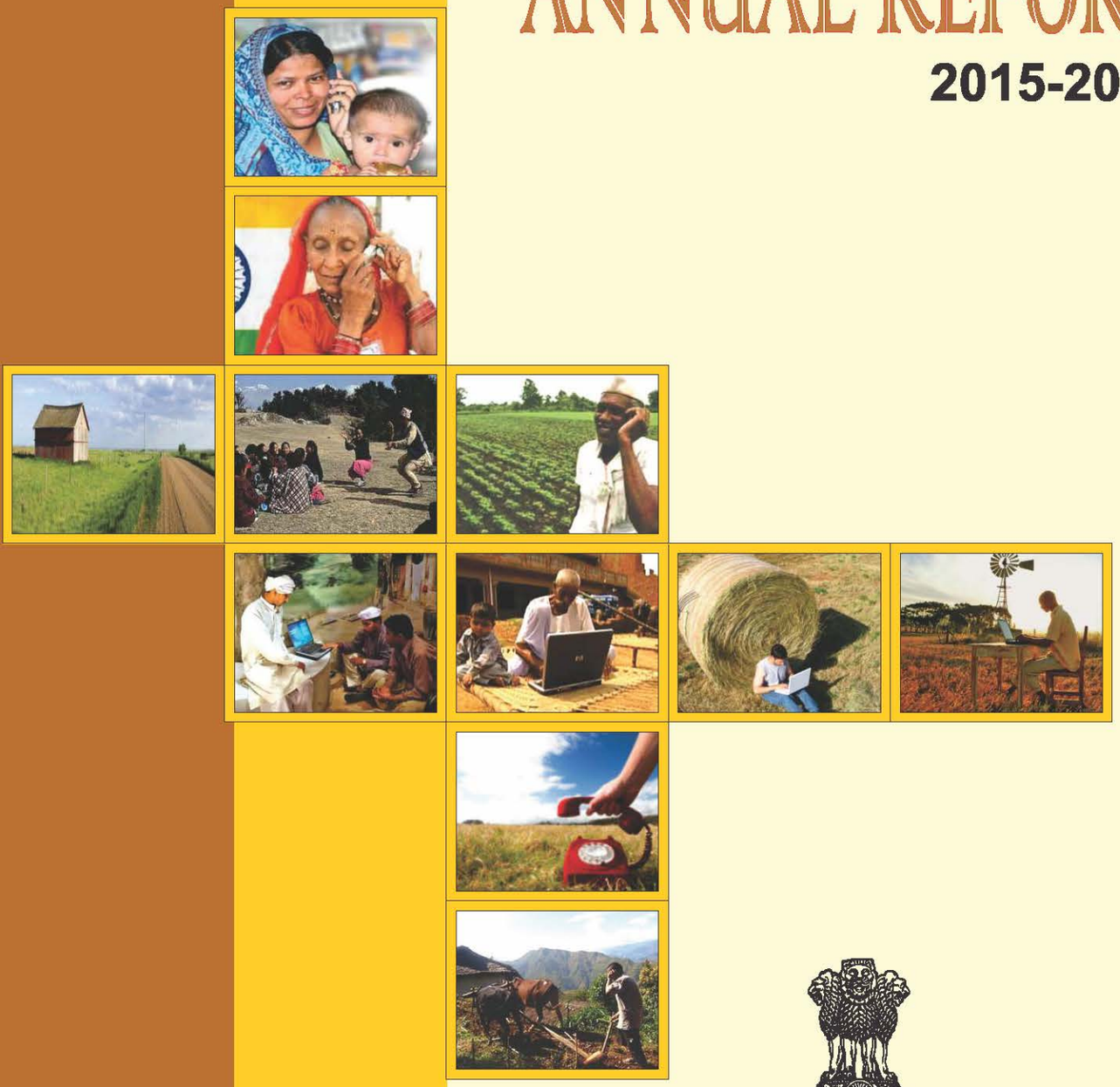
ANNUAL REPORT

2015-2016



सत्यमेव जयते

Department of Telecommunications
Ministry of Communications & Information Technology
Government of India
New Delhi

ANNUAL REPORT
2015-16

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DEPARTMENT OF TELECOMMUNICATIONS
MINISTRY OF COMMUNICATIONS & INFORMATION TECHNOLOGY
GOVERNMENT OF INDIA
NEW DELHI

CONTENTS

1. INDIAN TELECOM SECTOR : AN OVERVIEW

Communications Sector has assumed the position of an essential infrastructure for socio-economic development in an increasingly knowledge-intensive world. The reach of telecom services to all regions of the country has become an integral part of an innovative and technologically-driven society. Studies have shown a positive correlation of the Internet and Mobile Services on growth of the GDP of a country. As a result of sustainable measures taken by the Government over the years, the Indian Telecom Sector has grown exponentially and has become the second largest network in the world, next only to China.

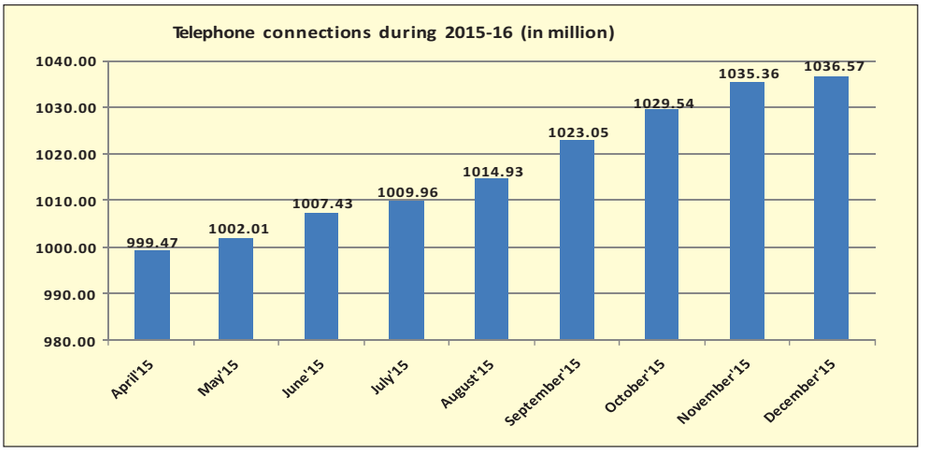
1. PRESENT STATUS

This is the period when the number of telephone connections has crossed the figure of 1 billion. The number of telephones increased from 996.13 million in the beginning of the financial year to 1036.57 million at the end of December, 2015.

Present Status of the Telecommunication Sector (as on December 31, 2015)

- Indian telecom network is the second largest in the world after China, in terms of the number of telephone connections.
- The country has 1036.57 million telephone connections, including 1011.05 million wireless telephone connections.
- Overall tele-density in the country is 81.85%.
- Urban tele-density is 152.57% whereas rural tele-density is 49.82%.
- The share of wireless telephones in total telephones is 97.54%.
- The share of private sector in total telephones is 89.88%.
- Number of Broadband connections is 131.49 million at the end of November, 2015.

The Chart indicating the number of connections at the end of each month during the year 2015-16 is as follows:



2. WIRE LINE VS. WIRELESS

While wireless voice and data services continued to grow, the landline provided remarkable support to high speed data services. The landline telephone connections are now 25.52 million and the number of wireless telephone connections has grown to 1011.05 million at the end of December, 2015. As a result, the share of wireless telephones increased to 97.54% of total services. The ever-expanding demand for wireless services has propelled the telecom sector to create sustainable resources to meet such requirements.

3. PUBLIC VS PRIVATE

Another noteworthy feature of the Indian Telecom Sector is the continuous rise in the number of telephones of the private sector operators. At the end of December, 2015, the total number of telephone connections provided by the private sector increased to 931.63 million and number of telephone connections provided by the public sector stood at 104.94 million. The share of private sector in the total number of connections increased to 89.88% at the end of December, 2015, over public sector share of 10.12% during the same period. In present scenario, the private sector has a dominant position in Telecom Sector (Table).

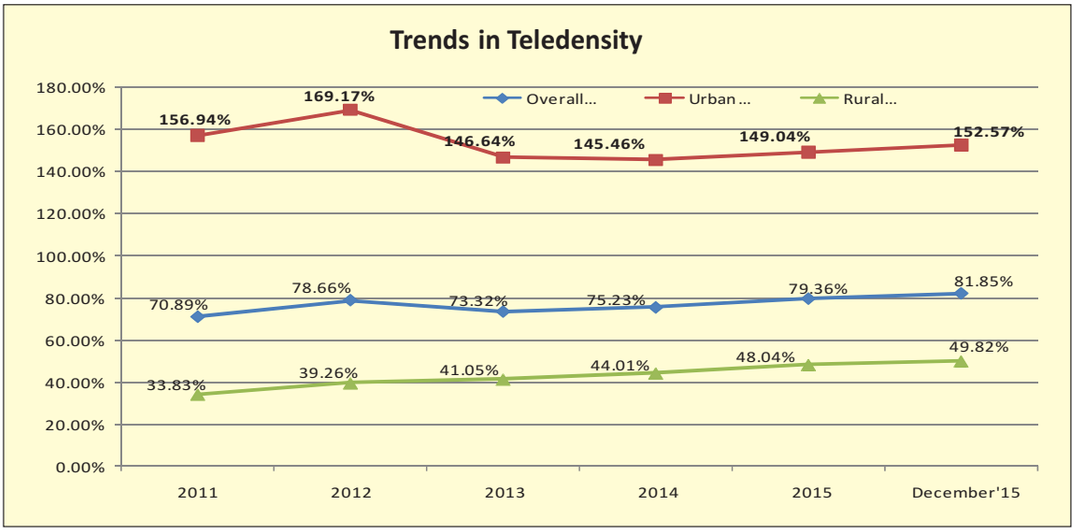
Table: Telecom Development Indicators

Sl. No.	Item		At the end of				
			March'13	March'14	March'15	December'14	December'15
1	Number of Telephones (In million)	Overall	898.02	933.02	996.13	971.01	1036.57
2		Wire line	30.21	28.50	26.59	27.00	25.52
3		Wireless	867.81	904.52	969.54	944.01	1011.05
4		Rural	349.21	377.78	416.08	398.73	434.23
5		Urban	548.80	555.23	580.05	572.27	602.34
6	Tele-density (Telephones per 100 persons)	Overall	73.32	75.23	79.36	74.03	81.85
7		Rural	41.05	44.01	48.04	42.71	49.82
8		Urban	146.64	145.46	149.04	144.63	152.57
9	%age share	Wireless	96.64	96.95	97.33	97.22	97.54
10		Public	14.49	12.87	10.07	10.85	10.12
11		Private	85.51	87.13	89.93	89.15	89.88
12	%age growth of Total Telephones – over previous year		(-)5.61	3.90	6.76	6.10	6.75

%age growth of Total Telephones in respect of December, 2015 – over December, 2014 i.e. 12 months.

4. TELE-DENSITY

Tele-density, which denotes the number of telephones per 100 population, is an important indicator of telecom penetration in any country. Tele-density in India, which was 79.36% as on April 1, 2015, increased to 81.85% at the end of December, 2015. The rural tele-density increased from 48.04% to 49.82% per cent during this period. Urban tele-density, maintained its upward trend (higher than the rural tele-density) from 149.04% to 152.57% during this period. Amongst the Service Areas, Himachal Pradesh (124.54%) had the highest tele-density followed by, Tamil Nadu (117.27%), Punjab (104.15%), Karnataka (102.33%) and Kerala (100.52%). On the other hand, the service areas such as Bihar (52.55%), Assam (55.22%), West Bengal (61.40%), Madhya Pradesh (63.07%), Uttar Pradesh (63.51%) and Odisha (65.69%) have comparatively low tele-density. Amongst the three metros of Delhi, Kolkata and Mumbai, Delhi Service Area tops in tele-density with 240.93% tele-density, followed by Kolkata (160.30%) and Mumbai (149.45%). The chart below indicates the trend in tele-density over the years.



Rural India connected through Telecommunication – A Technological Inclusion

5. UNIFIED LICENCE

With a view to achieve the objective of NTP-2012 to create one nation – one license across services and service areas, the Department of Telecommunication (DoT) has issued guidelines on Unified Licence. As per these guidelines, the allocation of spectrum is de-linked from the licence and has to be obtained separately as per the prescribed procedure, i.e., bidding process. Only one Unified License is required for all telecom services in the entire country. In addition, authorization for various services [like access services, National Long Distance Services, International Long Distance Services, Internet Service Provider (ISP) services will be required separately. Single authorization for Unified License (All services) category would cover all telecom services except ISP (B) and ISP (C) services]. The tenure of such authorization will run concurrently with the Unified License. Also, the entry fee for various telecom services have been reduced substantially.

