regulating the telecom sector. In selecting and designing training programmes/ workshops, TRAI's endeavour is to impart diverse skills for macro-level policy and handling of technoeconomic operating details relevant for implementation and monitoring of policies. Special programmes are to be identified/ designed and run to meet the specific needs of TRAI. The Authority sponsors its officers for international trainings under the 'Institutional Capacity Building Project' for further developing their expertise within the organization.

A few TRAI officers were nominated during the year to attend International Training programmes conducted by various Institutions and International Telecommunications Union in both virtual and physical mode. A list of trainings is annexed at Annexure-I of Part-IV of this report. The officers have received valuable inputs through these trainings and the inputs have enriched their skills in their respective area of regulatory work. These trainings include Telecom Regulatory Master Class, Conformity & Interoperability in 5G, Evolution & Emerging Trends of Broadband Access Technologies, IoT Security Challenges and Solutions, Strategic aspects for Internet Governance and Innovations etc. TRAI personnel were also deputed for various domestic training programmes which include Security and QoS in Internet Network, Regulatory Governance, Accelerating the Startup Economy, Regulatory Master Class, Advanced professional Course in Competition Law and Market Regulations, Procurement (Policy & Procedures based on GFR, GeM & e-Procurement) and Contract Management for Good governance: Challenges in Implementation, Cloud Computing, WEB3: Decentralized Internet of Ownership - Convergence of BLOCKCHAIN, IoT, IPv6 & AI, Artificial Intelligence in Telecom Sector, Administrative Effectiveness, Focus: Human Resource Management, Procedure for Procurement through Reverse Auction on GeM, Infrastructure Project Management: Planning, Implementation & Monitoring of Infrastructure Projects, Advance Course on Productivity and Digital Workplace Management, Basic Understanding of Public- Private Partnership (PPP) and its Operations: PPP Models, Project Feasibility, Project Management, Project Finance, Quantitative Analysis, Legal Aspects of PPP, Markets & Competition, Governance, Risk Analysis & Project Evaluation with Case Studies, Changes and Challenges in Regulatory Governance, Digital Transformation Through e-Governance & ICT, etc.

TRAI also has in place a system of in-house training and workshops, wherein distinguished national and international experts are invited for interaction with its officers on the latest developments in the telecom sector. TRAI's officials participated in various such workshop-cum-training programmes, including those organised and hosted by the Authority on "Collaborative Regulations using RegTech and Technology Platforms", "South Asian Telecommunications Regulators' Council (SATRC) Working Group meeting on Spectrum", "Fostering Broadband Access and Connectivity", "South Asian Telecommunications Regulators' Council (SATRC) Workshop on Spectrum", "Broadband For All", etc.

#### 4.18 Seminar / Workshops

In order to keep pace with the developments taking place nationally and globally, the Authority nominated members of its staff to various international/ domestic seminars, meetings and workshops which helped them to gather valuable feedback/ inputs for its own policy formulation as well to keep abreast with the latest development in the fields of technology. It has also provided opportunities to show case important regulatory initiatives on various domestic and international platforms contributed to the international efforts being focused on

issues of major regulatory concerns in India and many other countries and enabled India to play a leading role in the emerging global information society. A number of seminars were also organised by the Authority, details of which are available in Part – II of the report.

#### 4.19 Office accommodation

After its inception in 1997, TRAI has been functioning through rented accommodation. The government of India (GoI) through the Department of Telecommunication (DoT) vide letter dated 26<sup>th</sup> November, 2020 had conveyed administrative approval of the competent authority for procurement of built-up Office Space for TRAI in NBCC Commercial Complex being developed as the World Trade Centre (WTC) at Nauroji Nagar, New Delhi.

NBCC (India) Limited vide allotment letter dated 26<sup>th</sup> February, 2021 has allotted TRAI a total of 1,15,982 sq. ft. of super built- up area (85,545 carpet area) at Tower-F (4<sup>th</sup>, 5<sup>th</sup>, 6<sup>th</sup> & 7<sup>th</sup> Floors) at World Trade Centre, Nauroji Nagar, New Delhi with construction linked payment plan. The construction at the site is in full swing and expected to be delivered to TRAI in the year 2023.

Meanwhile, an MoU/Agreement has been signed on 22<sup>nd</sup> November, 2022 with NBCC Services Ltd. (A Wholly owned subsidiary of Navratna CPSE NBCC (INDIA) Ltd.) for planning, designing and interior fit-out renovations/furnishing works of TRAI office space at 4<sup>th</sup>, 5<sup>th</sup>, 6<sup>th</sup> & 7<sup>th</sup> floors, Tower-F at NBCC World Trade Centre, Nauroji Nagar, New Delhi – 110029.

#### 4.20 Residential quarters for TRAI staff

As per the existing policy of the Government of India, employees joining the Authority on deputation are permitted retention of general pool accommodation on payment of Special Licence Fee by the Authority who may recover normal licence fee from the employees. The permissible period of retention is till the superannuation of the employees or till the duration of their tenure with the Authority, whichever is earlier. At present, the eligibility for allotment of General Pool residential accommodation is restricted to the officers posted in the Secretariat of the Authority (TRAI) in Delhi, who were eligible for allotment of accommodation from General Pool prior to their joining in the Authority on payment of special licence fee by TRAI to the Directorate of Estates. In view of the present position, the Directorate of Estates (DoE) is neither allotting the general pool residential accommodation nor allowing retention of the accommodation already allotted to the officers and staff, after they get absorbed in TRAI. To remove this anomaly, the matter has been taken up with the Directorate of Estates (DoE), Ministry of Housing and Urban Affairs requesting an extension of the General Pool Residential Accommodation(GPRA) facility to all the employees of TRAI, including the employees appointed on deputation, or appointed on regular basis through direct recruitment, or permanently absorbed in TRAI, notwithstanding their eligibility for GPRA before joining TRAI by suitably amending the scope of the existing policy. Arrangement for providing accommodation to the employees of TRAI has also been made by signing MoU with MTNL/BSNL whereby MTNL/BSNL shall earmark an accommodation pool of residential quarters on a lease basis to TRAI for renting them to its employees.

#### 4.21 Observance of various Days / Diwas in TRAI

- (i) Every year, 8<sup>th</sup> March is celebrated globally as "International Women's Day" to celebrate the social, economic, cultural, and political achievements of women around the world. To celebrate International Women's Day, a session on financial planning for women and another on women's health issues were organized for TRAI employees, followed by an interactive session with all the women officers and employees of the Authority.



- (ii) The eight "International Yoga Day" was observed in TRAI on 21<sup>st</sup> June, 2022. The officers and staff of the Authority participated in yoga sessions in hybrid mode.





- (iii) Vigilance Awareness Week is observed in TRAI every year, during the week in which the birthday of Sardar Vallabhbhai Patel (31<sup>st</sup> October, 2022) falls in. This year Vigilance Awareness Week was observed from 31<sup>st</sup> October, 2022 to 15<sup>th</sup> November, 2022 with the following theme:

**“भ्रष्टाचार मुक्त भारत - विकसित भारत”**  
 “Corruption free India for a developed Nation”.

TRAI observed the Vigilance Awareness Week, 2022 with the taking of the integrity pledge by all the officers and staff of TRAI on 31<sup>st</sup> October, 2022. The Integrity pledge was led by Smt. Meenakshi Gupta, Member TRAI.

#### 4.22 Silver Jubilee Celebrations

On May 17, 2022, a special inaugural function marked the beginning of Silver Jubilee Celebrations of the Telecom Regulatory Authority of India (TRAI), commemorating its 25 years of existence. The event was organised at Vigyan Bhawan, New Delhi, and it was graced by the esteemed presence of the Honourable Prime Minister of India, who attended virtually as the Chief Guest.



Joining the celebration were the Union Minister for Railways, Communications, Electronics & Information Technology, the Minister of State for Communications, the Minister of State for Information and Broadcasting, as well as Secretaries and Senior officers from various government departments, and representatives from international and national organizations, service providers, and regulators.



During this special function the Hon'ble Prime Minister also released the following:

- A Postal Stamp
- A souvenir narrating the 25 years of regulatory journey of TRAI
- Release of Short Film on TRAI







Throughout the Silver Jubilee Year, TRAI Headquarters, along with its Regional Offices across the country, organized a range of activities such as Seminars, special Consumer Outreach Programs, Blood Donation camps etc.

As part of its silver jubilee celebrations, TRAI also organised two events on 18<sup>th</sup> May, 2022 –

- a. A Seminar on “Collaborative Regulations: Co-creation and sharing of Infrastructure (in sync with PM Gati-Shakti)” and
- b. An international Regulators Roundtable on “Collaborative Regulations using RegTech and Technology Platforms”.

The speakers at these events represented many organisations which include, international regulators, Senior government officers, technology experts, regulators representing other sectors in the country, TRAI officers etc. The overarching theme for these two events was ‘Collaborative Regulation’.

To mark the closing ceremony of TRAI's Silver Jubilee Year, a special event was organized on February 20, 2023, at Zorawar Hall, Manekshaw Centre, Delhi Cantt. The occasion featured a cultural evening and a felicitation ceremony to honour former Authorities and Secretaries of TRAI for their invaluable contributions to the organization. The event was attended by TRAI officers and officials, including representatives from the Regional Offices.

#### 4.23 Medical facility to employees of TRAI after retirement:

Medical facility to employees of TRAI is governed by the Schedule II of TRAI (Salary, Allowance and Other Conditions of the Officers and Employees) Rules, 2002 as amended from time to time. The Officers and employees of the Authority, both serving and retired, are entitled to medical facilities.

#### 4.24 FUNDING

TRAI is a regulatory body set up by an Act of Parliament. It is wholly funded by the Government of India. According to Section 21 of the TRAI Act, 1997, the Central Government may, after due appropriation made by Parliament by law in this behalf, make to the Authority grants of such sums of money as are required to pay salaries and allowances to the Chairperson, the Members, the Officers and other employees of the Authority. Section 22(1) (a) & (b) of the Act states that there shall be constituted a fund to be called the Telecom Regulatory Authority of India general fund and all grants, fees and charges received by the Authority under this act; and all sums received by the Authority from such other sources as may be decided by the Central Government, shall be credited to this fund. The total expenditure incurred by TRAI in the year 2022-23 was ₹108.67 crore. The major heads of expenditure during the period were 'salaries', 'rent', 'professional fee' etc.

**4.25** If a minor portion of the licence fees being recovered from the regulatees is allowed to be utilized to meet TRAI's operational expenses, in the form of administrative charges, the need for governmental support in the form of grant-in-aid would totally cease. Such an arrangement would give TRAI the necessary flexibility and independence to perform effectively as an independent regulator. Regulators like IRDA, SEBI and RBI enjoy the freedom to recruit new talent at different levels from non-governmental sources also and determine their service conditions. There is an urgent need to emulate such healthy practices to enable TRAI to have the necessary skills to deal with the complex issues that arise in the telecom sector globally.

#### 4.26 TRAI REGIONAL OFFICES

Authority had approved 11 (eleven) Regional Offices of TRAI at various locations across the country in the year 2012. The Authority reviewed the working of the Regional Offices and approved the closure of 5 Regional Offices located at Chandigarh, Patna, Mumbai, Guwahati and Lucknow and continuation of 6 (six) Regional Offices located at Hyderabad, Kolkata, Bengaluru, Bhopal, Jaipur and Delhi during 2014-15 with revised jurisdictions. These Regional Offices of TRAI are operating on Pilot Project basis as a part of the Capacity Building Project of TRAI. TRAI has decided to continue the 06 Regional Offices up to 31<sup>st</sup> March, 2025 as a part of capacity building Project. The locations of Regional Office with the License –Service Areas covered (during 2022-23) are as follows: -

S. No.	Location of TRAI Regional Offices	License Service Areas covered by each Regional Offices
1	Bengaluru	Karnataka, Kerala, Maharashtra, Mumbai
2	Bhopal	Madhya Pradesh, UP (East), UP (West)
3	Delhi	Delhi, Himachal Pradesh, Jammu & Kashmir
4	Hyderabad	Andhra Pradesh, Tamil Nadu including Chennai, Orissa
5	Jaipur	Rajasthan, Gujarat, Haryana, Punjab,
6	Kolkata	West Bengal, Kolkata, Northeast, Assam, Bihar

*Staff strength of TRAI Regional Offices (as on 31<sup>st</sup> March, 2023).*

**4.27** As on 31<sup>st</sup> March, 2023, the Staff strength of the TRAI (Regional Offices) was as under:

SL.NO.	POSTS	SANCTIONED	WORKING
1.	Advisors	06	05
2.	Jt. Advisor /Dy. Advisor	12	10
3.	Sr. Research Officer	12	09
4.	Assistant	06	05
	<b>TOTAL</b>	<b>36</b>	<b>29</b>

**4.28** Details of Advisor level officers in TRAI Regional Offices (as on 31<sup>st</sup> March, 2023)

Sl No.	Location of Regional Office	Name of the Officer	Post	Photograph
1.	Hyderabad	Shri A. Munisekhar	Advisor	
2.	Bengaluru	Shri Brajendra Kumar	Advisor	
3.	Bhopal	Shri Vinod Gupta	Advisor	
4.	Jaipur	Shri Shyam Sunder Chandak	Advisor	
5.	Kolkata	Dr. Swadesh Kumar Samantha	Advisor	
6.	Delhi*	Vacant	Advisor	Advisor (CA), TRAI Hq – looks after the charge

\* Is being operated by TRAI (HQ).