6. FOREIGN DIRECT INVESTMENT (FDI) POLICY

To attract the FDI inflow and to make the sector more attractive and investor friendly, the Government raised FDI limit for the telecom services from 74 per cent to 100 per cent. This measure will facilitate telecom licensees to consolidate equity and raise domestic as well as foreign debt from the market. Telecommunication and telecom services have been included under the Harmonized Master list of infrastructure sub-sector and qualify for infrastructure lending. Reserve Bank of India has also expanded the existing definition for infrastructure sector for the purpose of availing External Commercial Borrowing (ECB).

7. UNIVERSAL SERVICE OBLIGATION FUND (USOF)

To give impetus to the rural telephony, the Government in June, 2002, had established Universal Service Obligation Fund (USOF) by an Act of Parliament. Subsequently, the scope of USOF was widened to provide subsidy support for enabling access to all types of telegraph services including mobile services, broadband connectivity and creation of infrastructure like optical fiber in rural and remote areas. Therefore, various schemes have been launched by USOF for provision of telecom services in rural and remote areas of the country. The Fund balance is `41834.10 crore as on December 31, 2015 with resources raised via universal levy to the tune of `70120.03 crore out of which an amount of `21337.29 crore has been disbursed as subsidy support, so far.

8. BHARATNET

The optical fiber has predominantly reached State capitals, districts and blocks. To connect all 2.5 lakh Gram panchayats in the country, the Government approved a project called ‘National Optical Fiber Network (NOFN)’, now known as BharatNet. Non-discriminatory

access to the network will be provided to all the telecom service providers like mobile, Internet and cable TV in rural areas. The project is being executed by a Special Purpose Vehicle (SPV), namely, Bharat Broadband Networks Limited (BBNL). Under this project, up to December 31, 2015, 1,11,645 km of pipes and 82,501 km of optical fibre cables have been laid in the country. Further, the number of Gram Panchayats which OFC has connected is 34,881.

9. MOBILE COMMUNICATION SERVICES IN LEFT WING EXTREMISM AFFECTED AREAS

Government, on August 20, 2014, approved a project to provide Mobile Services in 2199 locations in Left Wing Extremism (LWE)-affected areas, identified by Ministry of Home Affairs, in the States of Andhra Pradesh, Bihar, Chhattisgarh, Jharkhand, Maharashtra, Madhya Pradesh, Odisha, Telangana, Uttar Pradesh and West Bengal. The scheme is being executed by Bharat Sanchar Nigam Limited (BSNL). 1288 sites are connected as on December 31, 2015.

10. RURAL WIRE-LINE BROADBAND SCHEME

For providing wire-line broadband connectivity up-to village level in rural and remote areas, USOF signed an agreement with BSNL under the Rural Wire-line Broadband Scheme to provide wire-line broadband connectivity to rural and remote areas by leveraging the existing rural exchanges infrastructure and copper wire-line network. The speed of each of the broadband connections shall be at least 512 Kbps. It is estimated that there are about 55,669 villages in the country that do not have mobile coverage. Providing mobile coverage to the 8621 uncovered villages in the North Eastern Region (NER) has been included as part of Comprehensive Telecom Development Plan for NER.

11. REGULATORY FRAMEWORK

The Telecom Regulatory Authority of India (TRAI) has always endeavored to encourage greater competition in the telecom sector together with better quality and affordable prices in order to meet the objectives of National Telecom Policy (NTP)-2012. A number of recommendations on various telecom issues were made by TRAI during 2015-16. TRAI has also taken steps to ensure the quality of service provided by the service providers by way of monitoring the performance of Basic and Cellular Mobile Telephone Service on quarterly basis and Point of Interconnection (POI) congestion on monthly basis. The regulatory measures taken by TRAI facilitate orderly growth of telecom sector by promoting healthy competition and enhancing investment efficiency besides protecting the interest of consumers.

12. RESEARCH & DEVELOPMENT (R&D)

C-DOT, an autonomous body, is DoT's R&D arm. The organisation is committed to providing a wide range of cost-effective, indigenously developed and state-of-the-art total telecom solutions. C-DOT has grown to the level of a national centre for R&D in communication technology in many areas –Satellite communications, IN, ATM, DWDM, NMS, Wireless Broadband, GPON, NGN and Mobile Cellular systems. C-DOT is also entrusted with the projects of national importance, like Central Monitoring System for telecom security and Secure Network for strategic applications.

13. PUBLIC SECTOR UNDERTAKINGS (PSUS)

DoT has the following PSUs under its administrative control:

a) Bharat Sanchar Nigam Limtied (BSNL)

b) Mahanagar Telephone Nigam Limited (MTNL)

c) ITI Limited

d) Telecommunications Consultants India Limited (TCIL)

e) Bharat Broadband Network Limited (BBNL)

f) Hemisphere Properties India Limited (HPIL)

13.1. BSNL, fully owned by Government of India, formed in October 2000, provides telecom services across the length and breadth of the country excluding Delhi and Mumbai. BSNL is providing all types of telecom services namely telephone services on landline, WLL and GSM mobile, Broadband, Internet, leased circuits and long distance telecom services. Rural telephony is one of its focus areas. BSNL also pays special emphasis on development of telecommunication facilities in North-Eastern region and in tribal areas as well as in the LWE-affected areas.

13.2. MTNL, set up in 1986, is a Navratna PSU and provides telecommunication facilities in India's key metros - Delhi and Mumbai. MTNL is the principal provider of fixed-line telecommunication service in these two Metropolitan Cities, and for GSM Mobile services in four peripheral towns of Noida, Gurgaon, Faridabad & Ghaziabad along with Delhi city and the areas falling under the Mumbai Municipal Corporation, New Mumbai Corporation and Thane Municipal Corporation along with Mumbai city, also come under the jurisdiction of the company. MTNL is providing triple play services i.e. voice, high speed internet and IPTV on its Broadband network. At present, 56.25% equity shares are held by Government of India and remaining 43.75% shares are held by FIIs, Financial Institutions, Banks, Mutual Funds and others including individual investors.

13.3 ITI Limited had been established in 1948, to supply telecom equipments to the then telecom service provider, DoT. ITI started its operations in Bangalore in 1948, which were further extended to other areas by setting up manufacturing plants at Srinagar in Jammu and Kashmir; Naini, Rae Bareli and Mankapur in Uttar Pradesh; and Palakkad in Kerala. All the manufacturing plants are accreditied with ISO 9001-2000 standards. The establishment of these plants at various locations was aimed not only at the augmentation of manufacturing capacity but also at the development of social infrastructure.

13.4 TCIL had been set-up on March 10, 1978 with the main objective to provide world class technology in all fields of telecommunications and information technology to excel in its operations in overseas and in the domestic markets by developing proper marketing strategies, to acquire state of the art technology on a continuing basis and to maintain leadership. It has diversified into Cyber Parks, Intelligent Buildings, Cyber & Smart Cities and upgradation of legacy networks by focusing on Broadband Multimedia Convergent Service Networks, entering new areas of IT and IT–enabled services. It is also developing telecom and IT-training infrastructure in countries abroad.

13.5 BBNL, a Special Purpose Vehicle (SPV), namely, Bharat Broadband Networks Limited (BBNL) has been incorporated on February 25, 2012 under the Indian Companies Act, 1956 for execution of the BharatNet approved by the Government for connecting 2.50 lakh (approximately) Gram Panchayats (GPs).

13.6 HPIL is another PSU under DoT. At the time of 25% stake strategic sale in Videsh Sanchar Nigam Limited (now Tata Communications Limited), surplus land measuring 773.13 acres was demarcated out of total 1230.13 acres of land at four stations and it was decided that surplus land will not be a part of disinvestment bid and would be managed by a separate realty company. Rights of the Government in this land were protected through a scheme of arrangement incorporated in the Share Purchase Agreement (SPA) and Share Holders Agreement (SHA).

Accordingly, the Government has approved the scheme of demerger of Surplus land of VSNL into a Resulting Company and in March, 2014, 51.12% shares of resulting Company namely Hemisphere Properties India Limited (HPIL) have been acquired by the Government. With this, HPIL has become the Sixth Public Sector Undertaking (PSU) of Department of Telecom.

14. VISION

DOT is committed to provide secure, reliable, affordable and high quality converged telecommunication services anytime, anywhere for an accelerated inclusive socio-economic development. The department is working towards the objective of maximizing public good by making available affordable, reliable and secure voice and data services across the country.

To serve the nation in its vastness and diversity, modern telecommunication facilities will be facilitated to all remote corners of this country with special focus on underserved areas in North-Eastern Region and backward areas, especially the Left Wing Extremism (LWE) – affected areas. The provision of high speed Digital Highway to connect the nation and to deliver Government services to every citizen will be made for socio-economic development. The telecom sector needs to be strengthened further to ensure rapid growth of the economy and to overcome developmental challenges in other areas like Education, Health and Employment generation. Our present policy with supporting legislative framework and licensing principles has the strong capability to adjust to rapid technological changes and to accelerate the innovation.

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2. TELECOM COMMISSION

The Telecom Commission was set up by the Government of India vide Resolution dated April 11, 1989 with administrative and financial powers of the Government of India to deal with various aspects of Telecommunications. Presently, the Telecom Commission consists of a Chairman, four full-time Members, who are ex-officio Secretaries to the Government of India in the Department of Telecommunications and four part-time Members who are the Secretaries to the Government of India of the concerned Departments. The Secretary to the Government of India in the Department of Telecommunications is the ex-officio Chairman of the Telecom Commission. The full-time Members of the Telecom Commission are Member (Finance), Member (Production), Member (Services) & Member (Technology). The part-time Members of the Telecom Commission are Secretary (Department of Economic Affairs), Secretary (Department of Electronics & Information Technology), Secretary (Department of Industrial Policy & Promotion) and Chief Executive Officer, NITI (National Institution for Transforming India) Aayog.

Presently, the Chairman and the full time Members of the Telecom Commission are as under:-

Sl. No.	Post	Person holding the post
1	Chairman	Shri J. S. Deepak
2	Member (Finance)	Ms. Annie Moraes
3	Member (Services)	Shri Narendra Kumar Yadav
4	Member (Technology)	Shri Peeyush Agrawal [Member(Technology)-in-Charge]
5	Member (Production)	Vacant

The Telecom Commission is responsible for:

- Formulating the policy of Department of Telecommunications for approval of the Government;
- Preparing the budget for the Department of Telecommunications for each financial year and getting it approved by the Government; &
- Implementation of Government's policy in all matters concerning telecommunication.

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3. DEPARTMENT OF TELECOMMUNICATIONS

The Department of Telecommunications (DoT) is responsible for Policy formulation, Performance review, Monitoring, International cooperation and Research & Development in the field of Telecommunications. The Department also allocates frequency and manages radio communications in close coordination with the International bodies. It is also responsible for enforcing wireless regulatory measures and monitoring the wireless transmission of all users in the country. The office of Administrator Universal Service Obligation (USO) Fund had been set up on June 1, 2002 for the purpose of implementation of Universal Service Support Policy. After formation of Bharat Sanchar Nigam Ltd (BSNL) in October, 2000, following are the functions assigned to the DoT under Government of India (Allocation of Business), Rules, 1961.

- Policy, Licensing and coordination matters relating to Telegraphs, Telephones, Wireless, Data, Fascimile, Telematic services and other like forms of communications.
- International cooperation in matters connected with telecommunications including matters relating to all international bodies dealing with telecommunications such as International Telecommunication Union (ITU), its Radio Regulation Board (RRB), Radio Communication Sector (ITU-R), Telecommunication Standardization Sector (ITU-T), Development Sector (ITU-D), International Telecommunication Satellite Organization (INTELSAT), International Mobile Satellite Organization (INMARSAT), Asia Pacific Telecommunication (APT).
- Promotion of standardization, research and development in telecommunications.
- Promotion of private investment in telecommunications.
- Financial assistance for the furtherance of research and study in telecommunications technology and for building up adequately trained manpower for telecom program, including-
  - assistance to institutions, assistance to scientific institutions and to universities for advanced scientific study and research; and
  - grant of scholarships to students in educational institutions and other forms of financial aid to individuals including those going abroad for studies in the field of telecommunications.