#### 4.29 The role and functions of the above Regional Offices (ROs) are:

- (i) Ensuring compliance of Tariff related Guidelines & effective monitoring of Retail Tariff of Telecommunications, Broadcasting & Cable Services;
- (ii) Proper coordination with Service Providers with regard to Regulatory and marketing aspects;
- (iii) Monitoring of Quality of Service and handling of consumer grievance;
- (iv) Organizing Open House Discussions (OHD)/Consumer Advocacy Groups (CAG) meetings of TRAI;
- (v) Coordination & monitoring of Audit and Survey by Independent Agencies appointed by TRAI;
- (vi) Development of CAG upto District/Block level and close interaction with CAGs;
- (vii) Organizing Consumer Education Workshops;
- (viii) Close interaction with TERM Cell of DoT;
- (ix) Monitoring of implementation of Mobile Number Portability (MNP) Regulations and Unsolicited Commercial Communications (UCC) Regulations;
- (x) Monitoring of registration of MSOs/LCOs on the portal and validity of registration of LCOs;
- (xi) Perform such other functions including such administrative and financial functions as may be entrusted to it by the Headquarters of TRAI or as may be necessary to carry out the provisions of TRAI Act;
- (xii) Monitoring of information of MSOs and LCOs on Service Provider Portal (SPP). ROs will interact with MSOs to ensure that entry on Portal is done by all MSOs and their LCOs;
- (xiii) Analysis and up-keeping of Agreement between MSO and LCO (MIA/SIA);
- (xiv) Monitoring and Implementation of QoS Regulation for MSOs;
- (xv) Logging of Consumer Complaints against DTH Operators and major MSOs received at Regional Offices in BCCMS portal;
- (xvi) Uploading consumer complaints received by them in TCCMS portal and coordinating with the Service Provider for the proper conduct of consumer education programs; and
- (xvii) Analysis of DCR matrix for each quarter and follow up with TSPs to improve upon the Quality of Services.

#### 4.30 RIGHT TO INFORMATION ACT

During the financial year 2022-23, total 569 RTI applications were received for seeking various information under the RTI Act 2005. All these applications were promptly dealt with, and replies have been sent within the stipulated time period.



#### 4.31 IS/ISO 9001:2015 CERTIFICATION TO TRAI

Telecom Regulatory Authority of India (TRAI) was awarded ISO 9001:2000 certificate in December 2004 by the Bureau of Indian Standards (BIS). The certificate was renewed in the year 2007 and 2010. While renewing the certificate in November 2010, BIS issued IS/ISO 9001:2008 and this was subsequently renewed in 2013 and 2016. Further, BIS while renewing in 2016, have issued the latest series of ISO Certification i.e., ISO 9001:2015 and this certification was renewed in September, 2021 and January, 2023. As a part of the Management commitment, TRAI has defined Quality Policy, Quality Objectives and the Working Procedures. To evaluate the implementation and effectiveness of Quality Management System (QMS), BIS has been conducting Surveillance Audit once in every year and Renewal Audit once every three years. The last BIS Renewal Audit was conducted on 5<sup>th</sup> and 6<sup>th</sup> December, 2022. TRAI organised in-house training programme through BIS for its officers on 23<sup>rd</sup> & 24<sup>th</sup> February 2023.

Further, the Quality Management Review Meetings chaired by Secretary are held regularly on quarterly basis. In addition to the above meetings the Annual Management Review Meeting is also taken by the top management to ensure that the requirements of ISO 9001:2015 are met.

Recently, on 17<sup>th</sup> March 2023, TRAI was felicitated by BIS for its continuous cooperation and association with BIS for almost two decades.

#### 4.32 IMPLEMENTATION OF OFFICIAL LANGUAGE POLICY

An Official Language Section under the supervision of the Secretary, TRAI is functioning in the Telecom Regulatory Authority of India to implement the provisions of the Official Language Act, 1963, Official Languages Rules, 1976, and other administrative instructions issued on the subject from time to time by the Department of Official Language (Ministry of Home Affairs). TRAI makes every effort to ensure compliance with the Official Language Policy of the Union Government in TRAI. Besides, it also caters to the translation needs of various Divisions as and when regulations, press communique, tender notices, gazette notifications, and other documents are issued in bilingual form.

The implementation of the Official Language Policy of the Union Government by all the Divisions and Sections of TRAI is monitored by the Official Language Implementation Committee (OLIC) constituted under the Chairmanship of Secretary, TRAI. Meetings of the OLIC are held regularly in every quarter. In these meetings, special emphasis is given to increasing the progressive use of Hindi in official work. Besides, a review of the current status of implementation of the Official Language policy in TRAI is also done and a future action plan in this regard is drawn. Valuable suggestions of the members of the Committee are invited to gear up the work relating to Official Language. During the period of the report, 4 meetings of OLIC were held on 22<sup>nd</sup> June, 2022, 30<sup>th</sup> September, 2022, 22<sup>nd</sup> November, 2022, and 7<sup>th</sup> February, 2023, respectively.

In compliance of the directives received from the Department of Official Language (Ministry of Home Affairs), TRAI officers were nominated to attend the Hindi Day 2022 organized on September 14-15, 2022, in Surat (Gujarat) under the chairmanship of Honourable Home and Cooperation Minister. After that, from 16<sup>th</sup> to 29<sup>th</sup> September, 2022, various competitions/ programs were organized in the authority like- Hindi Essay Writing, Hindi Noting/Drafting,



Hindi Typing, Hindi Song Singing/Poetry Recitation, Official Language Hindi based Question paper, General Knowledge Quiz, Hindi Terminology/Grammar Competition, Hindi Workshop based Translation Competition etc. Along with this, Hindi dictation and calligraphy competition was organized for the driver and MTS cadre of TRAI. Several officers up to the rank of Senior Research Officer and staff took part in the competition with great zeal and enthusiasm. On the occasion of Hindi Divas, a message from Chairperson, TRAI for ensuring the compliance of Official Language rules/regulations was circulated among the officers/staff.

Hindi prize distribution ceremony was organized on 21<sup>st</sup> October, 2022 under the chairmanship of Chairman, TRAI, in which officers/employees who were victorious in the competitions organized during Hindi Pakhwada 2022 were rewarded. Hindi poetry was recited by the comic poet during the function. At the end of the ceremony, all the officers/employees of the Authority were addressed by the Chairman, TRAI and appealed to do their official work in Hindi as much as possible.

In order to increase the progressive use of Hindi in day-to-day official work, an annual incentive scheme viz. “Varshik Protsahan Yojna” has been introduced in TRAI for officers/officials from the last twelve years. Under this scheme, 10 cash prizes are given every year to the officers/officials for doing official work in Hindi during the period of the scheme. This scheme has proved to be very popular among the staff and it has encouraged the staff to do most of their official work in Hindi throughout the year.

During the period of the report, about 40 employees of TRAI have taken typing training in the long term (half yearly) training session of Online Hindi Word Processing/Hindi Typing organized by Hindi Teaching Scheme, Department of Official Language, Ministry of Home Affairs, New Delhi.

With a view to facilitating officers/officials to do noting and drafting in Hindi and also to apprise them of the Official Language Policy of the Union Government, regular Hindi workshops are organized in TRAI. During the period under report, four Hindi workshops were organized on 06<sup>th</sup> April, 2022, 29<sup>th</sup> September, 2022, 14<sup>th</sup> November, 2022 and 10<sup>th</sup> February, 2023 respectively.



**Hindi Pakhwada - 2022, prize distribution ceremony was organized on 21<sup>st</sup> October, 2022 under the chairmanship of Dr. P.D. Vaghela, Chairman, TRAI**

#### **4.33 IMPLEMENTATION OF RESERVATION PRESCRIBED FOR RESERVED CATEGORIES**

TRAI has been adhering to the provisions of reservation for eligible categories while making promotions. No appointment on direct recruitment basis has been made in TRAI during the year. A Liaison Officer of the rank of Director has been appointed to take care of implementation of instructions relating to special representation of reserved categories.

#### **4.34 Collaboration with Other Regulators**

With the arrival of new ICT Technologies, the regulation of ICT services is posing new challenges. The innovation in the sector is bringing new types of services. The technologies such as 5G, AI, M2M, AR/ VR, etc. will be extensively used in all sectors including, finance, health, agriculture, education, energy, etc. ICT innovations with new technologies will help in providing services efficiently in these sectors. Overlapping regulatory issues posed by these services will have cross-sectoral implications. Recognizing the importance of cross sectoral collaborative regulation, the International Telecom Union (ITU) has been advocating the need to implement a new approach to ICT regulation, called G5 collaborative regulation. ITU has developed a G5 benchmark index to measure how countries transition to a holistic digital collaborative regulation and policy making in the digital economy. Due to the regulatory initiatives taken in India, it has been categorized as a country having advanced stage of collaborative regulation of G5 Benchmark, which is the highest category. TRAI has taken numerous initiatives to promote cross sectoral collaboration in the digital space at the national level some of which are mentioned in the following paras.

##### **4.34.1 Forum of Indian Regulators**

TRAI has been a member of Forum of Indian Regulators (FOIR) since August, 2016, which is an organization consisting of members from Central Electricity Regulatory Commission (CERC), State Electricity Regulatory Commissions (SERCs) and other sector regulators such as Tariff Authority for Major Ports (TAMP), Airport Economic Regulatory Authority (AERA), Petroleum and Natural Gas Regulatory Board (PNGRB), Insolvency and Bankruptcy Board of India (IBBI)

and Competition Commission of India (CCI) etc. TRAI regularly takes part in all the activities of FOIR, such as AGM, GBM, and the colloquiums for the Members of FOIR etc.

At the initiative of the Authority, Forum of India Regulators (FOIR), in its 21<sup>st</sup> Annual General Body Meeting, had constituted a Working Group to submit its recommendations on "Cross Sector Collaborative Regulation between the Telecom Regulator and Electricity Regulators". The Working Group had representation from TRAI as well as from CERC, SERC, DISCOMs, Telecom Licensees and CTU. The Working group identified certain issues and made its recommendations to FOIR on following subjects:

1. Development of a centralized portal & GIS Mapping of Assets
2. Monetizing assets of power utility companies
3. Placement of telecom antennas and associated equipment on the transmission towers
4. Utilizing transmission assets such as electric substation lands & buildings
5. Deployment of small cells and aerial fibre on electric poles.

The Recommendations of the Working Group were presented in the 49<sup>th</sup> Governing Body meeting of FOIR. During the meeting, FOIR General Body decided to circulate this report to all State Electricity Regulatory Commissions (SERCs) and Joint Electricity Regulatory Commissions (JERCs) to disseminate the Recommendations among all DISCOMs under their jurisdiction as it would be infrastructure of the DISCOMs which would be used to install the 5G cells and related equipment.

Since DoT is also working on cross-sectoral collaborations with various sector, the Working Group's Recommendations have also been shared with the Department on 17<sup>th</sup> August, 2022 for further taking up the issue with respective State Governments.

In view of the immense potential and likely contribution of 5G, FOIR has set up a group to study the opportunities and challenges associated with adoption of 5G and related technologies such as AIML/IOT/M2M/AR/VR/Industry4.0 etc. in different sectors represented in FOIR viz. Industries, ports, airports, power sector, petroleum & natural gas, Real Estate, Food industry etc for sector specific applications as well as common applications in Data analytics, office management, MIS etc. for the regulators..

#### **4.34.2 Joint Standing Committee of Regulators**

A joint standing committee of Regulators has been formed at the initiative of TRAI to study future regulatory implications in the digital world and to collaboratively work on future regulations. Representatives from Securities and Exchanges Board of India (SEBI), Reserve Bank of India (RBI), Ministry of Consumer Affairs and TRAI are members of the committee. The focus of last few meetings was to frame joint action plan to curb unsolicited commercial communications (spams) using telecom resources. Representatives of Department of Telecommunications (DoT) and Ministry of Home Affairs (MHA) are also invited to attend the meetings.

- 4.34.3** To address the power consumption requirements for Data Centres (DCs) effectively and also to explore incentivization opportunities of green energy utilisation for digital communication sector, TRAI had requested Ministry of Power (MoP) to address issues of incentivization, industrial tariff, waiver of electricity duty etc. A Technical Committee was formed by MoP under the chairmanship of Chief Engineer (RA), CEA, with members from MoP, MNRE, CERC, Grid India (formerly POSOCO), BEE, and TRAI. Ministry of Power issued notifications whereby demand aggregation through multiple connections located in same electricity division of a distribution licensee has been allowed to count towards this 100 Kilo watt requirement to become eligible to take power through Green Energy Open Access. These reform-based initiatives by MoP will benefit the various cellular operators in telecom sector who have hundreds of towers located in a city that consume 5 to 10 KW of energy. They are now eligible to take power through Green Energy Open Access. This will also help India in achieving overall renewal energy targets.
- 4.34.4** TRAI collaborated with MoRTH and NHAI/ NHLML to undertake development of OFC (Dark Fibre) infra through Ducts along the National Highways Based on TRAI suggestions, and in line with National Broadband Mission and PM Gati Shakti, NHAI awarded contracts for two pilot projects in phase I for development of OFC infrastructure along the Delhi – Mumbai Expressway ( 1367 Km) and Hyderabad – Bangalore National Corridor (512 Km). The pilots are being extended to other National highways.

## Annexure – I

### List of Trainings (Offline / Online) held during the period 1<sup>st</sup> April, 2022 to 31<sup>st</sup> March, 2023

S.No.	Organization	Topics of Training	Mode / Venue	Period	
1	ITU	Security and QoS in Internet Network	Online	11.04.2022	18.04.2022
2	FOIR	Regulatory Governance	Online	Jun/22	Aug/22
3	STPI	Accelerating the Startup Economy	Gandhinagar	05.07.2022	05.07.2022
4	CENERVA (TRMCs)	Regulatory Master Class	Bath, UK	18.07.2022	22.07.2022
5	NICF	Spectrum Auction	Online	25.07.2022	25.07.2022
6	IICA	Advanced professional Course in Competition Law and Market Regulations	Online	Aug/22	Jan/23
7	IICA	Procurement (Policy & Procedures based on GFR, GeM & e-Procurement) and Contract Management for Good governance: Challenges in Implementation	Goa	23.08.2022	26.08.2022
8	NeGD	Cloud Computing	Mysore	25.08.2022	26.08.2022
9	TRAI	Orientation Training	TRAI	26.08.2022	26.08.2022
10	SAAM Corpo Advisor Pvt Ltd	WEB3: Decentralized Internet of Ownership - Convergence of BLOCKCHAIN, IoT, IPv6 & AI	Delhi	26.08.2022	26.08.2022
11	NTIPRIT	Artificial Intelligence in Telecom Sector	Delhi	14.09.2022	15.09.2022
12	NPC	Stress Management - Unleash the Power within for Achieving Organizational Goal	Goa	31.10.2022	04.11.2022
13	IIM Indore	Interpersonal Effectiveness and Team Building	IIM, Indore	14.11.2022	16.11.2022
14	NPC	Administrative Effectiveness, Focus: Human Resource Management	Jaisalmer	14.11.2022	18.11.2022
15	IIM Indore	Advanced Management Programme (Strategic Management)	Mumbai	14.11.2022	20.11.2022
16	NPC	Administrative Effectiveness, Focus: Preventive Vigilance, Right to Information Act 2005 & GFR (e-Procurement)	Udaipur	21.11.2022	25.11.2022
17	NICF	Procedure for Procurement through Reverse Auction on GeM	Online	23.11.2022	23.11.2022
18	ICAI & XLRI	Infrastructure Project Management: Planning, Implementation & Monitoring of Infrastructure Projects	Bhubaneswar	28.11.2022	02.12.2022



19	NPC	Advance Course on Productivity and Digital Workplace Management	Goa	05.12.2022	09.12.2022
20	IIM Kozhikode	Basic Understanding of Public-Private Partnership (PPP) and its Operations: PPP Models, Project Feasibility, Project Management, Project Finance, Quantitative Analysis, Legal Aspects of PPP, Markets & Competition, Governance, Risk Analysis & Project Evaluation with Case Studies	IIM, Kozhikode	05.12.2022	09.12.2022
21	NPC	Atmanirbhar Through Lean Practices	Goa	12.12.2022	16.12.2022
22	FOIR	Changes and Challenges in Regulatory Governance	Goa	13.12.2022	15.12.2022
23	NICF	GST - Updates & filling of Various GST Returns on NSDL Platform	Online	16.12.2022	16.12.2022
24	NICF	Basis of Artificial Intelligence	Online	19.12.2022	19.12.2022
25	ASCI, Hyderabad	Data Driven Digital Transformation	ASCI, Hyderabad	19.12.2022	23.12.2022
26	NPC	Leadership for Organizational Excellence	Vishakhapatnam	02.01.2023	06.01.2023
27	IIM Ahmedabad	Interpersonal Effectiveness and Team Building	IIM, Ahmedabad	09.01.2023	12.01.2023
28	ASCI, Hyderabad	Personality Development for Executives	ASCI, Hyderabad	16.01.2023	18.01.2023
29	AJNIFM, Faridabad	MDP on Public Procurement (Basic)	AJNIFM, Faridabad	16.01.2023	21.01.2023
30	IICA	Advanced professional Course in Competition Law and Market Regulations [8th Batch]	Online	Jan/23	Jun/23
31	FOIR	Regulatory Governance [5th Batch]	Online	Feb/23	Apr/23
32	NICF	Internal and External Audit	Online	07.02.2023	07.02.2023
33	MDI, Gurugram	Business & Technical Writing Skills	MDI, Gurugram	08.02.2023	10.02.2023
34	NPC	Digital Transformation Through e-Governance & ICT	Ekta Nagar, Gujarat	14.02.2023	18.02.2023
35	DoT	Impact of Artificial Intelligence (AI) on Telecom	Sanchar Bhawan	17.02.2023	17.02.2023
36	IIM Lucknow	Leadership Communication, Persuasion and Influence	IIM Lucknow	20.02.2023	24.02.2023
37	NPC	Soft Skills for Productivity Improvement	Port Blair	21.02.2023	25.02.2023
38	NITS	Quality Management Systems (QMS) as per IS/ ISO 9001:2015	TRAI HQ	23.02.2023	24.02.2023

39	NLU Delhi	Regulatory Impact Assessment	NLU, Delhi	02.03.2023	03.03.2023
40	NPC	Team Building & Leadership	Port Blair	06.03.2023	10.03.2023
41	NPC	Enhancing Core Secretarial Skills & Effectiveness in Digital Era	Bodh Gaya	13.03.2023	17.03.2023
42	NPC	Administrative effectiveness Focus: Preventive Vigilance, E-Procurement & RTI	Udaipur	14.03.2023	18.03.2023

## B) AUDITED ACCOUNTS OF TRAI FOR THE YEAR 2022-23

### *Separate Audit Report of the Comptroller & Auditor General of India on the Annual Accounts of Telecom Regulatory Authority of India for the year ended 31<sup>st</sup> March, 2023*

1. We have audited the attached Balance Sheet of the Telecom Regulatory Authority of India as on 31<sup>st</sup> March, 2023 and the Income and Expenditure Account/Receipts and Payments Account for the year ended on that date under Section 19(2) of the Comptroller & Auditor General's (Duties, Powers & Conditions of Service) Act, 1971 read with Section 23(2) of the Telecom Regulatory Authority of India Act, 1997 (as amended in January 2000). These financial statements are the responsibility of the Telecom Regulatory Authority of India's management. Our responsibility is to express an opinion on these financial statements based on our audit.
  2. This Draft Separate Audit Report contains the comments of the Comptroller & Auditor General of India (CAG) on the accounting treatment only with regard to classification, conformity with the best accounting practices, accounting standards and disclosure norms, etc. Audit observations on financial transactions with regard to compliance with the Law, Rules & Regulations (Propriety and Regularity) and efficiency-cum performance aspects, etc, if any, are reported through Inspection Reports/CAG's Audit Reports separately.
  3. We have conducted our audit in accordance with the auditing standards generally accepted in India. These standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatements. An audit includes examining, on a test basis, evidences supporting the amounts and disclosure in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of financial statements. We believe that our audit provides a reasonable basis for our opinion.
  4. Based on our audit, we report that:
    - i. We have obtained all the information and explanations, which to the best of our knowledge and belief were necessary for the purpose of audit;
    - ii. The Balance Sheet and the Income and Expenditure Account/Receipts and Payments Account dealt with by this report have been drawn up in the 'Uniform format of Accounts' approved by the Controller General of Accounts under Section 23 (1) of the Telecom Regulatory Authority of India Act, 1997 (as amended in January 2000)
    - iii. In our opinion, proper books of accounts and other relevant records have been maintained by the Telecom Regulatory Authority of India as required under Section 23(1) of the Telecom Regulatory Authority of India Act, 1997 (as amended in January 2000) in so far as it appear from our examination of such books.
    - iv. Our observations on the annual accounts of TRAI are given in subsequent paragraphs.
- A. Income & Expenditure Account**
- (i) Other Administrative Expenses: ₹ 53.71 Crore**
- Above head is understated by an amount of ₹ 18.52 lakh due to non-inclusion of expenditure relating to the purchase of a software license with one-year validity. This also resulted in understatement of the deficit and overstatement of Intangible Assets by the same amount.

**(ii) Depreciation: ₹ 1.79 Crore**

Above head is overstated by an amount of ₹ 61.92 lakh due to charging of excess depreciation on the Auditorium for the last three consecutive years (@ 19.34 percent instead of 10 percent). This also resulted in overstatement of deficit and understatement of the Fixed Assets by the same amount.

**B. GRANTS IN AID**

**(a) Revenue grant**

Out of the grants in aid of ₹ 118.81 crore (including unspent balance of ₹ 21.63 crore of the earlier year) received during the year, TRAI utilised a sum of ₹ 104.07 crore, leaving a balance of ₹ 14.74 crore, as unutilized grant as on 31<sup>st</sup> March, 2023.

**(b) Capital grant**

Out of the grants in aid of ₹ 135.91 crore (including unspent balance of ₹ 0.31 crore of the earlier year) received during the year, TRAI utilized a sum of ₹ 91.04 crore, leaving a balance of ₹ 44.87 crore, as unutilized grant as on 31<sup>st</sup> March, 2023.

- v. Subject to our observations in the preceding paragraphs, we report that the Balance Sheet and the Income and Expenditure Account/Receipts and Payments Account dealt with by this Report are in agreement with the books of accounts.
- vi. In our opinion and to the best of our information and according to the explanations given to us, the said financial statements read together with the Accounting Policies and Notes on Accounts, and subject to the significant matters stated above and other matters mentioned in Annexure-I to this Audit Report give a true and fair view in conformity with the accounting principles accepted in India:
  - a. In so far as it relates to the Balance Sheet, of the state of affairs of the Telecom Regulatory Authority of India as on 31<sup>st</sup> March, 2023; and
  - b. In so far as it relates to the Income and Expenditure Account of the Deficit for the year ended on that date.

**For and on behalf of the  
Comptroller and Auditor General of India**

Place: Delhi  
Date: 15.11.2023

Sd/-  
(Roli Shukla Malge)  
Principal Director of Audit  
(Finance & Communication)

## **Annexure-I to Separate Audit Report (SAR) on the accounts of Telecom Regulatory Authority of India for the year ended 31<sup>st</sup> March, 2023.**

As per the information and explanations given to us, the books and records examined by us in normal course of audit and to the best of our knowledge and belief, we further report that:

### **1. Adequacy of Internal Audit System**

Internal Audit Unit (IAU) of TRAI was constituted in compliance to the circular no.1-25/2012-A&P dated 12<sup>th</sup> July, 2013 with instructions to function under the direct control of the Secretary, TRAI with Senior Research Officer (IA) being head of the unit. However, in contravention to the above, the Internal Audit Report for the year 2022-23 was approved by the Advisor (Admin & IR).

Further, the issues pointed out by audit like, non-regular remittance of disincentives to DoT, non-submission of Monthly Internal Audit Report to the Secretary, TRAI and non-submission of report regarding pending CAG paras are indicative of inadequacy of Internal Audit System.

(OBS No. 938717 HM No. 11, OBS No. 942186 HM No. 12)

### **2. Adequacy of Internal Control System**

The Internal Control System of the organization is adequate and commensurate with its size and the nature of its functions.

### **3. System of Physical Verification of Fixed Assets**

The registers of Fixed Assets are maintained manually as well as in computerized form. Physical verification of Assets/stores is being conducted annually.

In our opinion, the System of Physical verification of fixed assets of the organization is adequate and commensurate with its size and the nature of its functions.

### **4. System of Physical Verification of Inventory**

Proper records of inventory have been maintained. Physical verification of inventory for the year 2022-23 has been done.

In our opinion, the system for physical verification of inventory is adequate and commensurate with its size and the nature of its functions.

### **5. Regularity in payment of Statutory Dues**

There was no disputed amount payable in respect of any other statutory dues including Contributory Provident Fund.

Place: Delhi  
Date: 15.11.2023

Sd/-  
(Roli Shukla Malge)  
Principal Director of Audit  
(Finance & Communication)



## Brief note on the Internal Control System in Telecom Regulatory Authority of India for the year 2022-23

An evaluation of the Internal Control System existing in Telecom Regulatory Authority of India (TRAI) was done during the course of Certification of the Annual Accounts of TRAI for the year 2022-23 and the report on the same is furnished below:

### 1. Organizational Setup

The Authority consists of one Chairperson, two whole-time Members and two part-time Members, who are assisted by the Secretary in discharging their functions. The secretariat of TRAI is headed by the Secretary and works through seven functional divisions viz (i) Administration & International Relations (A&IR) (ii) Broadcasting and Cable Services (B&CS) (iii) Financial & Economic Analysis (F&EA) (iv) Networks, Spectrum and Licensing (NSL) (v) Quality of Services (QoS) (vi) Legal division (vii) Consumer Affairs, Information Technology & Technology Development (CA,IT & TD). Each of these divisions is headed by a Principal Advisor/Advisors and they report to the Secretary. Each Principal Advisor/Advisors is assisted by Deputy Advisors or Joint Advisors who in turn are assisted by the respective Senior Research Officers.

### 2. Policies and Procedures

The policies and procedures for appointment of staff/ officers, fixation of pay, extension of terms of consultants, settlement of personal claims, TA claims, Training and Study tours of officers and staff and regulations on various matters are framed according to provisions contained in the TRAI Act. Wherever some deficiencies were found, the same was pointed out in Inspection Report of the Transaction audit for the current year.

### 3. Scope and Independence of Internal Audit

An independent Internal Audit Unit should function under the direct control of the Secretary, TRAI with Senior Research Officer (IA) being head of the unit. Audit observed that the Technical Officer as Internal Auditor was not reporting directly to the Secretary, TRAI. The Internal Audit Report for the year 2022-23 was approved by the Advisor (Admin & IR) which indicates that the Internal Audit was not independent.

### 4. Receipts and Disbursement of Cash

The work relating to receipt and disbursement of cash is done by the cashier under the supervision of the Dy. Advisor (Finance). The Cash Book remains under the custody of the Cashier and the physical verification of cash is being regularly done. The maximum limit of cash balance, as prescribed by the Authority, is being maintained.

### 5. TRAI General Fund

TRAI General Fund is maintained by department of Telecommunications (DoT), Grants from the Government of India to TRAI are credited to this fund separately. Expenditure of TRAI is met out of the release of grants by DoT and utilization certificates in respect of grants released are furnished by TRAI to DoT.

## 6. Fixed Assets

The Register of Fixed Assets is being maintained manually as well as in computerized form. Physical verification of Assets/Stores is being conducted annually.

## 7. Receipts and disbursement of cash

All sanctions of the Competent Authority, which are forwarded to the Finance Division for payment are checked with existing Rules/orders, approval of the competent Authority, availability of funds under the allocated Head of Accounts etc. and final orders for payment are issued accordingly. Orders of authority which is not in consonance with Govt's decisions/orders are rectified by the Finance Division.

## 8. Pay Rolls/Loans and Advances to Individuals

The salary/loans and advances of the TRAI Employees are being prepared and paid as per the provisions contained in the orders issued by the Govt of India from time to time.

## 9. Bank Balance/Bank Reconciliation

Cheques are issued on basis of sanctions received from the respective Divisions. TRAI is maintaining a Cheque Issue Register in which the details of cheques issued and received are entered. Bank Reconciliation Statements are prepared on monthly basis. Funds received through Govt Grants are kept in Current Accounts in the Bank.