- Telecom Commission
- Telecom Regulatory Authority of India.
- Telecom Disputes Settlement and Appellate Tribunal.
- Administration of laws with respect to any of the matters specified in this list, namely:-
  - The Indian Telegraph Act, 1885 (13 of 1885);
  - The Indian Wireless Telegraphy Act, 1933 (17 of 1933); and (c) The Telecom Regulatory Authority of India Act, 1997 (24 of 1997).
- Indian Telephone Industries Limited.
- Post disinvestment matters relating to M/s Hindustan Teleprinters Limited.
- Bharat Sanchar Nigam Limited.
- Mahanagar Telephone Nigam Limited
- Bharat Broadband Network Limited (BBNL)
- Tata Communications Limited (TCL) and Telecommunications Consultants (India) Limited
- Hemisphere Properties India Limited (HPIL)
- All matters relating to Centre for Development of Telematics (C-DOT).
- Residual work relating to the erstwhile Department of Telecom Services and Department of Telecom Operations, including matters relating to-
  - cadre control functions of Group 'A' and other categories of personnel till their absorption in Bharat Sanchar Nigam Limited;
  - administration and payment of terminal benefits.
- Execution of works, purchase and acquisition of land debitable to the capital Budget pertaining to telecommunications.

1. GRANT OF LICENSES

The Department grants licenses to operators for providing basic and value added services in various cities and telecom circles as per the approved policy of the Government.

1.1 Implementation of Full Mobile Number Portability

National Telecom Policy 2012 envisages achieving of One Nation - Full Mobile Number Portability in the country. In this regard, the Department carried out necessary amendment to Mobile Number Portability license conditions and other instructions in accordance with the recommendations of TRAI. Accordingly, the acceptance testing of telecom networks was carried out successfully. The facility of Full Mobile Number Portability has been implemented in the Country w.e.f. July 3, 2015.

1.2 Grant of Unified Licenses

The Department has granted Unified Licenses to 9 companies namely

1. M/s Sistema Shyam Teleservices Limited,
2. M/s Idea Cellular Limited,
3. M/s Hughes Communications India Limited,
4. M/s Bharti Airtel Limited,
5. M/s Bharti Hexacom Limited,
6. M/s Reliance Telecom Limited,
7. M/s Vodafone Cellular Limited,
8. M/s Vodafone West Limited and
9. M/s Vodafone Digilink Limited during the period April-December, 2015.

1.3 Licensing for National Long Distance (NLD) and International Long Distance (ILD) Services

After announcing opening up of International Long Distance (ILD) Service in April, 2002 and National Long Distance (NLD) Service in August, 2002 for free competition, the Government has so far issued 27 ILD Licenses and 34 NLD Licenses (including BSNL). After the introduction of Unified Licensing Regime, the new licenses to operate NLD and ILD services are being given as authorization under Unified License. Under Unified Licensing (UL) regime, in addition to above mentioned licenses, five licensees have been authorized to offer ILD services and seven licensees have been authorized to offer NLD services. The Net worth and paid up capital requirement for obtaining NLD and ILD service authorization under Unified Licensing (UL) regime for the applicant company is `2.50 Crore each.

The annual license fee for NLD as well as ILD Service has been enhanced to 8% (inclusive of USO contribution), of the Adjusted Gross Revenue w.e.f. April, 2013.

1.4 Registration Certificate of Infrastructure Provider Category – I (IP-I)

Under IP-I registration, company can provide assets such as Dark Fibres, Right of Way, Duct Space and Tower for the purpose to grant on lease/ rent/ sale basis to the licensees of Telecom Services licensed under Section 4 of Indian Telegraph Act, 1885 on mutually agreed terms and conditions. As on February 17, 2016, 592 companies have been registered as Infrastructure Provider Category-I.

1.5 Voicemail/ Audiotex/ Unified Messaging Service (UMS)

52 Licenses are in existence as on February 15, 2016 for providing Voicemail/ Audiotex/ Unified Messaging Service (UMS). There is no entry fee or licensee fee for Voicemail/ Audiotex/ UMS.

1.6 Public Mobile Radio Trunking Service (PMRTS)

40 licenses are in existence as on February 15, 2016, in 4 metros and 12 circles for providing Public Mobile Radio Trunking Service (PMRTS).

1.7 Global Mobile Personal Communication by Satellite (GMPCS)

The process of grant of GMPCS License includes, inter-alia, clearance of the proposal from security angle by Inter-Ministerial Committee comprising of Secretary (T), Cabinet Secretariat, Defence Secretary, Home Secretary, Secretary (Department of Space) and Secretary (Intelligence Bureau). The Process also involves setting up of the GMPCS Land Earth Station (Gateway).

1.8 Internet and Broadband Services

As per guidelines for grant of Unified License dated August 19, 2013, the internet services have been included in the Unified License. Accordingly, with effect from August 19, 2013, Unified License with ISP authorization is granted for provision of internet services.

As on December 31, 2015, there are 323 authorized Licensees for Internet Services which include 82 Category “A” Licensees, 135 Category “B” Licensees and 106 Category “C” Licensees.

Further, as on December 31, 2015, 313 Unified Licenses have been issued with ISP authorization. This includes 21 Category ‘A’ ISP authorizations, 144 Category ‘B’ ISP authorizations and 148 Category ‘C’ ISP authorizations.

As on September 30, 2015, there were about 324.95 million internet subscribers including 120.88 million Broadband subscribers.

(*The subscriber figures are as per TRAI performance Indicator Report for the Quarter ended in September, 2015)*

1.9 Very Small Aperture Terminal (VSAT) Services

VSAT service licenses are granted on non exclusive basis for Very Small Aperture Terminal (VSAT) services using INSAT satellite system within the territorial boundaries of India. Under the VSAT license, the licensees provide data connectivity within CUG between various sites scattered throughout India using VSATs and central hub. There are two categories of VSAT licenses:

- Captive CUG VSAT license wherein the licensee company can set up VSAT network for its internal use only. As on December 31, 2015 there are 28 captive CUG VSAT networks.
- VSAT CUG service authorization under Unified Licence wherein the licensee company can provide VSAT CUG service to a number of CUGs on Commercial basis. As on December 31, 2015 there are 11 licenses for providing commercial VSAT services.

DOT also issues permissions for Captive Networks to organizations wherein the permission holder can setup a captive network for its internal use. As on December 31, 2015. 4 such permissions are in force.

2. NETWORKS & TECHNOLOGIES CELL (NT CELL)

2.1 IPv6 Transition

The National Telecom Policy (NTP)-2012 recognises the futuristic role of IPv6 and aims at achieving substantial transition to IPv6 in the country in a phased and time-bound manner. The 'Digital India' programme aims at connecting all gram panchayats by broadband Internet, promoting e-governance and transforming India into a connected knowledge economy. IPv6 transition is essential to ensure sustainable growth of Internet: a key element of digital infrastructure.

In the aftermath of 'National IPv6 Deployment Roadmap Version-II' released by DoT in March, 2013, a need was for a document showcasing IPv6 case studies was felt. Accordingly, 'Compendium on IPv6 based Solutions /Architecture/ Case Studies for Different Industry Verticals' was released by Shri Ravi Shankar Prasad, Hon'ble Minister of Communications & IT in May, 2015 for the benefit of the ecosystem. The compendium is an attempt to showcase the pioneering efforts of some of the organizations in the Government as well as the private

sector in the form of practical case studies and applications implemented by them in various areas like Agriculture, Power, Government and Educational Networks, Industrial Automation, etc. With this initiative, different stakeholders of the ecosystem will be greatly facilitated in making a smooth and seamless transition to IPv6 and adoption of its applications. The compendium is available on the website of DoT.

2.2 Machine-to-Machine (M2M) communication

The Government recognises the futuristic role of Machine to Machine communication to facilitate the role of new technologies in furthering public welfare and enhanced customer choices through affordable access and efficient service delivery. It recognizes that the emergence of new service formats such as Machine-to-Machine (M2M) communications (e.g. remotely operated irrigation pumps, smart grid etc.) represent tremendous opportunities, especially as their roll-out becomes more widespread.

A number of initiatives are taken in India towards M2M services since the last few years but the approach has remained highly fragmented, and isolated in respective sectors. Accordingly, through profound interactions with all M2M Eco System Partners including Academia, Industry, Chip Set Vendors, Service Providers, OEM's, Consultants, Solution Providers, Enterprises, National & International Standardization bodies and within the Government through Inter-Ministerial and Centre-State bodies, 'National Telecom M2M Roadmap' has been prepared which puts together various standards, policy and regulatory requirements and approach for the industry on how to look forwards for M2M.

The Roadmap was released by Hon'ble Minister of Communication & IT on May 12, 2015 and is expected to be extremely useful as a reference document for all M2M eco system partners and will augment the policy goals of Make in India and Digital India.

As evolved through the M2M Roadmap document key issues to address to further the M2M ecosystem growth are categorized in 18 broad actionable points. To monitor the progress on these fronts and to oversee the coordination amongst various stakeholders, an apex body has been constituted under the chairmanship of Hon'ble Minister of Communications & IT with other supporting bodies i.e. Review Committee, chaired by Member (T) and Consultative Committee, chaired by Advisor (T).

Post release of M2M Roadmap, wide-ranging consultations with all stakeholders have started to formulate guidelines/ policy directives on various actionable points enumerated in the Roadmap.

Release of "National M2M Telecom Roadmap" & 'Compendium on IPv6 based Solutions/ Architecture/Case Studies for Different Industry Verticals'

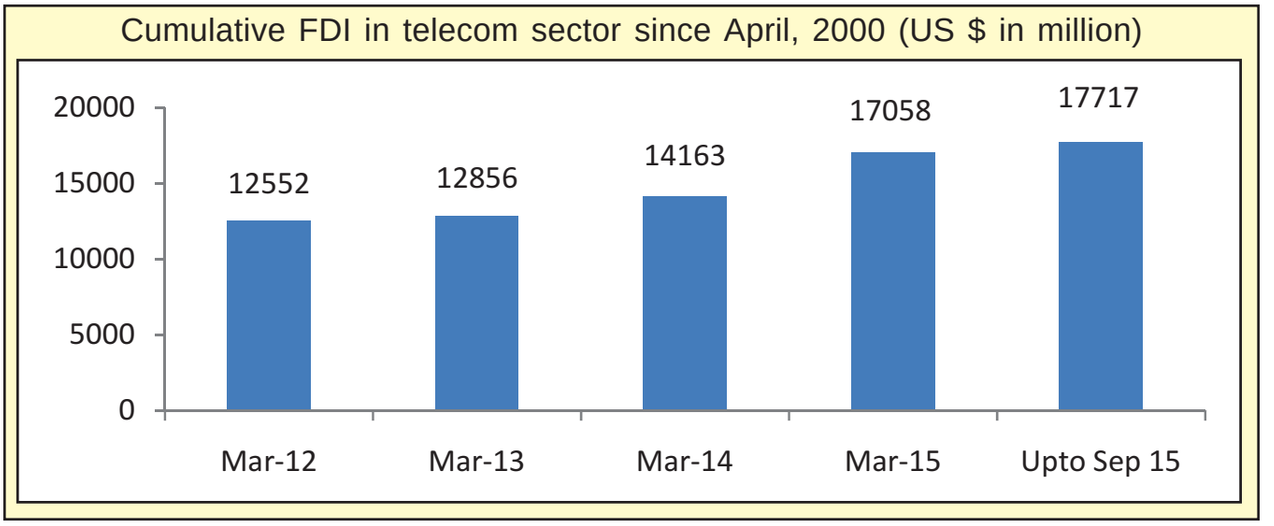
3. FOREIGN DIRECT INVESTMENT POLICY IN TELECOM SECTOR

Telecom Sector is considered to be one of the most attractive sectors for Foreign Direct Investment (FDI) in the country. The Foreign Direct Investment (FDI) limit for all telecom services is 100% as per the current FDI policy, subject to observance of licensing and security conditions by licensee as well as investors as notified by the Department of Telecommunications (DoT) from time to time. Further details for the FDI in telecom services and manufacturing sector are as under:

Sl. No.	Sector/Activity	FDI Cap/ Equity	Entry route
1.	Telecom services (including Telecom Infrastructure Providers Category-I)All telecom services including Telecom Infrastructure Providers Category-I, viz. Basic, Cellular, Unified Access Services, Unified license (Access services), Unified License, National/ International Long Distance, Commercial V-Sat, Public Mobile Radio Trunked Services (PMRTS), Global Mobile Personal Communications Services (GMPCS), All types of ISP licences, Voice Mail/ Audiotex/ UMS, Resale of IPLC, Mobile Number Portability services, Infrastructure Provider Category – I (providing dark fibre, right of way, duct space, tower) except Other Service Providers	100%	Automatic upto 49% Beyond 49% Through FIPB route
2.	Manufacture of Telecom Equipments	100%	Automatic

The inflow of FDI in Telecom Sector from April, 2000 to September, 2015 is US $ 17,717 million. The Cumulative FDI data for last four years and current year is as under:

Cumulative FDI in Telecom Sector Since April, 2000	
Up to Year Ending	**Cumulative FDI (US $ in million)**
March, 2012	12552
March, 2013	12856
March, 2014	14163
March, 2015	17058
Up to September, 2015	17717



Source: DIPP Website

4. PROMOTION OF DOMESTIC MANUFACTURING OF TELECOM EQUIPMENTS

The Government in the Union budget 2015-16 had announced tax/duty changes for the telecom sector which would not only create a synergistic telecom ecosystem but also provide a major boost to telecom equipment and mobile manufacturing industries. Accordingly, following have been implemented:

- Full exemption of all goods, except populated printed circuit boards, for use in manufacture of ITA bound items from SAD and reduction in SAD on imports of certain other inputs and raw materials.
- Time limit for taking CENVAT credit on inputs and input services has been increased from six months to one year as a measure of business facilitation.