## 10. Register of HBA/MCA/Computer/ Scooter advances

HBA/MCA/Computer/ Scooter advances are being paid to its employees by TRAI. While making payments of these advances to its employees, TRAI has been considering the debit balances of the parent/previous offices of the employees who took absorption.

Place: Delhi  
Date: 15.11.2023

Sd/-  
(Roli Shukla Malge)  
Principal Director of Audit  
(Finance & Communication)

**FORM OF FINANCIAL STATEMENTS (NON-PROFIT ORGANISATIONS)**  
**TELECOM REGULATORY AUTHORITY OF INDIA**  
**INCOME AND EXPENDITURE ACCOUNT FOR THE YEAR ENDED 31<sup>st</sup> MARCH, 2023**

Income	Schedule	REVENUE	
		Current Year 2022-23	Previous Year 2021-22
Income from Sales/Services	12		
Grants/Subsidies	13	97,18,00,000	92,00,00,000
Fee/Subscriptions	14		-
Income from Investments (Income on Invest from earmarked /endow.	15		-
Funds transferred to Funds			
Income for Royalty, Publication etc.	16	0	-
Interest Earned	17	44,00,852	1,79,07,118
Other Income	18	2,79,457	5,34,403
Increase(decrease) in stock of Finished goods and works-in-progress	19		
<b>TOTAL(A)</b>		<b>97,64,80,309</b>	<b>93,84,41,521</b>
EXPENDITURE			
Establishment Expenses	20	53,16,80,523	48,94,42,293
Other Administrative Expenses etc	21	53,71,31,773	42,51,74,455
Expenditure on Grants, Subsidies etc	22		-
Interest	23		-
Depreciation (Net Total at the year end-corresponding to Schedule 8)		1,79,37,025	1,55,75,774
<b>TOTAL (B)</b>		<b>108,67,49,321</b>	<b>93,01,92,522</b>
Balance being excess of Income over Expenditure (A-B)			
Transfer to Special Reserve (Specify each)			
Transfer to / from General Reserve			
BALANCE BEING SURPLUS/(DEFICIT) CARRIED TO CORPUS/CAPITAL FUND			
SIGNIFICANT ACCOUNTING POLICIES	24	<b>-11,02,69,012</b>	<b>82,48,999</b>
CONTINGENT LIABILITIES AND NOTES ON ACCOUNTS	25		

Sd/- Pr. Advisor (F&EA)      Sd/- Secretary      Sd/- Member      Sd/- Chairperson

**FORM OF FINANCIAL STATEMENTS (NON-PROFIT ORGANISATIONS)  
TELECOM REGULATORY AUTHORITY OF INDIA  
BALANCE SHEET AS ON 31<sup>ST</sup> MARCH, 2023**

		REVENUE	
		2022-23	2021-22
CORPUS/CAPITAL FUND	1	(15,19,31,148)	(4,16,62,136)
RESERVES AND SURPLUS	2		
EARMARKED/ENDOWMENT FUNDS	3	46,71,36,490	4,96,390
SECURED LOANS AND BORROWINGS	4		
UNSECURED LOANS AND BORROWINGS	5		
DEFERRED CREDIT LIABILITIES	6		
CURRENT LIABILITIES AND PROVISIONS	7	42,70,11,627	35,90,24,249
<b>TOTAL</b>		<b>74,22,16,969</b>	<b>31,78,58,503</b>
<b>ASSETS</b>			
FIXED ASSETS	8	8,68,19,200	8,44,79,695
INVESTMENTS-FROM EARMARKED/ENDOWMENT FUNDS	9		
INVESTMENTS-OTHERS	10		
CURRENT ASSETS, LOANS, ADVANCES ETC	11	65,53,97,769	23,33,78,808
MISCELLANEOUS EXPENDITURE			
(to the extent not written off or adjusted)			
<b>TOTAL</b>		<b>74,22,16,969</b>	<b>31,78,58,503</b>
SIGNIFICANT ACCOUNTING POLICIES	24		
CONTINGENT LIABILITIES AND NOTES ON ACCOUNTS	25		

Sd/-  
Pr. Advisor (F&EA)

Sd/-  
Secretary

Sd/-  
Member

Sd/-  
Chairperson

**FORM OF FINANCIAL STATEMENTS (NON-PROFIT ORGANISATIONS)  
TELECOM REGULATORY AUTHORITY OF INDIA  
SCHEDULES FORMING PART OF BALANCE SHEET AS ON 31<sup>st</sup> MARCH, 2023**

**SCHEDULE I - CORPUS/CAPITAL FUND**

	REVENUE	
	Current Year 2022-23	Previous Year 2021-22
Balance as at the beginning of the year	(4,16,62,136)	(4,99,11,135)
Add:/Less Contributions towards Corpus/Capital Fund		
Add/(Deduct): Balance of net income/(expenditure) transferred from the Income and Expenditure Account	(11,02,69,012)	82,48,999
<b>BALANCE SHEET AS AT THE YEAR-END</b>	<b>(15,19,31,148)</b>	<b>(4,16,62,136)</b>

**SCHEDULE 2 - RESERVES AND SURPLUS**

	REVENUE	
	Current Year 2022-23	Previous Year 2021-22
<b>1. Capital Reserve:</b>	-	-
As per last Account	-	-
Addition during the year	-	-
Less: Deductions during the year	-	-
<b>2. Revaluation Reserve:</b>	-	-
As per last Account	-	-
Addition during the year	-	-
Less: Deductions during the year	-	-
<b>3. Special Reserve:</b>	-	-
As per last Account	-	-
Addition during the year	-	-
Less: Deductions during the year	-	-
<b>4. General Reserve:</b>	-	-
As per last Account	-	-
Addition during the year	-	-
Less: Deductions during the year	-	-
<b>TOTAL</b>	<b>-</b>	<b>-</b>

Sd/-  
Consultant (F&EA)



**FORM OF FINANCIAL STATEMENTS (NON-PROFIT ORGANISATIONS)**  
**TELECOM REGULATORY AUTHORITY OF INDIA**  
**SCHEDULES FORMING PART OF BALANCE SHEET AS ON 31<sup>st</sup> MARCH, 2023**  
**SCHEDULE 3 - EARMARKED/ENDOWMENT FUNDS**

(Amount in ₹)

	Building Fund Fund Fund			TOTAL REVENUE	
	Fund	XX	YY	ZZ	Current Year 2022-23
<b>a) Opening balance of the funds</b>	31,82,112				Previous Year 2021-22
<b>b) Additions of the funds:</b>					
i. Donations/grants					
ii. Income from investments made on account of funds	1,84,03,798				
iii. Other additions (Misc income, receipt of advances)					
(iv) Funds Received from DOT for building	1,35,60,00,000				
<b>TOTAL (a+b)</b>	1,37,75,85,910				
<b>c) Utilisation/expenditure towards objectives of funds</b>					
<b>i. Capital Expenditure</b>					
- Fixed Assets					NIL
- Others					NIL
Building advance NBCC	91,04,49,420				
Total					
<b>ii. Revenue Expenditure</b>					
- Salaries, Wages and Allowances etc					
- Rent					
- Other Administrative Expenses					
Total	91,04,49,420				
<b>TOTAL (c)</b>					
<b>NET BALANCE AS AT THE YEAR-END (a+b+c)</b>	<b>46,71,36,490</b>				

**Notes**

- 1) Disclosures shall be made under relevant head based on conditions attaching to the grants
- 2) The balance is lying in current Account of TRAI general fund shown in Bank balances at Schedule 11 of Current Assets loans and advances.

Sd/-  
Consultant (F&EA)

**FORM OF FINANCIAL STATEMENTS (NON-PROFIT ORGANISATIONS)**  
**TELECOM REGULATORY AUTHORITY OF INDIA**  
**SCHEDULES FORMING PART OF BALANCE SHEET AS ON 31<sup>st</sup> MARCH, 2023**  
**SCHEDULE 4 - SECURED LOANS AND BORROWINGS**

	REVENUE	
	Current Year 2022-23	Previous Year 2021-22
1. Central Government	-	-
2. State Government (Specify)	-	-
3. Financial Institutions	-	-
4. Banks	-	-
a) Term Loans	-	-
- Interest accrued and due	-	-
b) Other-Loans (Specify)	-	-
- Interest accrued and due	-	-
5. Other Institutions and Agencies	-	-
6. Debentures and Bonds	-	-
7. Others (Specify)	-	-
<b>TOTAL</b>	-	-

**Note** : Amount due within one year.

**SCHEDULE 5 - UNSECURED LOANS AND BORROWINGS**

	REVENUE	
	Current Year 2022-23	Previous Year 2021-22
1. Central Government	-	-
2. State Government (Specify)	-	-
3. Financial Institutions	-	-
4. Banks	-	-
a) Term Loans	-	-
- Interest accrued and due	-	-
b) Other-Loans (Specify)	-	-
- Interest accrued and due	-	-
5. Other Institutions and Agencies	-	-
6. Debentures and Bonds	-	-
7. Others (Specify)	-	-
<b>TOTAL</b>	-	-

**Note** : Amount due within one year.

Sd/-  
Consultant (F&EA)

**FORM OF FINANCIAL STATEMENTS (NON-PROFIT ORGANISATIONS)**  
**TELECOM REGULATORY AUTHORITY OF INDIA**  
**SCHEDULES FORMING PART OF BALANCE SHEET AS ON 31<sup>st</sup> MARCH, 2023**  
**SCHEDULE 6 - DEFERRED CREDIT LIABILITIES**

	REVENUE	
	Current Year 2022-23	Previous Year 2021-22
a) Acceptances secured by hypothecation of capital equipment and other assets	-	-
b) Others	-	-
<b>TOTAL</b>	-	-

**Note: Amounts due within one year.**

**SCHEDULE 7 - CURRENT LIABILITIES AND PROVISIONS** (Amount in ₹)

	REVENUE	
	Current Year 2022-23	Previous Year 2021-22
<b>A. CURRENT LIABILITIES</b>		
1) Acceptances	-	-
2) Sundry Creditors	-	-
a) For Goods	-	-
b) Others	-	-
3) Advances Received	-	-
4) Interest accrued but not due on:	-	-
a) Secured loans/borrowings	-	-
b) Unsecured Loans/borrowings	-	-
5) Statutory Liabilities	-	-
a) Overdue	-	-
b) Others	-	-
6) Other current Liabilities	-	-
1) For TRAI General Fund (EMD)	12,73,442	8,38,387
2) For Telemarketers Registration Fees	2,663	1,917
3) Penalty from Telemarketers	-	123
4) Financial disincentive	3,48,49,557	1,13,90,037
<b>TOTAL (A)</b>	<b>3,61,25,662</b>	<b>1,22,30,464</b>
<b>B. PROVISIONS</b>		
1. For Taxation		
2. Gratuity	11,77,99,638	10,38,75,036
3. Superannuation/Pension	-	-
4. Accumulated Leave Encashment	13,52,60,117	12,13,45,565
5. Trade Warranties/Claims	-	-
6. Other(Specify)	-	-
Provisions for expenses	13,78,26,210	12,15,73,184
<b>TOTAL (B)</b>	<b>39,08,85,965</b>	<b>34,67,93,785</b>
<b>TOTAL (A+B)</b>	<b>42,70,11,627</b>	<b>35,90,24,249</b>

Sd/-

Consultant (F&EA)

## SCHEDULE 8 - FIXED ASSETS

Consultant (F&amp;EA)

**FORM OF FINANCIAL STATEMENTS (NON-PROFIT ORGANISATIONS)  
 TELECOM REGULATORY AUTHORITY OF INDIA  
 SCHEDULES FORMING PART OF BALANCE SHEET AS ON 31<sup>st</sup> MARCH, 2023**

**SCHEDULE 9 - INVESTMENTS FROM EARMARKED/ENDOWMENT FUNDS**

(Amount in ₹)

	REVENUE	
	Current Year 2022-23	Previous Year 2021-22
1. In Government Securities	-	-
2. Other approved Securities	-	-
3. Shares	-	-
4. Debentures and Bonds	-	-
5. Subsidiaries and Joint Ventures	-	-
6. Others (to be specified)	-	-
<b>TOTAL</b>	-	-

**SCHEDULE 10 - INVESTMENTS OTHERS**

	REVENUE	
	Current Year 2022-23	Previous Year 2021-22
1. In Government Securities	-	-
2. Other approved Securities	-	-
3. Shares	-	-
4. Debentures and Bonds	-	-
5. Subsidiaries and Joint Ventures	-	-
6. Others (Bank FDRs)	-	-
<b>TOTAL</b>	-	-

Sd/-  
 Consultant (F&EA)



**FORM OF FINANCIAL STATEMENTS (NON-PROFIT ORGANISATIONS)  
TELECOM REGULATORY AUTHORITY OF INDIA  
SCHEDULES FORMING PART OF BALANCE SHEET AS ON 31<sup>st</sup> MARCH, 2023**

**SCHEDULE 11 - CURRENT ASSETS, LOANS, ADVANCES ETC**

(Amount in ₹)

	REVENUE	
	Current Year 2022-23	Previous Year 2021-22
<b>A. CURRENT ASSETS:</b>		
1. <u>Inventories</u>		
a) Stores and Spares	-	-
b) Loose tools	-	-
c) Stock-in-trade	-	-
Finished Goods	-	-
Work in progress	-	-
Raw Material	-	-
2. <u>Sundry Debtors:</u>		
a) Debts Outstanding for a period exceeding six months	-	-
b) Others	-	-
3. <u>Cash balances in hand (including cheques/drafts and imprest)</u>	95,729	25,844
4. Bank Balances:		
a) With Scheduled Banks		
- On Current Accounts TRAI General fund	14,73,69,502	21,37,59,848
- Building Fund (For new building of TRAI)	9,66,490	5,42,113
- On Current Accounts Registration Fees	2,056	1,310
- Penalty from Telemarketers	-	123
- On Savings Account Customer Education Fees	-	-
- On Savings Account Financial Disincentive	3,48,49,557	1,13,90,037
Fixed deposits with Union Bank of India	46,61,70,000	26,40,000
b) With non-Scheduled Banks		
- On Current Accounts		-
- On Deposit Accounts		-
- On Savings		-
5. Post Office-Savings Accounts		-
<b>TOTAL (A)</b>	<b>64,94,53,334</b>	<b>22,83,59,275</b>

Sd/-  
Consultant (F&EA)

Contd.....

**FORM OF FINANCIAL STATEMENTS (NON-PROFIT ORGANISATIONS)  
 TELECOM REGULATORY AUTHORITY OF INDIA  
 SCHEDULES FORMING PART OF BALANCE SHEET AS ON 31<sup>st</sup> MARCH, 2023**

**SCHEDULE 11 - CURRENT ASSETS, LOANS, ADVANCES ETC**

(Amount in ₹)

	REVENUE	
	Current Year 2022-23	Previous Year 2021-22
<b>B. LOANS, ADVANCES AND OTHER ASSETS</b>		
1. <u>Loans</u>		
a) Staff	-	-
b) Other Entities engaged in activities/objectives similar to that of Entity	-	-
c) Others (TA, LTC and Festival Advances to Officers & Staff)	32,57,231	31,51,118
2. <u>Advance and other amounts recoverable in cash or in kind or for value to be received:</u>		
a) On Capital Account	-	-
b) Prepayments	20,97,547	12,00,810
c) Others	-	-
3. <u>Income Accrued</u>		
a) On Investments from Earmarked/Endowment Funds	-	-
b) On Investments-Others	-	-
c) On Loans and Advances	5,68,698	6,67,605
d) Others	-	-
(includes income due unrealised Rs.)		
5. Claims Receivable	20,959	-
<b>TOTAL (B)</b>	<b>59,44,435</b>	<b>50,19,533</b>
<b>TOTAL (A+B)</b>	<b>65,53,97,769</b>	<b>23,33,78,808</b>

Sd/-  
 Consultant (F&EA)

**FORM OF FINANCIAL STATEMENTS (NON-PROFIT ORGANISATIONS)**  
**TELECOM REGULATORY AUTHORITY OF INDIA**  
**SCHEDULES FORMING PART OF BALANCE SHEET AS ON 31<sup>st</sup> MARCH, 2023**  
**SCHEDULE 12 - INCOME FROM SALES/SERVICES**

(Amount in ₹)

	REVENUE	
	Current Year 2022-23	Previous Year 2021-22
<b>1. Income from Sales</b>	-	-
a) Sale of Finished Goods	-	-
b) Sale of Raw material	-	-
c) Sale of Scraps	-	-
<b>2. Income from Services</b>	-	-
a) Labour and Processing Charges	-	-
b) Professional/Consultancy Services	-	-
c) Agency Commission and Brokerage	-	-
d) Maintenance Services (Equipment/Property)	-	-
e) Others (Specify)	-	-
<b>TOTAL</b>	-	-

**SCHEDULE 13 - GRANTS/SUBSIDIES**

(Irrevocable Grants & Subsidies Received)	REVENUE	
	Current Year 2022-23	Previous Year 2021-22
1) Central Government	97,18,00,000	92,00,00,000
2) State Government(s)	-	-
3) Government Agencies	-	-
4) Institutions/Welfare Bodies	-	-
5) International Organisations	-	-
6) Other (Swachh Bharat)	-	-
<b>TOTAL</b>	<b>97,18,00,000</b>	<b>92,00,00,000</b>

**SCHEDULE 14 - FEES/SUBSCRIPTIONS**

(Amount in ₹)

	REVENUE	
	Current Year 2022-23	Previous Year 2021-22
1. Entrance Fees	-	-
2. Annual Fees/Subscriptions	-	-
3. Seminar/Program Fees	-	-
4. Consultancy Fees	-	-
5. Others(specify)	-	-
<b>TOTAL</b>	-	-

**Note: Accounting Policies towards each item are to be disclosed**

Sd/-  
Consultant (F&EA)

**FORM OF FINANCIAL STATEMENTS (NON-PROFIT ORGANISATIONS)**  
**TELECOM REGULATORY AUTHORITY OF INDIA**  
**SCHEDULES FORMING PART OF BALANCE SHEET AS ON 31<sup>st</sup> MARCH, 2023**

**SCHEDULE 15 - INCOME FROM INVESTMENTS**

(Amount in ₹)

(Income on Investment from Earmarked/ Endowment Funds Transferred to Funds)	REVENUE	
	Current Year 2022-23	Previous Year 2021-22
1) Interest	-	-
a) On Govt Securities	-	-
b) Other Bonds/Debentures	-	-
2) Dividends	-	-
a) On Shares	-	-
b) On Mutual Fund Securities	-	-
3) Rents	-	-
4) Others (Specify)	-	-
<b>TOTAL</b>	-	-
<b>TRANSFERRED TO EARMARKED/ENDOWMENT FUNDS</b>		

**SCHEDULE 16 - INCOME FROM ROYALTY, PUBLICATION ETC**

(Amount in ₹)

	REVENUE	
	Current Year 2022-23	Previous Year 2021-22
1. Income from Royalty	-	-
2. Income from Publications	-	-
3. Misc Income	-	-
<b>TOTAL</b>	-	-

**SCHEDULE 17 - INTEREST EARNED**

	REVENUE	
	Current Year 2022-23	Previous Year 2021-22
1) On Term Deposits	-	-
a) With Scheduled Banks	-	-
b) With Non-Scheduled Banks	-	-
c) With Institutions	-	-
d) Flexi Accounts	44,00,852	1,79,07,118
2) On Savings Account	-	-
a) With Scheduled Banks	-	-
b) With Non-Scheduled Banks	-	-
c) With Institutions	-	-
d) Others	-	-
3) On Loans	-	-
a) Employees/Staff	-	-
b) Others	-	-
4) Interest on Debtors and Other Receivables	-	-
<b>TOTAL</b>	<b>44,00,852</b>	<b>1,79,07,118</b>

**Note - Tax deducted at source to be indicated**

Sd/-  
 Consultant (F&EA)

**FORM OF FINANCIAL STATEMENTS (NON-PROFIT ORGANISATIONS)**  
**TELECOM REGULATORY AUTHORITY OF INDIA**  
**SCHEDULES FORMING PART OF BALANCE SHEET AS ON 31<sup>st</sup> MARCH, 2023**

**SCHEDULE 18 - OTHER INCOME**

(Amount in ₹)

	REVENUE	
	Current Year 2022-23	Previous Year 2021-22
1. Profit on Sale/disposal of Assets		
a) Owned assets	272,619	-
b) Assets acquired out of grants, or received free of cost		
2. Export Incentives realized		
3. Fees for Miscellaneous Services		
4. Miscellaneous Income	6,838	5,34,403
<b>TOTAL</b>	<b>2,79,457</b>	<b>5,34,403</b>

**SCHEDULE 19 - INCREASE/(DECREASE) IN STOCK OF FINISHED GOODS & WORK IN PROGRESS**

	REVENUE	
	Current Year 2022-23	Previous Year 2021-22
a) Closing stock		
- Finished Goods	0	0
- Work-in-progress	0	0
b) Less Opening Stock		
- Finished Goods	0	0
- Work-in-progress	0	0
<b>NET INCREASE/(DECREASE) [a-b]</b>	<b>0</b>	<b>0</b>

**SCHEDULE 20 - ESTABLISHMENT EXPENSES**

	REVENUE	
	Current Year 2022-23	Previous Year 2021-22
a) Salaries and Wages	41,76,85,587	38,26,08,775
b) Allowances and Bonus	4,98,565	4,52,459
c) Contribution to Provident Fund	2,36,21,258	2,31,14,825
d) Contribution to Other Fund(specify)		-
e) Staff Welfare Expenses	12,45,119	14,38,157
f) Expenses on Employees Retirement and Terminal Benefits	6,95,07,195	6,40,40,501
g) Others (LTC, Medical to Officers & Staff and OTA to Staff)	1,91,22,799	1,77,87,576
<b>TOTAL</b>	<b>53,16,80,523</b>	<b>48,94,42,293</b>

Sd/-  
Consultant (F&EA)



**FORM OF FINANCIAL STATEMENTS (NON-PROFIT ORGANISATIONS)**  
**TELECOM REGULATORY AUTHORITY OF INDIA**  
**SCHEDULES FORMING PART OF BALANCE SHEET AS ON 31<sup>st</sup> MARCH, 2023**  
**SCHEDULE 21 - OTHER ADMINISTRATIVE EXPENSES ETC**

(Amount in ₹)

	REVENUE	
	Current Year 2022-23	Previous Year 2021-22
a) Purchases	-	-
b) Labour and processing expenses	-	-
c) Cartage and Carriage Inwards	-	-
d) Electricity and power	49,12,449	28,40,809
e) Water charges	-	-
f) Insurance and bank charges	1,53,137	2,08,399
g) Repairs and maintenance	94,90,467	1,10,49,290
h) Excise Duty	-	-
i) Rent, Rates and Taxes	32,61,58,011	32,94,13,292
j) Vehicles Running and Maintenance	20,19,290	14,69,394
k) Postage, Telephone and Communication Charges	1,00,71,632	92,60,002
l) Printing and Stationery	33,73,526	10,44,703
m) Travelling and Conveyance Expenses	5,35,13,154	2,05,28,393
n) Expenses on Seminar/Workshops	1,53,06,149	1,39,149
o) Subscription Expenses	75,64,692	61,23,010
p) Prior period expenses	33,51,173	(3,71,13,704)
q) Auditors Remuneration	2,80,000	2,03,100
r) Hospitality Expenses	7,25,512	3,05,329
s) Professional Charges	4,12,82,284	2,82,49,435
t) Consultation and training	69,69,966	14,50,134
u) Swach Bharat expenses	-	-
v) loss on sale of assets	-	-
w) Freight and Forwarding Expenses	-	-
x) Software develop expenses	33,38,140	17,06,676
y) Advertisement and Publicity	9,07,109	17,84,626
z) Others	-	-
(i) Others (Payment to Security, Housekeeping etc.)	4,77,15,082	4,65,12,418
<b>TOTAL</b>	<b>53,71,31,773</b>	<b>42,51,74,455</b>

Sd/-  
 Consultant (F&EA)

**FORM OF FINANCIAL STATEMENTS (NON-PROFIT ORGANISATIONS)  
TELECOM REGULATORY AUTHORITY OF INDIA  
SCHEDULES FORMING PART OF BALANCE SHEET AS ON 31<sup>st</sup> MARCH, 2023**

**SCHEDULE 22 - EXPENDITURE ON GRANTS, SUBSIDIES ETC**

(Amount in ₹)

	REVENUE	
	Current Year 2022-23	Previous Year 2021-22
a) Grants given to Institutions/Organisations	-	-
b) Subsidies given to Institutions/Organisations	-	-
<b>TOTAL</b>	-	-

**Note: Name of Entities, their Activities along with the amount of Grants/Subsidies are to be disclosed**

**SCHEDULE 23 - INTEREST**

	REVENUE	
	Current Year 2022-23	Previous Year 2021-22
a) On Fixed Loans	-	-
b) On Other Loans(including Bank Charges)	-	-
c) Others (specify)	-	-
<b>TOTAL</b>	-	-

Sd/-  
Consultant (F&EA)

**FORM OF FINANCIAL STATEMENTS (NON-PROFIT ORGANISATIONS) TELECOM REGULATORY AUTHORITY OF INDIA**  
**RECEIPTS AND PAYMENTS FOR THE PERIOD/YEAR ENDED 31<sup>st</sup> MARCH, 2023**

RECEIPTS	REVENUE		PAYMENTS	REVENUE	
	Current Year 2022-23	Previous Year 2021-22		Current Year 2022-23	Previous Year 2021-22
<b>I. Opening Balance</b>					
a) Cash in hand	25,844	26,385		49,89,28,925	47,04,43,332
i) In current accounts	21,37,59,848	3,00,801		52,30,85,602	45,35,58,310
ii) In deposit accounts in building fund	5,42,113	22,61,98,520			
iii) In TRAI General fund		21,03,01,480			
iv) Savings accounts penalty registration fees	123	15,318			
customer education fees	1,310	1,77,694			
Financial disincentive	1,13,90,037	-		91,04,49,420	135,57,02,130
<b>II. Grants Received</b>					
a) From Government of India	97,18,00,000	92,00,00,000			-
b) From State Government		-		9,66,490	5,42,113
c) Grant received from DOT for Building Fund	135,60,00,000	113,00,00,000		46,35,30,000	26,40,000
(Grants for capital & revenue exp to be shown separately)				2,02,96,520	1,03,41,519
<b>III. Income on Investments from</b>					
a) Earmarked/Endow Funds	1,84,03,798				-
b) Own Funds (Oth Investment)					-
<b>IV. Interest Received</b>					
a) On Bank deposits	44,00,852	1,79,07,118			1,81,697
b) Loans, Advances etc	98,907	71,517			19,278
c) Miscellaneous		-			1,73,07,995
<b>V. Other Income (Specify)</b>					
To Miscellaneous Income	2,79,457	5,34,403			
<b>VI. Amount Borrowed</b>					
<b>VII. Any other receipts (give details)</b>					
To Security Deposits other advances	4,35,055	65,75,562		10,23,809	49,02,690
To Sale of Assets		-		95,729	25,844
Advance Against sale of Vehicle		-			-
To registration fees	746	5,313		14,73,69,502	21,37,59,848
To customer education fees		-		2,056	1,310
To penalty from telemarketers		4,083			-
To financial disincentive	2,34,59,519	1,94,98,032			
<b>TOTAL</b>	<b>260,05,97,609</b>	<b>254,08,16,226</b>	<b>TOTAL</b>	<b>260,05,97,609</b>	<b>254,08,16,226</b>
<b>Pr. Advisor (F&amp;EA)</b>	<b>Sd/-</b>	<b>Sd/-</b>	<b>Sd/-</b>	<b>Sd/-</b>	
		Secretary	Member	Chairperson	

## SCHEDULE 24 - SIGNIFICANT ACCOUNTING POLICIES

### 1 Accounting Conventions

- The financial statements have been prepared in the "Uniform Form of Accounts" as approved by the Controller General of Accounts vide their letter No. F.No.19(1)/Misc./2005/TA/450-490 dated 23<sup>rd</sup> July, 2007 for Revenue Head.
- Accounts have been prepared on accrual basis for the current year i.e., 2022-23. There is no change in Method of Accounting from the preceding year.
- Provisions for all the undisputed and known liabilities have been made in the Books of Accounts.
- Figures have been rounded off to the nearest rupee.
- Contingent liabilities are disclosed after careful evaluation of facts and legal aspects of the matter involved.