- Excise duty structure for mobiles handsets including cellular phones has been changed from 1% without CENVAT credit or 6% with CENVAT credit to 1% without CENVAT credit or 12.5% with CENVAT credit.

4.1 Import and Export of Telecom equipments including mobile phones, parts, SIM cards and telecom cables.

The import of telecom equipments including mobile phones, parts and telecom cables during 2014-15 amounted to `9,16,837 million and from April, 2015 to October, 2015, the figure stands at `6,44,759 million. The Export of Telecom equipments including mobile phones, parts and telecom cables during 2014-15 to the tune of `85698 million and from April, 2015 to October, 2015 is `44075 million.

5. INTERNATIONAL COOPERATION

a. Participation in International Exhibition ITU Telecom World 2015

DoT for the first time participated in ITU Telecom World 2015, Budapest which was held from October 12th to 15th 2015 and set up India Pavilion taking C-DoT, TCIL and Lekha Wireless along, to show case their products. This international event had over 4,000 participants from 129 countries. This was the 150th anniversary of the foundation of ITU and was focusing on Innovation. In the Government and Industry dialogue, Subrat Kumar Prusty Director(IC) was a panelist in one of the panel discussions. From India Pavilion, the product show cased by C-DoT "Gyansetu" has got the recognition of best innovation awards among 10 other products of different countries.

Indian Ambassador to Hungary visiting India Pavilion

Hon'ble Minister of Bhutan visiting India Pavilion

Secretary General ITU in India Pavilion

Government Industry Dialogue

"Gyansetu" receiving award from Secretary General ITU

b. Participation in 1st and 2nd RCEP Sub-Working Group on Telecom Services (SWG-TEL) meetings

India is negotiating Free Trade Agreement with RCEP (Regional Comprehensive Economic Partnership) of the 10 ASEAN Member States and its FTA Partners (Australia, China, India, Japan, Korea and New Zealand). While broader trade-in-services is negotiated by Department of Commerce, Text for Telecommunications is negotiated by Department of Telecommunications.

- 1st RCEP SWG-Tel was held in Busan Korea in which Shri N. Sivasailam Additional Secretary (T) was deputed to attend from DoT.
- 2nd RCEP SWG-Tel in Bangkok was held from January 28, 2016 to January 30, 2016, in which Shri R K Pathak DDG(IC) was deputed to attend.

c. Participation of Department of Telecommunications in Republic Day Tableaux

This year DoT, Deity and Department of Posts have jointly participated in the Republic Day Tableaux under the unified banner of "Digital India" showcasing how ICT can transform various services like education, health, agriculture etc. It has got the first prize among Central Government Tableaux.

5.1 Telecom Centre of Excellence (TCOE India)

Telecom Centre of Excellence has been created as a PPP initiative by the Department of Telecommunications, Government of India, to strengthen the R&D ecosystem in ICT where Government works as a facilitator, Industry as the ultimate user, and academia as the research unit.

Innovation Meet

This year, to promote indigenous technological developments in ICT sector through innovation, 3 innovations meets has been conducted. 1st Innovation Meet organized on August 31, 2015 at BSNL Bhawan, New Delhi was inaugurated by Secretary Telecom, where senior officers from Government, representatives from telecom manufacturing industry, telecom service providers, Start up companies, Venture capitalists, Angel investors and Academia were also participated. The objective was to rejuvenate the ICT ecosystem and to discuss various innovations that can strengthen ICT ecosystem.

The 2nd Innovation meet was held on September 18, 2015 at Sanchar Bhawan New Delhi. The 3rd Innovation meet was held on October 30, 2015 at the C-DOT campus in New Delhi. The focus of this meet was on Big Data and IoT startups and technological solutions interwoven around it.

5.2 Telecom Standards Development Society of India (TSDSI)

Telecommunications Standards Development Society, India (TSDSI) is an industry-led India's Telecommunication Standards Development Organization set up with an objective to develop, promote and maintain standardised solutions for India-specific requirements. TSDSI has signed Cooperation Agreement with the Association of Radio Industries and Businesses (ARIB) – Japan, Alliance for Telecommunications Industry Solutions (ATIS) – U.S, China Communications Standards Association (CCSA), European Telecommunications Standards Institute (ETSI), Telecommunications Technology Association (TTA) – Korea, Telecommunication Technology Committee (TTC) – Japan.

TSDSI is also an Organizational Partner (OP) of the global partnership called 3GPP. On behalf of India, TSDSI is now fully empowered to develop and submit technical standardization proposals to this global body. TSDSI has an equal stature with the other six regional telecom standards development organizations (TSDOs) –namely ARIB (Japan), ATIS (USA), CCSA (China), ETSI (Europe), TTA (Korea) and TTC (Japan). TSDSI is now Level 1 member of 1M2M.

5.3 Telecom Equipment and Services Export Promotion Council (TEPC)

Telecom Equipment & Services Export Promotion Council (TEPC) plays a critical role in furtherance of Telecom Exports from the Country and assists its member companies in easy facilitation of their respective exports. The Council caters to the complete Telecom Ecosystem including Telecom Hardware Manufacturers, Telecom Service Providers, Telecom Software Vendors and Consultants. During the year 2015, TEPC organized/ participated in the following events/exhibitions.

a. 6th Reverse Buyer Seller Meet by TEPC in New Delhi on February 13, 2015

TEPC organized the 6th Reverse Buyer Seller Meet on February 13, 2015 at India Habitat Centre, in which 49 buyers from 19 countries came to India for sourcing telecom equipments and services. TEPC has created this platform to bring potential buyers from across the globe to meet the quality telecom equipment and services suppliers of India to develop long term business relations. The event had participation of foreign buyers from many emerging countries including Algeria, Bangladesh, Brazil, Ecuador, Gambia, Kenya, Malaysia, Malaysia, Mexico, Nepal, Nigeria, Peru, Philippines, Rwanda, Saudi Arabia, Singapore, Somalia, Tanzania, USA, Yemen etc.

Hon'ble Minister of Communication and Information Technology Shri Ravi Shankar Prasad has inaugurated the event. In his inaugural speech he has stated that India had proven its capabilities in ICT Sector as a preferred destination for services and outsourced R&D. He

stated further that the Digital India, Make in India and Skill India programs provide an ideal platform for Indian companies to build a foundation for domestic success which can be used for exports.

b. CEBIT 2015, May 5-7, 2015, Sydney, Australia,

During May 2015, TEPC participated with 11 exporters in Cebit 2015, Australia.

c. SVIAZ Expocomm 2015, May 12-15, 2015, Moscow, Russia

TEPC along with its 10 member exporters participated in Sviaz/ Expo Comm 2015 from May 12, 2015 to May 15, 2015 in Moscow, Russia. The Indian delegation consisted of exporter members led by Shri R K Pathak, DDG (IC), Department of Telecommunications & Secretary, TEPC. TEPC has participated in SVIAZ/ EXPO COMM 2015, Moscow for the first time as the members are interest in exploring the CIS region including Russian market.

d. COMMUNICASIA 2015, Singapore from June 2-5, 2015

TEPC along with its exporter members participated in CommunicAsia 2015 from June 2, 2015 - June 5, 2015 with 24 exporters. TEPC-India pavilion was inaugurated by Her Excellency Ms. Vijay Thakur Singh, High Commissioner of India at Singapore.

e. INDO AFRICA ICT EXPO 2015, September 27-28, 2015, Nairobi, Kenya

Indo-Africa ICT Expo 2015 in conjunction with IT and Telecom Conference were organized by TEPC on September 28 & September 29, 2015 at Nairobi, Kenya. There were 78 Indian exporters and more than 79 foreign buyers from Uganda, Rwanda, Sudan, South Africa, Tanzania, and Nigeria. The conference saw more than 1200 visitors.

The conference had 40+ sessions on Telecom & IT that were informative and thought provoking with high powered speakers.

f. GITEX 2015, Dubai from October 18-22, 2015

During October, 2015, TEPC participated in GITEX Technology Week 2015, scheduled from October 18 to October 22, 2015 at Dubai with 18 Indian exporters.

g. AFRICACOM 2015, November 2015, Cape Town, South Africa

During November 2015, TEPC along with its 11 exporter members participated in Africacom 2015 at Cape Town South Arica from November 17 to November 19, 2015. The Indian delegation consisted of 11 members, led by Shri M Akhaya, CVO, Department of Telecommunications.

h. Communicast 2015, November 17-19, 2015, Myanmar

TEPC participated for the first time in Communicast, Myanmar 2015 held from November 17-19, 2015 along with 11 Indian Exporters. This delegation was headed by Shri R K Pathak DDG(IC) & secretary, TEPC.

6. INTERNATIONAL RELATION

The year 2015-16 (April-December) was marked by several important activities and visits in the sphere of International Relations for DoT.

There were significant activities in multilateral cooperation with Intergovernmental Organizations such as ITU, APT, and ITSO etc. Indian high level delegations visited foreign countries in strengthening the bilateral relations and technological cooperation and several foreign dignitaries also visited India reflecting the growing prominence of India. The activities in the area of International Relations front have been characterized as below.

1. Activities on Bilateral Cooperation
2. Activities on Multilateral Cooperation and Conferences of Intergovernmental and International Organizations
3. International Exhibitions and Promotion events
4. Capacity building programs with ITU/ APT and ITU-T study group meetings

6.1 Bilateral Cooperation

Indian Delegations' visits abroad

1. **Germany:** A high level delegation, led by Secretary (T), visited Germany during April 13-17, 2015 for Seminar on Digital India to have active engagement with Germany in various areas in the field of Telecommunications/ ICT.

2. **Israel:** A high level delegation, led by Secretary (T), visited Israel during September 7-9, 2015 and it is envisaged to lead to active engagement with Israel in various areas in the field of Telecommunications/ ICT. It is apt to mention that India and Israel have a signed a MoU way back in 1994. The case of creation of a JWG with Israel has been approved to take forward the cooperation. Security, innovation and start-ups are some of the important areas of cooperation. Apart from high level meetings, the Secretary (T) also addressed the Israel industry on opportunities in India

3. **Japan**: Third Meeting of India-Japan Joint Working Group, under India-Japan ICT Comprehensive Cooperation Framework, was held in Tokyo, Japan on November 04, 2015. Indian delegation was led by Member (T). In addition to the existing five projects identified under the Framework, following proposals were presented, during the third meeting of the JWG, as part of future cooperation:

    1. Intelligent Transport System
    2. Automatic Tracking System

3. Co-operation in postal Sector

4. Weather Radar solutions

DoT has sent these project proposals to the concerned Ministries/ Departments for input so that an appropriate action may be initiated to take up these projects under the ambit of JWG.

Foreign delegations' visits to India

1. **Mauritius:** Under the Chairmanship of Secretary (T) and in the presence of Member (S), a meeting of the officers of Security wing and IR cell of DoT with a delegation of the Republic of Mauritius was held on October 13, 2015. Subsequently, it was decided to depute a delegation, consisting of officers from DoT and C-DoT, to Mauritius. The delegation will work for preparation of draft legal framework for lawful interception/ monitoring and the architecture of technical solution for the same as per request of Mauritius.

2. **Sweden:** A Swedish delegation, led by H.E. Mr. Mehmet Kaplan, Hon'ble Minister for Housing, Urban Development and IT, Sweden, met Hon'ble MoC&IT on October 15, 2015 followed by a technical bilateral meeting between the officers of the two countries, in which a number of areas of possible cooperation were discussed. It was envisaged to create a structural mechanism, such as JWG, in order to carry forward the cooperation. The areas identified for cooperation include security of telecom & information infrastructure, capacity building in telecom, migration from IPv4 to IPv6, R&D in telecom & electronic equipment/ services, manufacturing of ICT products, e-gov applications, regulatory practices, spectrum management, etc.

3. **USA:** A delegation of Information Technology Industry Council (ITI), USA met Secretary (T) on December 2, 2015. ITI is a premier advocacy and policy organization for the world's leading innovation companies with a mission to promote the global competitiveness of its member companies through tech friendly public policy. Ten of its member companies are among the world's 50 largest corporations. During the meeting, IR Cell delivered a presentation on 'Investment Opportunities in Indian Digital/ Telecom Sector'.

4. **Japan:** (1) A delegation of Japan Association of New Economy (JANE) met Hon'ble MoC&IT on December 3, 2015. JANE is an industrial association with 546 member companies which mainly deal in internet business. JANE's objective is to promote new industry through expanded e-business and increased use of IT to enhance Japan's global competitiveness.

(2) A delegation of NTT Communications, Japan met Secretary (T) on December 11, 2015. M/s NTT Communications has recently been granted Unified License (UL) with National Long Distance Service authorization.

5. **Saudi Arabia:** A Saudi Business delegation met Hon'ble MoC&IT on December 15, 2015. Summing up the proceedings, Hon'ble MoC&IT suggested for focusing on following three areas for further cooperation:

   (a) Human Resource Development

   (b) Transforming the IT profile of Saudi Arabia

   (c) Investment by Saudi companies in India in technology, machinery, oil, R&D etc.

6. **Spain:** A meeting was held on January 30, 2016, under the chairmanship of Additional Secretary (T), with a delegation led by Director General of Telecommunications, Government of Catalonia, Spain. The agenda of the meeting was to present the achievements of Catalonia in developing Smart Cities and to discuss how India and Catalonia may collaborate in creating Smart City Eco systems in India.

Other Activities

1. Department of Industrial Policy & Promotion (DIPP) had sought a shelf of investment projects/ proposals for UAE investment with a view to operationalize India-UAE Infrastructure Fund of US $ 75 Billion. Project proposals for the same were sought from various wings/ units/ PSUs under DoT. Proposal of MTNL for investment of Rs. 1600 Crore as Capex was forwarded to DIPP. The proposal of BSNL for investment is under process for approval.

2. IR Cell held a meeting on January 8, 2016 at Sanchar Bhawan, New Delhi, with officers of DoT and DeitY, including representatives from WPC, TEC, TRAI, BSNL, MTNL, C-DoT, for formulation of prospective areas to be incorporated in the proposed JWGs with Sweden and Israel.

3. A list of potential areas of co-operation to promote 'Telecom/ IT Equipment & Services', submitted by C-DOT, a list of Projects/ DPRs submitted by TCIL and a rural telephony project based on World GSM Technology Solution offered by M/s Vihaan Networks Limited (VNL) were submitted to Department of Commerce for inclusion in the agenda for 4th India-Africa Trade Ministers' Meeting held on October 21, 2015 at New Delhi.

4. Third India-Africa Forum Summit (IAFS-III) was held in New Delhi during October 26-30, 2015. 'Pan-African e-Network Project', being implemented by TCIL, has been adopted by IAFS since its inception in 2008. Pan African e-Network Project provides tele-education, tele-medicine services and VVIP connectivity in 48 African countries. This Project is being hailed as a successful initiative and has become a role model project for other partners in Africa. IR Cell reviewed the status of implementation of the Project and its proposed extension by the MEA for the period 2016-2021. The concerns of DoT/ TCIL were conveyed to MEA. During IAFS-III, MEA extended the tenure and fund allocations of this project.

5. International Centre for Settlement of Investment Dispute (ICSID) provides institutional support through World Bank system. By joining ICSID, India conveys a global message regarding creation of sound grounds for investors. The same will also serve India's defensive interests in arbitration cases. Membership of ICSID is open to India as a member of the World Bank and expected to be more cost efficient as compared to other arbitration systems. ICSID offers the possibility of constant monitoring of disputes through India's Executive Director to the World Bank. DoT's support to proposal of India joining ICSID was conveyed to Ministry of Finance.

6. **Dividend Payment from M/s Intersputnik:**

M/s Intersputnik made a payment of the dividends due to the DoT for 2010-2013 in the amount of US$ 21,128.09 into the account of the Indian Embassy in Moscow.

6.2 Multilateral Cooperation:

Foreign delegations' visits to India:-

i. Visit of Alexander Ntoko, Chief, Operations and Planning Department, International Telecommunication Union:

The Department of Telecommunications organized a technical presentation from ITU on 'Framework for Management of Digital Object Architecture (DOA)' on 6th of May, 2015 at DoT by Mr. Alexander Ntoko, Chief Operations and Planning Department, ITU HQ, Geneva. The Session was chaired by Secretary (T).

ii. Visit of Mr. Malcolm Johnson ITU Deputy Secretary General to India:

Mr. Malcolm Johnson made a courtesy visit to meet Shri Rakesh Garg, Secretary (Telecom) in his office and interacted with senior level officers from

DoT and TEC in the Conference room, Sanchar Bhawan October 26, 2015. In the afternoon he visited IIT Delhi where he met Prof. Kshitij Gupta, IIT Director, visited several labs and interacted with students and faculty members of IIT-Delhi.

iii. Hosting of 2nd ITU Asia-Pacific Centers of Excellence Steering Committee Meeting, January 28-29, 2016, IIM – Bangalore

The 2nd ITU Asia Pacific Centres of Excellence (ASP CoE) Steering Committee Meeting was held in Indian Institute of Management, Bengaluru, India, during January 28-29, 2016. The Meeting was organized by the ITU and hosted by the Department of Telecommunications. Member (S) inaugurated the event. It was attended by delegates from ITU ASP COE Steering Committee Members, Bangladesh Telecom Regulatory Commission, State Radio Monitoring Center, China, China Academy of Information and Communication Technology and Ministry of Information and Communication Technology, Iran, Ministry of Information and Communication Technology Thailand, Ministry of Communication Multimedia Malaysia, National Broadcasting and Telecommunication Commission Thailand, Asia Pacific Telecommunity, Post and Telecom Institute Technology Vietnam, Ministry of Information and Communication Vietnam participated and several other industry members.

The delegates deliberated on strategic and operational issues of capacity building programmes, capacity building plan for 2016 and other aspects in building partnership and collaboration. The partnership session received proposals from IIM Bangalore, a few Indian Startups, Huawei, Cellular Operators Association of India (COAI) and Telecom Sector Skill Council, Pacific Island Telecom Association (PITA), TRAI, National Institute of Communication Finance, TCIL, etc.

Study Group meetings and workshops:

The ITU study group meetings are aimed to build capacity and contribute for harmonizing standards, share best practices and learning's for ICT growth. The issues discussed in these meetings are important for India as an emerging country to develop the ICT eco system and take challenges and issues to this international discussion forum. The DoT delegation participated in various ITU study meetings in different sectors.

Trainings:

The DoT officers participated in various capacity building programmes abroad organized by the International organisations such as ITU, APT in the following areas

i. Strengthening Disaster Preparedness in Asia-Pacific Region Utilizing ICT
ii. Utilization of ICT services & E-Application for Overcoming Digital Divide
iii. Information Security and Computer Communication
iv. 6th APT Workshop on Disaster Management / Communications (WDMC-6)
v. Mobile Telecommunications Technologies and Services
vi. Study on Cyber Security Information Sharing Initiatives in Japan and Furthering Mutual Collaboration among the Countries in Asia Pacific Region.
vii. Cyber Security Policies and Technologies for the Broadband Communications.
viii. Digital Divide Resolution at Rural Areas by Utilizing Television White Space.
ix. Radio Spectrum Management and Monitoring for Wireless Broadband Infrastructure
x. Practical Technologies and their Implementation of Small Scale Telecommunications for the Rural Area (with Technical Practice).
xi. Strengthening Disaster Preparedness in Asia-Pacific Region Utilizing ICT for Public Safety.
xii. Actions for Next Generation Mobile Communication Systems.

Events

Senior officers from DoT participated in various important events abroad in the context of Investment Promotion, Opportunities in India, technology and Products.

7. OFFICIAL LANGUAGE DIVISION – COMPOSITION

The Official Language Division is under the overall administrative charge of Deputy Director General (C&A). It is presently headed by a Deputy Director assisted by one Assistant Director, translators and other supporting staff.

7.1 Activities

During the period 2015-16 (April, 2015 to December, 2015), the following items of important work relating to the progressive use of Hindi were undertaken by the Official Language Division:-

7.1.1 Implementation of the Official Language Policy and the Annual Programme of the Govt. of India

All Sections, attached and subordinate Offices and Public Sector Undertakings under the administrative control of the Department were advised to comply with the provisions of the

Official Language Act, Rules and instructions issued there under for achieving the targets fixed by the Official Language Department in their Annual Programme for the year 2015-16. Quarterly Progress Reports regarding progressive use of Hindi in the Department, its attached and subordinate units and the Public Sector Undertakings under its administrative control were reviewed and necessary instructions issued for taking corrective measures. Section 3(3) of the Official Languages Act, 1963 was fully complied with during the period under review.

The Department of Telecom has been awarded 2nd prize for best implementation of official language policy of the Union under category of Ministries/Departments pertaining to 'Kirti Awards' for the year 2014-15. This prize was given to Secretary (telecom) by the Hon'ble President in a function organized by Ministry of Home Affairs, Department of Official Language on September 14, 2015 in Vigyan Bhavan, New Delhi.

Shri Rakesh Garg, the then Secretary (Telecom) receiving the Prize from the Hon'ble President of India

7.1.2 Monitoring and Inspection

The Official Language Division worked as a co-coordinator during the course of inspections conducted by the 2nd subcommittee of the Committee of Parliament on Official Language (CPOL) of the various Offices/Corporate Offices under the Department. In the Parliamentary Committee Meetings, the Department was represented by Deputy Director General (C&A) and representative(s) of Official Language Division. During the period under review nine such inspections of various offices of Bharat Sanchar Nigam Limited and Mahanagar Telephone Nigam were carried out. Another inspection of the office of the General Manager, Bharat Sanchar Nigam Limited, Indore by the said committee is scheduled to be held on February 08, 2016.

In order to assess the position of implementation of official language policy It is mandatory for the Ministry to conduct official language inspections in 25% of its offices of the Undertakings/Offices/ Units etc. under its administrative control as per targets prescribed by Department of Official Language, Ministry of Home Affairs in its Annual Programme. The 2nd sub-committee of Committee of Parliament on Official Language inspects this Department and offices under its control from time to time to assess the implementation of official language Hindi and its various aspects. During the inspection, committee stresses upon this fact as the committee is of the view that it is necessary for the Ministry/Headquarter to inspect the position of implementation of O.L. policy in its subordinate offices.

In this context 27 Official Language implementation inspections were carried out by the officials of this Department of its various offices situated across the country and 08 Official Language inspections were carried out of offices situated in Delhi up to January, 2016. Important instructions were given to improve the position of Official Language Hindi in the concerned offices in compliance with the effective implementation of Official Language Policy of the Union. Another 2-3 Official Language inspections are in the pipeline in the remaining period of 2015-16 i.e. from February-March, 2016 depending upon the exigencies of work.

7.1.3 Training in Hindi Language, Hindi Typewriting / Hindi Stenography

Five stenographers and ten MTS were nominated for training in Hindi Stenography Classes during this period. Another five stenographers and eight MTS employees are being nominated for the above training in the remaining period of 2015-16 i.e. from January-March, 2016.