### 2 Fixed Assets

Fixed Assets are stated at cost of acquisition inclusive of inward freight, duties and taxes and incidental and direct expenses related to acquisition.

### 3 Depreciation

- Depreciation on Fixed Assets is provided on Straight Line Method at the rates specified in Part "C" of Schedule II of the Companies Act, 2013 except for the categories mentioned below on which higher rates of depreciation have been applied:

Category	Minimum prescribed depreciation rate as per Companies Act, 1956	Depreciation rate applied
Office Equipments	19.00%	19.00% *
Furnitures and Fixtures	9.50%	10.00%
Electrical Appliances	9.50%	10.00%
Airconditioners	9.50%	10.00%
Books and Publications	6.33%	20.00%

\* Office Equipments includes Mobile Handsets provided to the officers for official purposes. It has been decided by the Competent Authority vide Order No.6-13/2019-A&P dated 3<sup>rd</sup> January, 2020 to provide/write off these handsets in two years. Accordingly depreciation on Mobile Handsets have been charged off @ 50%.

- In respect of additions to Fixed Assets during the year, depreciation is considered on Pro-rata basis.

- Assets costing Rs. 5,000/- or less, each are fully provided.

### 4 Foreign Currency Transactions

Transactions denominated in foreign currencies are recorded at the exchange rate prevailing at the time of transaction.

Sd/-  
Consultant (F&EA)

## 5 Retirement Benefits

- (a) Provision for Leave Salary and Pension Contribution up to 31<sup>st</sup> March, 2023 in the case of employees on deputations have been provided in the Books of Accounts at the rates prescribed by Government of India under Fundamental Rules from time to time.
- (b) In the case of Regular employees, Provision for Leave Encashment and Gratuity for the year 2022-23 have been made on the basis of report furnished by the actuary.

## 6 Govt. Grant

- (a) Govt. grants are accounted for on the basis of grants received during the year from the Government.
- (b) The money received on account of Registration Fee, Customer Education Fee, Penalty on Telemarketers and Financial Disincentive has been accounted for on cash basis.

## SCHEDULE 25 - CONTINGENT LIABILITIES AND NOTES ON ACCOUNTS

### 1 Contingent Liabilities

Claims against the Entity not acknowledged as debts Current Year (Nil) (Previous year Nil)

### 2 Current Assets, Loans and Advances

In the opinion of the Management, the current assets, loans and advances have a value on realization in the ordinary course of business, equal at least to the aggregate amount shown in the Balance Sheet.

### 3 Taxation

As per clause 32 of the TRAI Act, 1997, TRAI is exempt from tax on Wealth and Income.

### 4 Grants

During the financial year 2022-2023 a sum of ₹ 97.18 Crores have been received as Govt. Grant from DoT for meeting the day to day expenses of TRAI.

### 5 Earmarked grant

From time to time, TRAI was requesting the Ministry of Communication for allotting of funds for Office space. On 26<sup>th</sup> November, 2020, DOT vide letter no 15-11/2012-Restg conveyed TRAI regarding the administrative approval of the Comptent authority for an area of 1,15,188 sq feet for Office space. Thereafter vide letter no 1-15/2021-B/313 and No.1-15/2020-B/208 Dated 14<sup>th</sup> June, 2021 and No. 1-15/2020-B/456 dated 1<sup>st</sup> November, 2021 has been allocated a sum of ₹ 226 Crores for Building. During the year 2022-23 ₹ 135.60 Crores have been received and an amount of ₹ 91.04 Crores were paid to NBCC till the closing of the financial year i.e. 31<sup>st</sup> March, 2023. A sum of ₹ 1.84 Crores was received as interest during the period which is shown in the Schedule 3 of the balance sheet and the closing balance of building fund account is ₹ 46.71 Crores as on 31<sup>st</sup> March, 2023.

Sd/-  
Consultant (F&EA)



## 6 Previous year figures

Corresponding figures for the previous year have been regrouped/arranged wherever necessary. The expenditure/income relating to the previous year i.e prior period expenditure/income have been routed through capital fund.

## 7 Transactions in Foreign Currencies

Expenditure in Foreign Currency: NIL

(a) Travel : A sum of ₹ 1,68,33,339.00 was incurred on account of Foreign Tour Expenses.

A sum of ₹ 62,59,534.00 was paid for participation fees for foreign institutions in Foreign Currency.

(b) Remittances and Interest payment to Financial Institution,

Banks in Foreign Currency : Nil

(c) Other Expenditure : Nil

9 Schedules 1 to 25 are annexed to and form an integral part of the Balance Sheet as at 31<sup>st</sup> March, 2023 and the Income and Expenditure Account for the year ended on that date.

Sd/-  
Pr. Advisor (F&EA)

Sd/-  
Secretary

Sd/-  
Member

Sd/-  
Chairperson

## C) AUDITED CONTRIBUTORY PROVIDENT FUND ACCOUNTS OF TRAI FOR THE YEAR 2022-23

*Separate Audit Report of Comptroller & Auditor General of India on the Annual Accounts of Telecom Regulatory Authority of India-Contributory Provident Fund Account for the year ended 31<sup>st</sup> March, 2023.*

### 1. Introduction

We have audited the attached Balance Sheet of the Telecom Regulatory Authority of India-Contributory Provident Fund Account as on 31<sup>st</sup> March, 2023 and the Income and Expenditure Account/Receipts and Payments Account for the year ended on that date under Section 19(2) of the Comptroller & Auditor General's (Duties, Powers & Conditions of Service) Act, 1971 read with Rule 5 (5) of the Telecom Regulatory Authority of India (Contributory Provident Fund) Rules, 2003, issued under Government of India, Extraordinary Gazette Notification No. GSR 333(E) dated 10<sup>th</sup> April, 2003. These financial statements are the responsibility of the Telecom Regulatory Authority of India-Contributory Provident Fund Account's Management. Our responsibility is to express an opinion on these financial statements based on our audit.

2. This Separate Audit Report contains the comments of the Comptroller & Auditor General of India (CAG) on the accounting treatment only with regard to classification, conformity with the best accounting practices, accounting standards and disclosure norms, etc. Audit observations on financial transactions with regard to compliance with the Law, Rules & Regulations (Propriety and Regularity) and efficiency-cum performance aspects, etc., if any, are reported through Inspection Reports/CAG's Audit Reports separately.
3. We have conducted our audit in accordance with auditing standards generally accepted in India. These standards require that we plan and perform the audit to obtain reasonable assurance that the financial statements are free from material misstatements. An audit includes examining, on a test basis, evidence supporting the amounts and disclosure in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of financial statements. We believe that our audit provides a reasonable basis for our opinion.
4. Based on our audit, we report that:
  - i. We have obtained all the information and explanations, which to the best of our knowledge and belief were necessary for the purpose of audit;
  - ii. The Balance Sheet and the Income and Expenditure Account/Receipts and Payments Account dealt with by this report have been drawn up in the 'Uniform format of Accounts' approved by the Controller General of Accounts under Rule 5 of the Telecom Regulatory Authority of India (Contributory Provident Fund) Rules, 2003.
  - iii. In our opinion, proper books of accounts and other relevant records have been maintained by the Telecom Regulatory Authority of India – Contributory Provident Fund Account.

- iv. We report that the Balance Sheet and the Income and Expenditure Account/Receipt and Payments Account dealt with by this Report are in agreement with the books of accounts.
- v. In our opinion and to the best of our information and according to the explanations given to us, the said financial statements, read together with the Accounting Policies and Notes on Accounts, and subject to the significant matters stated above and other matters mentioned in Annexure-I to this Audit Report, give a true and fair view in conformity with the accounting principles accepted in India:
  - a. In so far as it relates to the Balance Sheet of the state of affairs of the Telecom Regulatory Authority of India-Contributory Provident Fund Account as on 31<sup>st</sup> March, 2023; and
  - b. In so far as it relates to the Income and Expenditure Account for the year ended on that date.

**For and on behalf of the  
Comptroller and Auditor General of India**

**Sd/-  
(Roli Shukla Malge)  
Principal Director of Audit  
(Finance & Communication)**

**Place : Delhi  
Date : 16.10.2023**

### **Annexure-I to Separate Audit Report**

**Telecom Regulatory Authority of India-Contributory Provident Fund for the year ended 31<sup>st</sup> March, 2023.**

As per the information and explanations given to us, the books and records examined by us in normal course of audit and to the best of our knowledge and belief, we further report that:

#### **(1) Adequacy of Internal Audit System**

The Internal Audit Report of TRAI-CPF accounts are available for 2022-23 and got approved by Secretary, TRAI. CPF Accounts up to 31<sup>st</sup> March, 2023 were verified by Internal Audit wing in the month of June, 2023. The Internal Audit System of the organization is adequate and commensurate with its size and nature of its function.

#### **(2) Adequacy of Internal Control System**

The Internal Control System of the organization is adequate and commensurate with its size and the nature of its functions.

Place : Delhi  
Date : 16.10.2023

Sd/-  
(Roli Shukla Malge)  
Principal Director of Audit  
(Finance & Communication)

## Brief note on the Internal Control System in Telecom Regulatory Authority of India-Contributory Provident Fund Account 2022-23

An evaluation of the Internal Control System existing in Telecom Regulatory Authority of India (TRAI)-CPF Account was done during the period w.e.f. 17-07-2023 to 25-07-2023 of TRAI for the year 2022-23 and the report on the same is furnished below:

### 1. Introduction

The Telecom Regulatory Authority of India - Contributory Provident Fund (TRAI-CPF) Account was established with effect from 5<sup>th</sup> May, 2003 in pursuance of Rule 3 (1) of the Telecom Regulatory Authority of India (Contributory Provident Fund) Rules, 2003, issued under Government of India, Extraordinary Gazette Notification No. GSR 333(E) dated 10<sup>th</sup> April, 2003. The deductions from salary on account of GPF/EPF/CPF (as the case may be) are made from the employees on deputation and are remitted to their parent offices as per terms and conditions of their appointment. In the case of regular staff of TRAI, CPF deductions are made from their salary as per the CPF Rules and employees' as well as employer's contributions are remitted to TRAI-CPF Account, by TRAI on a month to month basis along with the details of deduction of each employee.

### 2. Organizational Setup

TRAI-CPF Account has no separate employees on its own. The entire work of maintenance of TRAI-CPF Account is done by the Board of Trustees, which is constituted from the employees of TRAI only. As per decision taken by the TRAI Authority, the Dy. Advisor (F&EA) is the Secretary to the Board of Trustees. The following are the trustees of the Board:

(i) Advisor (Administration)	: President (Ex-officio) TRAI CPF Trust
(ii) Joint Advisor (HR)	: Trustee (Ex-officio)
(iii) Joint Advisor (F&EA)	: Trustee (Ex-officio)
(iv) Section Officer (QoS):	: Trustee
(v) Assistant (BB & PA)	: Trustee

The Secretary to the Board of Trustees is responsible for maintenance of Accounts of the TRAI-CPF Account and conducting the meetings of the Board of Trustees. All decisions of the Board of Trustees are taken in their periodical meetings.

### 3. Scope and independence of Internal Audit

TRAI has its own Internal Audit division headed by Technical Officer (IAU). The reports of Internal Audit, including CPF-Accounts, are submitted to the Secretary for approval and are thereafter forwarded to the respective divisions for necessary corrective measures. The actions taken by the divisions are monitored continuously and regularly.



#### 4. Receipts and Disbursement of Funds

The work relating to receipt and disbursement of the funds is done by a Section Officer under the supervision of Secretary to the Board of Trustees. No cash transaction is done in TRAI CPF Account as all receipts and payments are made through cheques only. Receipt of CPF deductions from TRAI and payments made to the members of TRAI-CPF Account, if any, on account of CPF withdrawal or advance are regularly recorded in bank book.

#### 5. Investments

The funds of TRAI-CPF Account are invested in various Securities as per Government norms. The interests accrued/ received on these securities are credited in interest income. The decisions of making investments are taken in the periodical meetings of Board of Trustees.

#### 6. Interest

Interest on the CPF deposits of the members is credited to their individual accounts at the rate specified by the Central Government from time to time for the payment of interest on subscriptions to the General Provident Fund. Deficit, if any, in the interest payable to the members is met from TRAI General Fund.

#### 7. Withdrawal/Advance of CPF

The members of TRAI-CPF Account are entitled for withdrawal or for temporary advance out of their balance as per the guidelines of CPF Rules. In the case of advances given to the members, the Drawing and Disbursement Officer of TRAI is informed regarding the monthly deductions to be made from salary of the concerned members towards recovery of advances.