7.1.4 Meetings of Official Language Implementation Committee

Quarterly meetings of the Official Language Implementation Committee (OLIC) of the Department were held at regular intervals wherein the progress relating to the use of Hindi in official work in the Department was reviewed. During the year, four such meetings were held on May 27, 2015, August 10, 2015, December 11, 2015 and on February 17, 2016 respectively.

7.1.5 Celebration of 'Hindi Pakhwara'

'Hindi Pakhwara' was organized from September 15, 2015 to September 29, 2015 in the Department. Thirteen competitions for the purpose of the promotion of Official Language in the Department were organized. 315 officers/officials participated in these competitions, out of which 89 were declared successful for Cash Awards with Certificates of Appreciation. Prizes were distributed to the successful participants by the Member (Services) in the Prize Distribution Function held on November 18, 2015.

7.1.6 Meeting of Hindi Salahakar Samiti

After the expiry of the previous term of the Hindi Salahakar Samiti of Department of Telecom on October 20, 2013, the Hindi Salahakar Samiti is reconstituted on October 3, 2015 under the chairmanship of hon'ble Minister of Communications and Information Technology. The first meeting of the reconstituted Hindi Salahakar Samiti would be held shortly.

7.1.7 Translation Work

During the period under report a number of documents relating to Standing Committee/ Demand for Grants/Parliamentary Assurances, Action Taken Notes, Cabinet Note, RTI matters, Parliament Questions, delay statements, monthly summaries and other parliamentary work and routine matters etc. were translated from English to Hindi and vice versa. The Division was also actively involved in the Hindi Translation of the website of the Department. Apart from routine translation, important documents specified in Section 3 (3) of the Official Languages Act, 1963 (including papers/reports to be laid by the Department on the table of both the Houses of Parliament were translated and prepared in bilingual form.

7.1.8 Notifying the offices under rule 10(4) of O.L. Rules, 1976

During the period under report, 3 offices namely (a) Office of the General Manager, BSNL, Sangrur (Punjab), (b) Office of the Principal General Manager (CMTS-Nodal Centre), Mohali (Punjab) and (c) Telecom Engineering Centre (TEC), Department of Telecom have been notified under rule 10(4) of the Official Languages (use for official purposes of the Union) Rules, 1976, where more than 80% staff have acquired working knowledge of Hindi.

8. STAFF WELFARE AND SPORTS ACTIVITIES

8.1 Activities w.e.f April, 2015 till December, 2015

Under the Welfare Programmes, Scholarship, Book Awards and Incentives are granted to meritorious school/ college going children of the DoT employees. Besides this, conveyance

allowance/ hostel subsidy is also granted to mentally/ physically challenge children of the employees. The programme also includes financial assistance to employees in distress and provides subsidies for recreation tours etc. During April, 2015 to December, 2015, the following activities were undertaken under the Welfare Programme:

(i) Book Award of `8,07,600/- was distributed to the wards of DoT employees from which `59,500/- was sanctioned under Girl Children relaxation and `47,000/- was sanctioned under SC, ST & OBC relaxation. `6,02,800/- was distributed to the wards of DoT Employees as Scholarship Award from which `37,200/- was sanctioned under Girl Children relaxation and `66,000/- was sanctioned under SC, ST & OBC relaxation. `1,10,900/- was distributed as Incentive Award to wards of DoT employees and `58,400/- is awarded to mentally/physically challenged wards of DoT employees as Scholarship & conveyance allowance/ hostel subsidy.

(ii) Department of Telecommunications organized a excursion trip to Udaipur & Mount Abu from September 29, 2015 to October 4, 2015 for DoT employees and an amount of `6,07,895/- i.e. 70% subsidy given by the Telecommunications Staff Welfare Board. A second excursion trip to the same destination was undertaken from December 22, 2015 to December 27, 2015 and an amount of `5,60,406/- i.e. 70% subsidy given by the Telecommunications Staff Welfare Board.

(iii) Department of Telecommunications had organized an Intra Department tournament for badminton & table tennis for the employees of DoT. A total number of 56 employees (including 8 lady employees) had participated in seven events of Badminton and Table Tennis and 30 prizes had been distributed for the first 3 positions. An amount of `36,000/- (Rupees Thirty Six Thousand Only) had been expensed from Telecommunications Staff Welfare Board for this tournament.

8.2 Anticipated achievements till end March, 2016.

(i) In last financial year in the month from January 2015 to March 2015, Book Award of `4, 86,300/- (Four Lakh Eighty Six Thousand Three Hundred Only), Scholarship of `4, 32,000/- (Four Lakh Thirty Two Thousand Only) & Incentive of `77,000/- (Seventy Seven Thousand Only) were distributed to the meritorious school/ college going children of DoT employees. The same is likely to be followed in the next financial year based on the applications so far received.

(ii) Every year women's day is celebrated in Department of Telecommunications. Last year `47,390/- has been expensed on this celebration and an expenditure of `50,000/- is anticipated in the next financial year.

9. TRAINING

9.1 Implementation of National Training Policy

In pursuance of guidelines of DOPT, Department of Telecom has so far taken the following action for implementation of NTP:

- As per the annual Training Calendar for the year 2014-15 in respect of various cadres in DoT, the number of trainings conducted along with number of officers attended in such trainings during the year are as under:

Sl. No.	Name of Cadre	No. of Trainings Conducted	No. of officers attended
1	ITS	06 (Long Term)	23
		12 (Short Term)	162
2	IRRS	06 (Short Term)	56
3	BWS	06 (Short Term)	45
4	IP & TAFS	34 (Short Term)	741

- Training Calendar for the year 2015-16 has already been prepared by ITS and P&TBWS cadres.
- About 86% of CPIO's in DoT have attended the workshop on RTI conducted by NICF.
- As per instructions issued by DOPT in October, 2014, In-House training programmes on various topics have been conducted in DoT whereby 237 officers/officials were trained till date.
- Action Plan to implement the competency based frame work is under process by respective cadre aurthorities.

10. NATIONAL TELECOMMUNICATIONS INSTITUTE FOR POLICY RESEARCH, INNOVATIONS & TRAINING (NTIPRIT)

The Department of Telecommunications established the National Telecommunications Academy (NTA) in the year 2010 as the technical training Institute of the Department. The scope of its activities was soon enhanced by bringing under its ambit the Policy Research & Innovation in ICT; As a result, the Institute was rechristened as National Telecommunications Institute for Policy Research, Innovations & Training (NTIPRIT) in the year 2011. Since then,

NTIPRIT has grown from strength to strength and the Institute is now a Central Training Institute (CTI) enlisted with Department of Personnel & Training. NTIPRIT presently operates from the campus of Advanced level Telecom Training Center (ALTTC) of BSNL at Ghaziabad.

Hon'ble President of India with officer trainees of Indian Telecom Service (ITS) & P&T (BWS)

10.1 Training Courses conducted: Following Training courses have been conducted by NTIPRIT during the period April-December, 2015:

Sl. No.	Type of Courses	No. of Courses Conducted	No. of Trainees attended	No. of Trainee-days
1	Induction Training of ITS & BWS Group-A officers	35	14	1789
2	Induction Training of JTOs Group-B officers	10	9	1404
3	In-service courses for officers of DoT	3	30	76
4	Workshops/Seminar	4	190	247
5	Courses for other Govt. departments/ agencies	2	23	46
	Total	**44**	**266**	**3562**

Group Photo - ITS Officer Trainees - 2014 Batch

10.2 Policy Research

A 'Perspective Plan for Policy Research at NTIPRIT' has been finalized by NTIPRIT and submitted to DoT. NTIPRIT has proposed to undertake policy research work including gap analysis, impact analysis and policy formulation inputs, based on empirical research in the field of Telecom Sector.

10.3 Capacity Building- Seminar on M2M Communications:

A Seminar on "M2M Communications" was organized by NTIPRIT on November 20, 2015 at Bharat Sanchar Bhawan, New Delhi. The seminar deliberated upon the need to have more indigenous equipment in our telecom network. There were speakers from the industry as well as from the Government and wide ranging discussions were held on the various requirements for implementation of M2M Communications in the country.

Shri Peeyush Agarwal, Member (Technology), DoT addressing the audience during seminar on "M2M Communications" organised by NTIPRIT, Ghaziabad on November 20, 2015 at Bharat Sanchar Bhawan, New Delhi.

11. SKILL DEVELOPMENT

11.1 During April-December, 2015

- A meeting-cum-workshop under the chairmanship of Secretary (T) with the nodal officers of it is in State Governments was held on May 22, 2015 to brief ITI nodal officers in regard to training infrastructure available with DoT PSUs.
- A Presentation-cum-Meeting attended by Senior officers of Ministry of Skill Development and Entrepreneurship, Senior officers of DoT, Senior officers of BSNL/ MTNL/ ITI/ TCIL/ TSSC etc. was held on August 12, 2015 to discuss the action plan in regard to Skill Development in telecom sector at large.

11.2 Anticipated achievements for the months of January-March, 2016

An MOU on 'Strategic Partnership between Ministry of Skill Development and Entrepreneurship (MSDE) and Department of Telecommunications (DoT)' is expected to be signed shortly to utilize training infrastructure of DoT, its PSUs, TSSC etc. for skill development in telecom sector at large.

12. GENDER BUDGETING

The Gender Budget Cell has been working in DoT since November, 2006. The General Budgeting Cell of the Department is trying to generate awareness about the gender budgeting initiative of the Government and the manner in which the Department of Telecom can play a role in mainstreaming gender concern at the planning and formulating stage of various schemes in the sector.

Allotment of funds under plan & non plan head for the benefit of women for 2014-15 (BE), 2014-15 and 2015-16 are given below:

100% Women specific programmes

(` in crore)

Details of the scheme	BE 2014-15		RE 2014-15		BE 2015-16	
	Plan	Non plan	Plan	Non plan	Plan	Non plan
Amenities to staff	-	0.25	-	0.30	-	0.40
Universal Service Obligation Scheme	1.50	-	1.75	-	1.50	-

13. COLLECTIONS OF SPECTRUM CHARGES

The collections of spectrum charges are as under-

(` In crore)

Category of Services	SUC Collection etc. April-December, 2015 (9 months)	Anticipated SUC January- March, 2016 (3 months-1/3 of actual collection upto December, 2015 Financial Year-2015-16)	Total (Actual collection + anticipated) collection during 2015-16
CDMA	162.54	54.18	216.72
GSM	5090.57	1696.93	6787.50
Other Communication Services (including WPC receipts)	459.38	153.13	612.51
One Time Spectrum Charges (OTSC).	-	63.00	63.00
i) Auction proceeds from auction held in Feb./Mar. 15 (2014-15) amt. already received in April' 15 (15-16)	21587.00	-	21587.00
ii) Revenue from installments of 2G/3G etc. (auction held in Nov. 12 (1800 MHz), Mar. 13 (800 MHz), Feb. 14 (1800 & 900 MHz) (receipt - auction money Rs. 744/- Cr.+ 1.64 Cr. interest)	745.64	390.00	1135.64
Total Receipts	**28045.13**	**2357.24**	**30402.37**

14. ASSESSMENT OF LICENCE FEES

The assessment of licence fees at the end of financial year is based on the revenue figures as appeared in the audited accounts of the company. The company is allowed to deduct PSTN charges, Roaming charges passed on to eligible/ entitled service providers and Sales Tax/ Service Tax passed on to the State/ Central Government from its total revenue. The sum so arrived at after these allowable deductions is called Adjusted Gross Revenue. Then the licence fee is levied at 8% of this Adjusted Gross Revenue.

Licence Fee is payable in four quarterly installments during each financial year. Quarterly installment of licence fee for the first three quarters of a financial year is paid within 15 days of the completion of the relevant quarter. However, in respect of the last quarter of the financial year, the licence fee has to be paid by March, 25th on the basis of expected revenue for the quarter.

For telecom networks licensed for Captive use and CMRTS licences, the license fee is levied at fixed rates depending upon the number of terminals, channels and / or network's capital cost.

14.1 Trend of Licence Fee Collections

The trend of licence fee collections for the last five years is given below.

(` in Crore)

Year wise Licence Fee Collections					
Financial Year	**2010-11**	**2011-12**	**2012-13**	**2013-14**	**2014-15**
Amount	10297	11386	11442	12909	14203

15. RIGHT TO INFORMATION ACT

A separate RTI unit has been established in the Department and is functional since January 1, 2007. RTI Unit of the Department is headed by Section Officer and functioning under the supervision of Deputy Secretary and Nodal Officer (RTI). To facilitate the quick disposal of RTI applications/appeals, 87 CPIOs and 29 First Appellate Authorities are functioning.