Place : Delhi  
Date : 16.10.2023

Sd/-  
(Roli Shukla Malge)  
Principal Director of Audit  
(Finance & Communication)

Income	Schedule	Current Year 2022-23	Previous Year 2021-22	(Amount in ₹)
Income from Sales/ Services	12	-	-	-
Grants/ Subsidies	13	-	-	-
Fee/ Subscriptions	14	-	-	-
Income from Investments (Income on Invest from earmarked /endow. Funds transferred to Funds)	15	1,55,03,153.99	1,46,00,812.65	
Income for Royalty ,Publication etc	16	-	-	-
Interest Earned	17	1,00,08,080.00	75,83,324.00	
Other Income	18	6,82,581.01	-	-
Increase(decrease) in stock of Finished goods and works-in-progress	19			
<b>TOTAL (A)</b>		<b>2,61,93,815.00</b>	<b>2,21,84,136.65</b>	
EXPENDITURE				
Establishment Expenses	20	-	-	-
Other Administrative Expenses etc	21	2,05,250.00	95,840.80	
Expenditure on Grants, Subsidies etc	22	-	-	-
Interest	23	2,59,88,565.00	2,16,55,485.00	
Diminution Value of Investments in Mutual Funds		-	-	-
Depreciation (Net Total at the year end-corresponding to Schedule 8)		-	-	-
<b>TOTAL (B)</b>		<b>2,61,93,815.00</b>	<b>2,17,51,325.80</b>	
Balance being excess of Income over Expenditure (A-B)				
Transfer to Misc Expenditure to the extent not written off - on account of		-	-	4,32,810.85
Diminution Value of Investments				
Transfer to / from General Reserve		-	-	4,32,810.85
Balance being Surplus/ (Deficit) carried to Corpus/ Capital Fund				
SIGNIFICANT ACCOUNTING POLICIES	24	-	-	-
CONTINGENT LIABILITIES AND NOTES ON ACCOUNTS	25	-	-	-
Sd/- Meetu Gulati Dy. Advisor (F&EA) Secretary (CPF)	Sd/- Vinay Kumar Goel Dy. Advisor (HR) Ex-Officio Trustee	Sd/- Reshma S. Usmani S.O. (QoS) Trustee	Sd/- Mayur Gupta Jt. Advisor (F&EA) Ex-Officio Trustee	Sd/- Vandana Sethi Advisor (Admin) Ex-Officio President

**FORM OF FINANCIAL STATEMENTS (NON-PROFIT ORGANISATIONS)**  
**THE TELECOM REGULATORY AUTHORITY OF INDIA - CONTRIBUTORY PROVIDENT FUND ACCOUNT**  
**(Amount in ₹)**  
**BALANCE SHEET AS ON 31<sup>st</sup> March, 2023**

CORPUS/CAPITAL FUND AND LIABILITIES	Schedule	Current Year 2022-23	Previous Year 2021-22
TRAI - CPF MEMBERS' ACCOUNT	1	41,84,30,377.00	35,38,95,741.00
RESERVES AND SURPLUS	2	68,21,024.35	68,21,024.35
EARMARKED / ENDOWMENT FUNDS	3	-	-
SECURED LOANS AND BORROWINGS	4	-	-
UNSECURED LOANS AND BORROWINGS	5	-	-
DEFERRED CREDIT LIABILITIES	6	-	-
CURRENT LIABILITIES AND PROVISIONS	7	-	-
<b>TOTAL</b>		<b>42,52,51,401.35</b>	<b>36,07,16,765.35</b>
<b>ASSETS</b>			
FIXED ASSETS	8	-	-
INVESTMENTS-FROM EARMARKED/ENDOWMENT FUNDS	9	-	-
INVESTMENTS - OTHERS	10	40,43,70,000.00	34,66,00,000.00
CURRENT ASSETS, LOANS, ADVANCES ETC	11	2,08,81,401.35	1,41,16,765.35
MISCELLANEOUS EXPENDITURE			
(to the extent not written off or adjusted)			
<b>TOTAL</b>		<b>42,52,51,401.35</b>	<b>36,07,16,765.35</b>
SIGNIFICANT ACCOUNTING POLICIES	24		
CONTINGENT LIABILITIES AND NOTES ON ACCOUNTS	25		

Sd/-	Sd/-	Sd/-	Sd/-	Sd/-
Meetu Gulati	Anil Kumar Kaushal	Reshma S. Usmani	Vinay Kumar Goel	Mayur Gupta
Dy. Advisor (F&EA)	Asstt. (BB&PA)	S.O. (QoS)	Dy. Advisor (HR)	Jt. Advisor (F&EA)
Secretary (CPF)	Trustee	Trustee	Ex-Officio Trustee	Ex-Officio Trustee
				Vandana Sethi
				Advisor (Admin)
				Ex-Officio President

**FORM OF FINANCIAL STATEMENTS(NON-PROFIT ORGANISATIONS)  
THE TELECOM REGULATORY AUTHORITY OF INDIA - CONTRIBUTORY PROVIDENT  
FUND ACCOUNT SCHEDULES FORMING PART OF BALANCE SHEET AS ON 31<sup>st</sup> MARCH, 2023**

**SCHEDULE 1 - TRAI - CPF MEMBERS' ACCOUNT**

(Amount in ₹)

	<b>Current Year 2022-23</b>	<b>Previous Year 2021-22</b>
Balance as at the beginning of the year	35,38,95,741.00	29,29,65,139.00
Deduct: Adjustments for previous year		-
Add: Contributions towards Members' Account	6,45,34,636.00	6,09,30,602.00
Add/(Deduct): Balance of net income/(expenditure) transferred from the Income and Expenditure Account		-
<b>BALANCE AS AT THE YEAR-END</b>	<b>41,84,30,377.00</b>	<b>35,38,95,741.00</b>

**SCHEDULE 2 - RESERVES AND SURPLUS**

(Amount in ₹)

	<b>Current Year 2022-23</b>	<b>Previous Year 2021-22</b>
<b>1. Capital Reserve:</b>		
As per last Account	-	-
Addition during the year	-	-
Less: Deductions during the year	-	-
<b>2. Revaluation Reserve:</b>		
As per last Account	-	-
Addition during the year	-	-
Less: Deductions during the year	-	-
<b>3. Special Reserve:</b>		
As per last Account	-	-
Addition during the year	-	-
Less: Deductions during the year	-	-
<b>4. General Reserve:</b>		
As per last Account	68,21,024.35	63,88,213.50
Addition during the year	-	4,32,810.85
Less: Deductions during the year		
<b>TOTAL</b>	<b>68,21,024.35</b>	<b>68,21,024.35</b>

**FORM OF FINANCIAL STATEMENTS (NON-PROFIT ORGANISATIONS)**  
**THE TELECOM REGULATORY AUTHORITY OF INDIA - CONTRIBUTORY PROVIDENT FUND ACCOUNT**  
**SCHEDULES FORMING PART OF BALANCE SHEET AS ON 31<sup>st</sup> MARCH, 2023**

**SCHEDULE 3 - EARMARKED/ ENDOWMENT FUNDS**

(Amount in ₹)

	Current Year 2022-23	Previous Year 2021-22
<b>a) <u>Opening balance of the funds</u></b>		
<b>b) <u>Additions of the funds:</u></b>		
i. Donations/grants		
ii. Income from investments made on account of funds		
iii. Other additions (specify nature)		
 <b>c) <u>Utilisation/expenditure towards objectives of funds</u></b>		
<b>i. <u>Capital Expenditure</u></b>		
- Fixed Assets		
- Others		
<b>Total</b>		
<b>ii. <u>Revenue Expenditure</u></b>		
- Salaries,Wages and allowances etc		
- Rent		
- Other Administrative expenses		
 <b>NET BALANCE AS AT THE YEAR-END (a+b+c)</b>		

**Notes**

- 1) Disclosures shall be made under relevant head based on conditions attached to the grants.
- 2) Plan funds received from the Central/State Governments are to be shown as separate funds and not to be mixed up with any other Funds.



**FORM OF FINANCIAL STATEMENTS (NON-PROFIT ORGANISATIONS)**  
**THE TELECOM REGULATORY AUTHORITY OF INDIA - CONTRIBUTORY PROVIDENT FUND ACCOUNT**  
**SCHEDULES FORMING PART OF BALANCE SHEET AS ON 31<sup>st</sup> MARCH, 2023**

**SCHEDULE 4 - SECURED LOANS AND BORROWINGS**

(Amount in ₹)

	<b>Current Year 2022-23</b>	<b>Previous Year 2021-22</b>
1. Central Government		
2. State Government (Specify)		
3. Financial Institutions		
4. Banks		
a) Term Loans		
-Interest accrued and due		
b) Other-Loans (Specify)		
-Interest accrued and due		
5. Other Institutions and Agencies		
6. Debentures and Bonds		
7. Others (Specify)		
<b>TOTAL</b>		

**FORM OF FINANCIAL STATEMENTS (NON-PROFIT ORGANISATIONS)**  
**THE TELECOM REGULATORY AUTHORITY OF INDIA - CONTRIBUTORY PROVIDENT FUND ACCOUNT**  
**SCHEDULES FORMING PART OF BALANCE SHEET AS ON 31<sup>st</sup> MARCH, 2023**

**SCHEDULE 5 - UNSECURED LOANS AND BORROWINGS**

(Amount in ₹)

	Current Year 2022-23	Previous Year 2021-22
1. Central Government		
2. State Government (Specify)		
3. Financial Institutions		
4. Banks		
a) Term Loans		
-Interest accrued and due		
b) Other-Loans(Specify		
-Interest accrued and due		
5. Other Institutions and Agencies		
6. Debentures and Bonds		
7. Others(Specify)		
<b>TOTAL</b>		

Note: Amount due within one year

**SCHEDULE 6 - DEFERRED CREDIT LIABILITIES**

(Amount in ₹)

	Current Year 2022-23	Previous Year 2021-22
a) Acceptances secured by hypothecation of capital equipment and other assets		
b) Others		
<b>TOTAL</b>		

Note: Amounts due within one year

**FORM OF FINANCIAL STATEMENTS (NON-PROFIT ORGANISATIONS)**  
**THE TELECOM REGULATORY AUTHORITY OF INDIA - CONTRIBUTORY PROVIDENT FUND ACCOUNT**  
**SCHEDULES FORMING PART OF BALANCE SHEET AS ON 31<sup>st</sup> MARCH, 2023**

**SCHEDULE 7 - CURRENT LIABILITIES AND PROVISIONS**

(Amount in ₹)

	Current Year 2022-23	Previous Year 2021-22
<b>A. CURRENT LIABILITIES</b>		
1) Acceptances		
2) Sundry Creditors		
a) For Goods		
b) Others		
3) Advances Received		
4) Interest accrued but not due on:		
a) Secured loans/borrowings		
b) Unsecured Loans/borrowings		
5) Statutory Liabilities		
a) Overdue		
b) Others		
6) Other current Liabilities		
<b>TOTAL (A)</b>	-	-
<b>B. PROVISIONS</b>		
1. For Taxation	-	-
2. Gratuity	-	-
3. Superannuation/Pension/Removal	-	-
4. Accumulated Leave Encashment	-	-
5. Trade Warranties/Claims	-	-
6. Other (Payable to MEA/TRAI)	-	-
<b>TOTAL (B)</b>	-	-
<b>TOTAL (A+B)</b>	-	-

**FORM OF FINANCIAL STATEMENTS (NON-PROFIT ORGANISATIONS)**  
**THE TELECOM REGULATORY AUTHORITY OF INDIA - CONTRIBUTORY PROVIDENT FUND ACCOUNT**  
**SCHEDULES FORMING PART OF BALANCE SHEET AS ON 31<sup>st</sup> MARCH, 2023**  
**SCHEDULE 8 - FIXED ASSETS**

DESCRIPTION	GROSS BLOCK			DEPRECIATION			NET BLOCK	
	"Cost/valuation as at beginning of the year"	Additions during the year	Deductions during the year	Cost/valuation at the year ended	As at the beginning of the year	On Additions during the year	On Deduction during the year	Total up to the year end
<b>A. FIXED ASSETS:</b>								
1. LAND								
a) Freehold								
b) Leasehold								
2. BUILDINGS								
a) On Freehold Land								
b) On Leasehold Land								
c) Ownership Flats/Premises								
d) Superstructures on land not belonging to the entity								
3. PLANT MACHINERY & EQUIPMENT								
4. VEHICLES								
5. FURNITURE, FIXTURES								
6. OFFICE EQUIPMENT								
7. COMPUTER/PERIPHERALS								
8. ELECTRIC INSTALLATIONS								
9. LIBRARY BOOKS								
10. TUBEWELLS & WATER SUPPLY								
11. OTHER FIXED ASSETS								
<b>TOTAL OF CURRENT YEAR</b>								
<b>PREVIOUS YEAR</b>								
<b>B. CAPITAL WORK-IN-PROGRESS</b>								
<b>TOTAL</b>								

(Note to be given as to cost of assets on hire purchase basis included above)

**FORM OF FINANCIAL STATEMENTS (NON-PROFIT ORGANISATIONS)**  
**THE TELECOM REGULATORY AUTHORITY OF INDIA - CONTRIBUTORY PROVIDENT FUND ACCOUNT**  
**SCHEDULES FORMING PART OF BALANCE SHEET AS ON 31<sup>st</sup> MARCH, 2023**

**SCHEDULE 9 - INVESTMENTS FROM EARMARKED/ENDOWMENT FUNDS**

	<b>(Amount in ₹)</b>	
	<b>Current Year 2022-23</b>	<b>Previous Year 2021-22</b>
1. In Government Securities		
2. Other approved Securities		
3. Shares		
4. Debentures and Bonds		
5. Subsidiaries and Joint Ventures		
6. Others ( to be specified)		
<b>TOTAL</b>		

**SCHEDULE 10 - INVESTMENTS OTHERS**

	<b>(Amount in ₹)</b>	
	<b>Current Year 2022-23</b>	<b>Previous Year 2021-22</b>
1. In Government Securities	20,90,70,000.00	18,15,00,000.00
- Long - term Investments		
- Current Investments		
2. Other Approved Securities		
3. Shares		
4. Debentures and Bonds		
5. Subsidiaries and Joint Ventures		
6. Others (Fixed Deposits in Banks/PSU) - Long - term	19,53,00,000.00	16,51,00,000.00
<b>TOTAL</b>	<b>40,43,70,000.00</b>	<b>34,66,00,000.00</b>



**FORM OF FINANCIAL STATEMENTS(NON-PROFIT ORGANISATIONS)**  
**THE TELECOM REGULATORY AUTHORITY OF INDIA - CONTRIBUTORY PROVIDENT FUND ACCOUNT**  
**SCHEDULES FORMING PART OF BALANCE SHEET AS ON 31<sup>st</sup> MARCH, 2023**  
**SCHEDULE 11 - CURRENT ASSETS, LOANS, ADVANCES ETC**

(Amount in ₹)

	Current Year 2022-23	Previous Year 2021-22
<b>A. <u>CURRENT ASSETS:</u></b>		
1. <u>Inventories</u>		
a) Stores and Spares		
b) Loose tools		
c) Stock-in-trade		
Finished Goods		
Work in progress		
Raw Material		
2. <u>Sundry Debtors:</u>		
a) Debts Outstanding for a period exceeding six months		
b) Others		
3. <u>Cash balances in hand ( including cheques/drafts and imprest)</u>		
4. <u>Bank Balances:</u>		
a) With Scheduled Banks		
- On Current Accounts		
- On Deposit Accounts (includes margin money)	-	-
- On Savings Account	9,43,504.23	45,83,363.29
b) With non-Scheduled Banks		
- On Current Accounts		
- On Deposit Accounts		
- On Savings Account		
5. <u>Post Office-Savings Accounts</u>		
<b>TOTAL (A)</b>	<b>9,43,504.23</b>	<b>45,83,363.29</b>

Contd.....