RTI Applications data for the year 2015 are:

- Total online RTI application received during the year – **1924**
- Total online application received from other departments during the year – **349**
- Total RTI online appeals received during the year – **236**
- Total offline RTI application received during the year – **893**
- Total offline Appeals received during the year – **26**
- Total fee received for offline application during the year – **Rs.2810**

The facility of receiving and processing RTI applications/appeals online through the RTI Web-Portal of Department of Personnel & Training has been started in the Department on August 23, 2013. This is strengthening the system of quick disposal and monitoring of RTI applications and appeals.

16. PUBLIC GRIEVANCES AND REDRESSAL

Department of Telecom receives complaints directly in its Public Grievances Cell from the office of the Hon'ble Prime Minister, Minister of Communications and IT, MPs , MLAs, VIPs, Chairman' s Office, Department of Administrative Reforms and Pubic Grievances (DARPG) and from the Public. Public Grievances Cell of DoT monitors complaints for their early and timely settlements. The details in respect of complaints handled for the year 2015-16 (upto October 31, 2015) are given as under:-

Opening Balance as on April 1, 2015	No. of grievances booked during April 1-January 31, 2016	Total	No. of grievances disposed during April 1-January 31, 2016	Pending Balance as on February 1, 2016
5792	73904	79696	74523	5173

17. MISCELLANEOUS ACTIVITIES

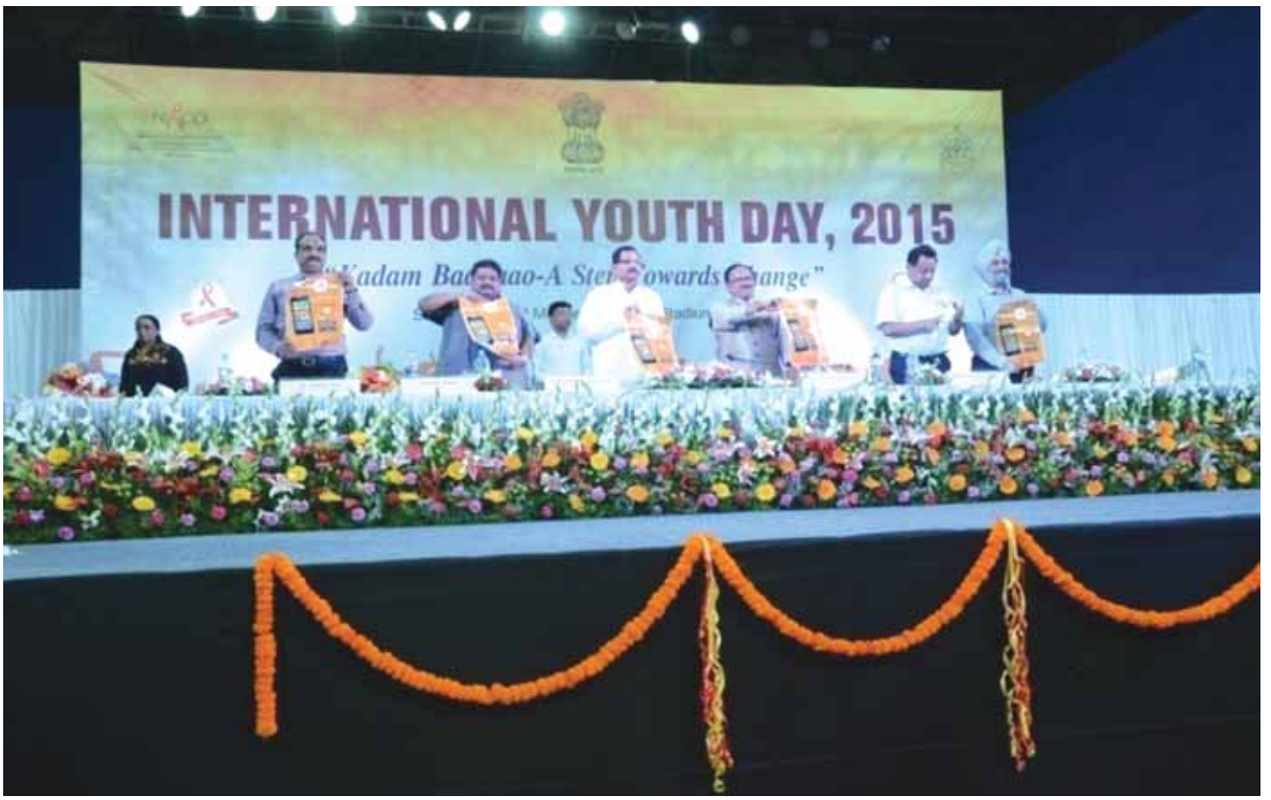
Department of AIDS Control, M/o Health & Family Welfare, Govt. Of India had signed a MoU with Dept. of Telecommunications, Ministry of Communications & IT on July 7, 2014. DDG (C&A) has been appointed as Nodal Officer to roll out the MoU and for coordination of the operational issues of the MoU. Following action has been taken by DDG (C&A) to roll out the MoU:-

(i) A Joint working Group has been constituted with representatives of MTNL, BSNL, TCIL, C-DOT, BBNL, DeitY and NTIPRIT.

(ii) DoT and its PSUs have provided support to NACO in launching of mobile Apps 'Titled-"HELP"- HIV Education & Link to Prevention' for spreading awareness about HIV/AIDS on August 19, 2015 in Goa.

Cultural Programme during International Youth Festival

Minister of State Shripad Yasso Naik during programme



Goa CM during launch of Mobile Apps 'Titled-"HELP"

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3.1 Wireless Planning and Coordination

The Wireless Planning and Coordination (WPC) Wing of the Department of Telecommunications deals with the spectrum management, wireless licensing, frequency assignments, international coordination for spectrum management and administration of Indian Telegraph Act 1885, (ITA, 1885), for radiocommunication systems and Indian Wireless Telegraphy Act 1933, (IWTA, 1933)

1. NATIONAL FREQUENCY ALLOCATION PLAN (NFAP)

National Frequency allocation plan is a policy document which provides the basis for development, manufacturing and spectrum utilization activities in country, both for Government and private sector. NFAP is revised generally every two years. At present NFAP-2011 is under review within the overall frame work of Radio Regulations of International Telecommunication Union (ITU).

2. SPECTRUM MANAGEMENT

- Telecom Mobile Services uses frequencies in 800 MHz frequency band (869-889 MHz paired with 824-844 MHz).
- Telecom Mobile Services uses frequencies in 900 MHz frequency band (890-915 MHz paired with 935-960 MHz) and 1800 MHz band (1710-1785 paired with 1805 -1880 MHz).
- Telecom Mobile Services uses 2.1 GHz band (1920-1980 MHz paired with 2110-2170 MHz).
- BWA service uses frequencies in the frequency band 2.3 -2.4 GHz and 2.5 -2.69 GHz.
- Point to point fixed Microwave Access for these networks uses frequency bands 15/18/21/23 GHz as appropriate for establishing compatibility of electromagnetic radiation to ensure interference free operation of all such networks with other available networks.
- Backbone Microwave Access for these networks uses 6/7 GHz frequency bands.
- Internet Service Provider (ISP) service uses frequency bands 2.7-2.9 GHz & 3.3-3.4 GHz, 10.15-10.65 GHz.
- Frequencies are also assigned for Captive usages to Govt, PSUs and Private Entities in different frequency bands.

3. AUCTION OF SPECTRUM

- Auction of spectrum in 800 MHz, 900 MHz, 1800 MHz and 2100 MHz bands was conducted during March, 2015 and Letter of Intent (LoI) have been issued to all the successful bidders on May 27, 2015 earmarking the frequencies in the above frequency bands.
- 50256 Nos. of Wireless Operating License Schedules have been issued and 56198 Nos. of Wireless Operating License Schedules have been renewed during the period from April to September 2015.
- 469 frequency blocks each of 200 kHz bandwidth in 1800 MHz and 841 frequency blocks each of 200 KHz bandwidth in 900 MHz band have already been assigned during the period from April - November, 2015.
- Guidelines for spectrum sharing and spectrum trading have been issued. Harmonization of frequencies in 1800MHz band has been initiated.
- 150 Nos. of new frequencies/blocks to PMRT Services are likely to be assigned during December, 2015 to March, 2016. During the same period, 15,000 Nos. of Wireless Operating License Schedules and 5000 new schedules are likely to be issued.

4. SACFA SITING CLEARANCE

Standing Advisory Committee on radio Frequency Allocation (SACFA) clearances are granted for fixed wireless stations considering aviation hazard, interference free operations and line of sight obstruction. Such clearances by SACFA are issued without prejudice to applicable by-laws, rules and regulations of local bodies such as Municipal Corporations/ Gram Panchayats, etc.

5. SATELLITE COORDINATION WITH OTHER ADMINISTRATIONS

International coordination of satellite systems is required to be undertaken as per the provisions of the International Radio Regulations (RR) of the International Telecommunications Union (ITU). Coordination of frequency assignments for the individual satellite networks is necessary with satellite networks of other administrations for mutual coexistence and interference free operations of these networks.

(i) Coordination proposals were sent to the Administrations of Cyprus and UAE for coordination of ASTROSAT satellite networks of India.

(ii) Information sent to Malaysian Administration for operator level coordination.

(iii) Coordination information/proposal has been requested from Japan Administration.

5.1 Coordination with ITU

NOTIFICATIONS

(i) Coordination Request (CR/C) of INSAT-KA (74) satellite network has been published in BRIFIC 2787 dated February 3, 2015.

(ii) Part I-S of INSAT-KU11(74), INSAT-NAV(55) and INSAT-KUHF(74) satellite networks has been published in BR IFIC 2887 & 2788

(iii) Registration of frequency assignments (Part II-S) of INSAT-TTC (55) E & INSAT-TTC (83) E has been published in BR IFIC 2788 dated February 17, 2015.

(iv) Part I-S of INSAT-G5 (74) satellite network has been published in BR IFIC 2789 dated March 3, 2015.

(v) Registration of frequency assignments (Part II-S) of INSAT-TTC (74) E, INSAT-TTC (93.5) E & INSAT-TTC (82) E has been published in BR IFIC 2790 dated March 17, 2015.

(vi) Registration of frequency assignments (Part II-S) of TWSAT satellite network of India has been published in BR IFIC 2792

5.2 Advanced Publication Information

(i) API of IND-SAT-93.5E satellite network has been published in BRIFIC 2787 dated February 3, 2015

(ii) FSS Plan as per Appendix-AP30B

Filing for INSAT-KU63E in planned Ku band as per Appendix-30 B (AP-30B) of Radio Regulations has been submitted to ITU for its publication in concerned section of BR IFIC of ITU.

(iii) BSS Plan as per Appendix-AP30/30A

BSS Plan band filing i.r.o. INSAT-KUP-BSS (93.5E) satellite network has been published in BR IFIC 2793

5.3 Protection of Indian space and Radio Astronomy Service from the Satellite Networks of other countries.

(i) Advanced Publication Information (API/s) published in BRIFIC in respect of satellite networks of China, UAE, Russia, Azerbaijan, Norway, Germany, France, Saudi Arabia, Japan, Singapore, Luxembourg, Administrations were objected in view of existing and planned INSAT satellite networks.

(ii) Coordination requests (CR/Cs):- Frequency assignments published in BRIFIC in respect of satellite networks of Indonesia, UK, UAE, Japan, Spain, Turkey, France, Azerbaijan, Liechtenstein, Saudi Arabia and Norway Administrations were objected in view of existing and planned INSAT satellite networks.

(iii) Frequency notices for registration (Part I-S):- Frequency assignments published in BRIFIC in respect of satellite networks of Indonesia, China, Russia, Japan Administrations were objected in view of existing and planned INSAT satellite networks.

(iv) FSS Plan as per Appendix-AP30B:- Frequency assignments in respect of satellite networks of PNG, China and Russia, France, Saudi Arabia, Belarus, Cyprus, Sweden Administrations were objected in view of existing and planned INSAT satellite networks.

(v) BSS Plan as per Appendix-30/30A:- Frequency assignments in respect of satellite networks of UK, France and Qatar Administration were objected in view of existing and planned INSAT satellite networks.

5.4 Conferences

National Preparation, participation and follow-up action for various international and regional conferences under aegis of International telecommunication Union (ITU) and Asia-Pacific Telecommunity (APT) were undertaken to protect national interests especially in the context of spectrum management and radio communication related matters.