**FORM OF FINANCIAL STATEMENTS(NON-PROFIT ORGANISATIONS)  
THE TELECOM REGULATORY AUTHORITY OF INDIA - CONTRIBUTORY PROVIDENT FUND ACCOUNT  
SCHEDULES FORMING PART OF BALANCE SHEET AS ON 31<sup>st</sup> MARCH, 2023**

**SCHEDULE 11 - CURRENT ASSETS, LOANS, ADVANCES ETC**

(Amount in ₹)

	Current Year 2022-23	Previous Year 2021-22
<b>B. LOANS, ADVANCES AND OTHER ASSETS</b>		
1. <u>Loans</u>		
a) Staff		
b) Other Entities engaged in activities/objectives similar to that of Entity		
c) Other (Specify)		
2. <u>Advance and other amounts recoverable in cash or in kind or for value to be received:</u>		
a) On Capital Account		
b) Prepayments		
c) Others		
3. <u>Income Accrued</u>		
a) On Investments from Earmarked/Endowment Funds		
b) On Investments - Others	1,94,84,035.11	95,33,402.06
c) On Loans and Advances		
d) Others		
(includes income due unrealised Rs.)		
4. <u>Claims Receivable</u> Recoverable from TRAI	4,53,862.01	
<b>TOTAL (B)</b>	<b>1,99,37,897.12</b>	<b>95,33,402.06</b>
<b>TOTAL (A+B)</b>	<b>2,08,81,401.35</b>	<b>1,41,16,765.35</b>

**FORM OF FINANCIAL STATEMENTS (NON-PROFIT ORGANISATIONS)**  
**THE TELECOM REGULATORY AUTHORITY OF INDIA - CONTRIBUTORY PROVIDENT FUND ACCOUNT**  
**SCHEDULES FORMING PART OF INCOME & EXPENDITURE FOR THE PERIOD/YEAR ENDED 31<sup>st</sup> MARCH, 2023**

**SCHEDULE 12 - INCOME FROM SALES/SERVICES**

	<b>(Amount in ₹)</b>	
	<b>Current Year 2022-23</b>	<b>Previous Year 2021-22</b>
1. <u>Income from Sales</u>		
a) Sale of Finished Goods		
b) Sale of Raw material		
c) Sale of Scraps		
2. <u>Income from Services</u>		
a) Labour and Processing Charges		
b) Professional/Consultancy Services		
c) Agency Commission and Brokerage		
d) Maintenance Services (Equipment/Property)		
e) Others (Specify)		
<b>TOTAL</b>		

**SCHEDULE 13 - GRANTS/SUBSIDIES**

	<b>(Amount in ₹)</b>	
	<b>Current Year 2022-23</b>	<b>Previous Year 2021-22</b>
(Irrevocable Grants & Subsidies Received)		
1) Central Government		
2) State Govenemnt(s)		
3) Government Agencies		
4) Institutions/Welfare Bodies		
5) International Organisations		
6) Other (Specify)		
<b>TOTAL</b>		

**FORM OF FINANCIAL STATEMENTS (NON-PROFIT ORGANISATIONS)**  
**THE TELECOM REGULATORY AUTHORITY OF INDIA - CONTRIBUTORY PROVIDENT FUND ACCOUNT**  
**SCHEDULES FORMING PART OF INCOME & EXPENDITURE FOR THE PERIOD/YEAR ENDED 31<sup>st</sup> MARCH, 2023**

**SCHEDULE 14 - FEES/ SUBSCRIPTIONS**

	(Amount in ₹)	
	Current Year 2022-23	Previous Year 2021-22
1. Entrance Fees		
2. Annual Fees/Subscriptions		
3. Seminar/Program Fees		
4. Consultancy Fees		
5. Others (specify)		
<b>TOTAL</b>		

Note: Accounting Policies towards each item are to be disclosed

**SCHEDULE 15 - INCOME FROM INVESTMENTS**

	(Amount in ₹)	
(Income on Invest. from Earmarked/Endowment Funds Transferred to Funds)	Current Year 2022-23	Previous Year 2021-22
1) Interest		
a) On Govt Securities	1,55,03,153.99	1,46,00,812.65
b) Other Bonds/Debentures		
2) Dividends		
a) On Shares		
b) On Mutual Fund Securities		
3) Rents		
4) Others		
<b>TOTAL</b>	<b>1,55,03,153.99</b>	<b>1,46,00,812.65</b>
<b>TRANSFERRED TO EARMARKED/ ENDOWMENT FUNDS</b>		

**FORM OF FINANCIAL STATEMENTS (NON-PROFIT ORGANISATIONS)**  
**THE TELECOM REGULATORY AUTHORITY OF INDIA - CONTRIBUTORY PROVIDENT FUND ACCOUNT**  
**SCHEDULES FORMING PART OF INCOME & EXPENDITURE FOR THE PERIOD/YEAR ENDED 31<sup>st</sup> MARCH, 2023**

**SCHEDULE 16 -INCOME FROM ROYALTY, PUBLICATION ETC**

(Amount in ₹)

	<b>Current Year 2022-23</b>	<b>Previous Year 2021-22</b>
1. Income from Royalty	/	/
2. Income from Publications	/	/
3. Others (Specify)	/	/
<b>TOTAL</b>		

**SCHEDULE 17 - INTEREST EARNED**

(Amount in ₹)

	<b>Current Year 2022-23</b>	<b>Previous Year 2021-22</b>
1) On Term Deposits		
a) With Scheduled Banks	99,37,633.00	74,03,480.00
b) With Non-Scheduled Banks		
c) With Institutions		
d) Others		
2) On Savings Account		
a) With Scheduled Banks	70,447.00	1,79,844.00
b) With Non-Scheduled Banks		
c) With Institutions		
d) Others		
3) On Loans		
a) Employees/Staff		
b) Others		
4) Interest on Debtors and Other Receivables		
<b>TOTAL</b>	<b>1,00,08,080.00</b>	<b>75,83,324.00</b>



**FORM OF FINANCIAL STATEMENTS (NON-PROFIT ORGANISATIONS)**  
**THE TELECOM REGULATORY AUTHORITY OF INDIA - CONTRIBUTORY PROVIDENT FUND ACCOUNT**  
**SCHEDULES FORMING PART OF INCOME & EXPENDITURE FOR THE PERIOD/YEAR ENDED 31<sup>st</sup> MARCH, 2023**

**SCHEDULE 18 - OTHER INCOME**

(Amount in ₹)

	Current Year 2022-23	Previous Year 2021-22
1. Profit on Sale/ Disposal of Assets		
a) Owned assets		
b) Assets acquired out of grants, or received free of cost		
2. Export Incentives realized		
3. Fees for Miscellaneous Services		
4. Miscellaneous Income - Discount Received on Govt. Securities	2,28,660.00	
5. Other Income - Extra bank charges received	59.00	
6. Shortfall recoverable from TRAI	4,53,862.01	-
<b>TOTAL</b>	<b>6,82,581.01</b>	<b>-</b>

**SCHEDULE 19 - INCREASE/(DECREASE) IN STOCK OF FINISHED GOODS & WORK IN PROGRESS**

	Current Year 2022-23	Previous Year 2021-22
a) Closing stock		
- Finished Goods		
- Work-in-progress		
b) Less Opening Stock		
- Finished Goods		
- Work-in-progress		
<b>NET INCREASE/(DECREASE) [a-b]</b>		

**SCHEDULE 20 - ESTABLISHMENT EXPENSES**

	Current Year 2022-23	Previous Year 2021-22
a) Salaries and Wages		
b) Allowances and Bonus		
c) Contribution to Provident Fund		
d) Contribution to Other Fund(specify)		
e) Staff Welfare Expenses		
f) Expenses on Employees Retirement and Terminal Benefits		
g) Others		
<b>TOTAL</b>		

**FORM OF FINANCIAL STATEMENTS (NON-PROFIT ORGANISATIONS)**  
**THE TELECOM REGULATORY AUTHORITY OF INDIA - CONTRIBUTORY PROVIDENT FUND ACCOUNT**  
**SCHEDULES FORMING PART OF INCOME & EXPENDITURE FOR THE PERIOD/YEAR ENDED 31<sup>st</sup> MARCH, 2023**

**SCHEDULE 21-OTHER ADMINISTRATIVE EXPENSES ETC**

(Amount in ₹)

	Current Year 2022-23	Previous Year 2021-22
a) Purchases		
b) Labour and processing expenses		
c) Cartage and Carriage Inwards		
d) Electricity and power		
e) Water charges		
f) Insurance		
g) Repairs and maintenance		
h) Excise Duty		
I) Rent, Rates and Taxes		
j) Vehicles Running and Maintenance		
k) Postage, Telephone and Communication Charges		
l) Printing and Stationery		
m) Travelling and Conveyance Expenses		
n) Expenses on Seminar/Workshops		
o) Subscription Expenses		
p) Expenses on Fees		
q) Auditors Remuneration		
r) Hospitality Expenses		
s) Professional Charges		
t) Provision for Bad and Doubtful Debts/Advances		
u) Irrecoverable Balances Written-off		
v) Packing Charges		
w) Freight and Forwarding Expenses		
x) Distribution Expenses		
y) Advertisement and Publicity		
z) Others - Premium paid on Govt. Securities	2,05,250.00	
DLIS	-	60,000.00
Bank & Finance Charges		35,840.80
<b>TOTAL</b>	<b>2,05,250.00</b>	<b>95,840.80</b>

**FORM OF FINANCIAL STATEMENTS (NON-PROFIT ORGANISATIONS)**  
**THE TELECOM REGULATORY AUTHORITY OF INDIA - CONTRIBUTORY PROVIDENT FUND ACCOUNT**  
**SCHEDULES FORMING PART OF INCOME & EXPENDITURE FOR THE PERIOD/YEAR ENDED 31<sup>st</sup> MARCH, 2023**

**SCHEDULE 22-EXPENDITURE ON GRANTS, SUBSIDIES ETC**

(Amount in ₹)

	<b>Current Year 2022-23</b>	<b>Previous Year 2021-22</b>
a) Grants given to Institutions/Organisations	/	/
b) Subsidies given to Institutions/Organisations	/	/
<b>TOTAL</b>		

Note: Name of Entities, their Activities along with the amount of Grants/Subsidies are to be disclosed

**SCHEDULE 23 - INTEREST**

(Amount in ₹)

	<b>Current Year 2022-23</b>	<b>Previous Year 2021-22</b>
a) On Fixed Loans		
b) On Other Loans(including Bank Charges)		
c) Others (specify) - Interest paid to Members	2,59,88,565.00	2,16,55,485.00
<b>FINANCE CHARGES</b>		
<b>TOTAL</b>	<b>2,59,88,565.00</b>	<b>2,16,55,485.00</b>

(Amount in ₹)

229

## SCHEDULE 24 - SIGNIFICANT ACCOUNTING POLICIES

### 1 Accounting Conventions

- The financial statements have been prepared in the “Uniform Format of Accounts” as approved by the Controller General of Accounts vide their letter No. F.No.19(1)/Misc./2005/TA/450-490 dated 23<sup>rd</sup> July, 2007.
- Accounts have been prepared on accrual basis for the current year i.e., 2022-2023. There is no change in Method of Accounting from the preceding year.

## SCHEDULE 25 - CONTINGENT LIABILITIES AND NOTES ON ACCOUNTS

### Contingent Liabilities

- Claims against the Entity not acknowledged as debts NIL

### Notes on Accounts

- Investments have been made on the pattern prescribed in the Notification of Ministry of Finance (Department of Financial Services) dated 2<sup>nd</sup> March, 2015 effective from 1<sup>st</sup> April 2015.
- Investments depicted in Schedule 10 (Investments - Others) include investment in Government Securities amounting to ₹ 20,90,70,000.00 and Others (FDs in Banks/ PSUs) amounting to ₹ 19,53,00,000.00.
- The withdrawal / advances sanctioned during the year amounts to ₹ 1,09,39,500.00. Interest paid to members amounts to ₹ 2,59,88,565.00 and Refund of the advances amounts to ₹ 9,33,133.00.
- A sum of ₹ 4,53,862.01 being shortfall of expenditure over income has been shown in schedule 11 & 18 as recoverable and other Income respectively.
- Corresponding figures for the previous year have been re-grouped/ re-arranged wherever necessary.

Sd/- Meetu Gulati Dy. Advisor (F&EA) Secretary (CPF)	Sd/- Anil Kumar Kaushal Asstt. (BB&PA) Trustee	Sd/- Reshma S. Usmani S.O. (QoS) Trustee	Sd/- Vinay Kumar Goel Dy. Advisor (HR) Ex-Officio Trustee	Sd/- Mayur Gupta Jt. Advisor (F&EA) Ex-Officio Trustee	Sd/- Vandana Sethi Advisor (Admin) Ex-Officio President
---	---	---	--	---	--







**TELECOM REGULATORY AUTHORITY OF INDIA**