5.4.1 The Regional Radiocommuniation Seminar-2015 (RRS-2015) of International telecommunication Union-R

This seminar cover concepts related to spectrum management as well as the procedures associated to the recording of frequency assignments in the Master International Frequency Register (MIFR), workshop on terrestrial services and satellite coordination. It was held in Manila, Philippines during May 25-30, 2015 and one officer from WPC Wing/WMO of DOT participated.

5.4.2 Working Party 5D of International telecommunication Union-R

WP 5D is responsible for the overall radio system aspects of International Mobile Telecommunications (IMT) systems, comprising the current IMT-2000 systems and the future IMT-Advanced systems. WP 5D has the prime responsibility within ITU-R for issues related to the terrestrial component of IMT, including technical, operational and spectrum-related

issues to meet the objectives of future IMT systems and works closely with Working Party 4C on issues related to the satellite component of IMT. It was held in California, USA during June 10-17, 2015 and one officer from WPC Wing/ WMO and one officer from TEC of DOT participated.

5.4.3 Working Party 4A of ITU-R

The Working party 4A studies orbit/spectrum efficiency, interference and coordination and related aspects for FSS and BSS. Its work has significant relevance to the preparatory work for World Radiocommunication Conferences. The Working Party 4A of ITU-R held in Geneva, Switzerland during June 17-25, 2015 and one officer from WPC Wing/ WMO of DOT participated.

5.4.4 Working Party 5A of ITU-R

WP 5A is responsible for studies related to the land mobile service, excluding IMT and including wireless access in the fixed service, and is also responsible for studies related to the amateur and amateur-satellite services. The key objective of WP 5A is to facilitate, through appropriate studies, equitable access to the radio spectrum by the land mobile and the amateur services, providing benefits that are made possible by implementing radio solutions to the communication needs. WP 5A is also very active in the development and standardization of new technologies for land mobile systems. It was held in Bucharest, Romania during July 6-16, 2015 and one officer from WPC Wing and one officer from TEC of DOT participated.

5.4.5 WRC-15 and its associated meeting (RA-15, CPM 19-1)

World radiocommunication conferences (WRC) are held every three to four years. It is the job of WRC to review, and, if necessary, revise the Radio Regulations, the international treaty governing the use of the radio-frequency spectrum and the geostationary-satellite and non-geostationary-satellite orbits. It also coordinates and harmonizes the views of various stakeholders to finalize national view point on various agenda items**.** The WRC-15 and its associated meeting (RA-15, CPM 19-1) have been organized at Geneva during October 26 to December 1, 2015 and ten officers of DOT participated in that meeting.

6. PROJECT IMPLEMENTATION

The proposal for “National Radio Spectrum Management & Monitoring System (NRSMMS)” is being implemented by WPC Wing. Under the project, spectrum management and monitoring functions have been automated with a view to making spectrum management process more transparent, effective and efficient.

Actual Achievements during April 1 - September 30, 2015 and Anticipated Achievements during October 1, 2015 - March 31, 2016

Achievements		Actual Achievement during April, 2015 to September, 2015	Anticipated Achievement during October, 2015 to March, 2016
1.1	**Radio Frequency Spectrum Management**		
•	New Radio Frequency authorized to various users	1676	1800
•	Frequency assignments intimated to Radiocommunication Bureau of ITU for International recognition and protection.	352	400
•	Radio Frequency Assigned for visits of VVIPs	40	40
•	SACFA (Standing Advisory Committee on Frequency Allocations) meeting held	01	01
•	Inter-departmental meetings held	02	02
•	Sites cleared for new wireless stations	2,33,792	3,50,000
1.2	**Wireless Licences Issued**		
•	No. of Import Licences Issued	2093	2200
•	No. of Licences issued to new Wireless Stations	63,652	65,000
•	No. of Licences Renewed (for Wireless Stations)	85,270	90,000
1.3	**Certificate of Proficiency (COP) Examination / Licences**		
•	No. of COP Examination conducted	27	27
•	No. of candidates admitted	5475	5500
•	No. of Licences issued	92	120
•	No. of Licences renewed	2701	2800
•	No. of Licences issued to New Radio Amateur Stations	164	300
•	No. of Licences renewed for Old Radio Amateur Stations	148	150

7. THE FUNCTIONAL PERFORMANCE DATA OF THE WIRELESS MONITORING ORGANISATION (WMO)

Wireless Monitoring Organization continues to ensure interference-free wireless services in the increasingly crowded radio environment besides providing vital technical data for the introduction of new services such as 3G, BWA etc. to WPC wing. **Actual Achievements during April 1 - September 30, 2015** and **Anticipated Achievements during October 1, 2015 to March 31, 2016** are as given below:-

Sl. No.	Particulars	Actual achievements during April 1-September 30, 2015	Anticipated achievements during October 1, 2015 to March 31, 2016
1.	Monitoring Assignments Handled.	6019	7000
2.	No. of Wireless Transmission monitored.	62,789	65,000
3.	Technical assistance to users to maintain their operation within specified standards.	594	650
4.	Infringements communicated to various wireless users for remedial action.	955	1000
5.	Channel days utilized for Radio Monitoring.	2981	3200
6.	No. of Wireless Stations Inspected.	706	750
7.	No. of Radio Noise measurements.	49643	55000
8.	No. of high priority interference complaint resolved.	30	35
9.	No. of standard interference complaint resolved.	08	10
10.	Man days devoted for high level technical work.	48	50
11.	No. of training courses conducted.	01	03
12.	No. of man days for training.	30	115

7.1 Radio Monitoring - a regulatory and treaty requirement

Radio monitoring service, a regulatory and treaty requirement, is carried out by the Wireless Monitoring Organisation of the Wireless Planning & Co-ordination Wing (WPC Wing), Ministry of Communications and IT, for the Government of India. It is essentially technical in nature and its broad objectives are derived from the international treaty document-*Radio Regulations* of the *International Telecommunication Union*.

The Preamble of the *Radio Regulations* stipulates the following broad objectives for the radio monitoring service of every Member State of the International Telecommunication Union.

- *to facilitate equitable access to and rational use of the natural resources of the radio-frequency spectrum and the geostationary-satellite orbit;*
- *to ensure the availability and protection from harmful interference of the frequencies provided for distress and safety purposes;*
- *to assist in the prevention and resolution of cases of harmful interference between the radio services of different administrations;*
- *to facilitate the efficient and effective operation of all radio communication services;*
- *to provide for and, where necessary, regulate new applications of radio-communication technology.*

7.2 Major functions of Wireless Monitoring Organization (WMO)

The major functions of the WMO are as under:

(i) Resolution of the harmful interference;

(ii) Monitoring for identification of frequency sub-bands for introduction of new services and/or for additional allocation to existing services;

(iii) Monitoring for spectrum recovery-unused/ under-used frequency authorizations;

(iv) Monitoring for ensuring adherence to licensing conditions;

(v) Monitoring/measurements for sharing studies;

(vi) Assistance to domestic wireless users;

(vii) Assistance to foreign administrations;

(viii) Participation in special monitoring campaigns of the International Telecommunication Union;

(ix) Measurements on radio emissions (intentional & non-intentional) for the possible introduction of new radio communication standards, and also for studying the EMC compatibility of the proposed new installations;

(x) Inspection of licensed installations; and

(xi) Monitoring of space emissions to protect authorized satellite transmissions.

7.3 Challenges before WMO

The increasing dependence of the society (the Government and the public alike) on the wireless communications demands that WMO ensures interference free radio communication environment. Therefore, WMO's primary focus, at present, is on public mobile radio communication services, public broadcasting services and safety-of-life services. WMO is earnestly gearing up its resources - manpower and machine-power - to ensure that these services continue to operate in interference-free environment. The primary reason for the interference protection to these services lies in their critical importance to the society as a whole. With respect to public mobile cellular service, WMO has twin objectives: (i) to identify and eliminate the sources of interference occurring due to a multitude of reasons, and (ii) to find unused spectrum for expansion of existing 2G services and for the 3G services. In so far as public broadcasting is concerned, its transmissions have been found to be affecting aeronautical mobile communications (civil aviation) and also infringing licensing parameters. To address the needs of such crucial services, WMO is in the process of procuring custom-designed radio monitoring products. Beside the service-aspect of radio monitoring, WMO has to ensure the quality of the spectrum.

WMO effectively and efficiently addresses new monitoring challenges emerging from the increasingly crowded radio frequency spectrum; WMO has taken steps to introduce new technologies and capacity-building. As for new technologies, procurement of software and hardware has already been initiated and a Real-Time Spectrum Analyser has recently been procured for Training Purpose. Intensive training on monitoring as well as information technology is aimed at capacity-building. These two aspects are being jointly handled by the Monitoring Headquarter and Training & Development Centre, New Delhi.

International Satellite Monitoring Earth Station at Jalna (Maharashtra) is utilizing its S-Band, C-Band and Extended C-Band facilities for monitoring and analyzing satellite downlink signals along with decoding of digital video broadcast signals from all satellites located in the GSO-arc of interest to India. The capability has been further enhanced by introducing Ku-Band Satellite Spectrum Monitoring facility for DTH, DSNG, VSAT services etc. Its measurement functionality is proposed to be enhanced in near future. A Real-Time Spectrum Analyser has been procured in this step.

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3.2 Telecommunication Engineering Centre

Telecommunication Engineering Centre (TEC) is the technical wing of the Department of Telecommunications. TEC is committed to develop standards for the telecommunication sector in India, to ensure development of world class telecom network and smooth interconnection of individual networks. It discharges its function as a testing & certification body. Its responsibilities, among other things, include:

- Preparation of Standards and Specifications for harmonious growth of the Indian Telecom Network and Services for the public as well as private sector operators.
- Carrying out evaluation of equipment and services.
- According approvals for equipment, technology and services.
- Studying new technology and services and give technical advice to DoT for their introduction in the Indian Telecom Network.
- Providing technical support for DoT.
- Tendering technical advices to TRAI, TDSAT, USOF, BSNL and MTNL, on request of DoT.
- Drawing up Fundamental Technical Plans of DoT.
- Interaction with multilateral agencies like APT, ETSI and ITU through DoT.
- Creating facilities to further the objectives of MRA.
- Developing necessary expertise to imbibe the latest technologies and results of R & D.
- Coordination with C-DoT to provide details on the technological developments in the Telecom Sector for policy planning at DoT level.

1. ACHIEVEMENTS DURING THE PERIOD APRIL – DECEMBER, 2015

1.1 The following new Generic Requirements (GRs)/ Interface Requirements (IRs) have been issued

i. Generic Requirement on NMS

ii. Interface Requirement on IP Interconnect

iii. 20/30/40 meters Guyed Masts exclusively for deployment in hilly areas

iv. IR on ISIM

1.2 The following Generic Requirements (GRs)/IRs have been revised

i. Generic Requirement on STM-1 Customer Premises Equipment (CPE) for Access Network Application

ii. Generic Requirement on Enterprise Storage Infrastructure, GR/I/ESI-001/3.MAR.2012

iii. Generic Requirement on SIP Terminal

iv. Generic Requirement on H.323/SIP Terminal

v. Interface Requirement on SIP Terminal

vi. Generic Requirement on STP

vii. Generic Requirement on ENUM Server

viii. Wi-Fi Access Point (Generic Requirement No. TEC/GR/CP/Wi-Fi-002/01/SEP-11)

ix. Non-Zero Dispersion Shifted Optical Fiber Cable (G.655 fiber)

x. Generic Requirement on SIM

xi. High Precision Cleaver for Ribbon Fiber

xii. Hot Jacket Remover for Ribbon Fiber

1.3 The following New Technical Reports have been issued -

i. M2M Enablement in Power Sector

ii. M2M Enablement in Intelligent Transport System

iii. M2M Enablement in Remote Health Management

iv. M2M Enablement in Safety & Surveillance Systems

v. M2M Gateway & Architecture

vi. M2M Number resource requirement & options

vii. V2V/ V2 Radio communication & Embedded SIM

viii. Spectrum requirements for PLC and Low power RF communications

ix. ICT deployment and strategies for India's Smart Cities: A Curtain Raiser

1.4 Testing/Validation/Field Trial -

i. Technology approval of Mini OLT based GPON system developed by C-DOT

ii. Testing of Tejas Transmission Product carried out in Bangalore

iii. Examination of results for HP Laserjet series from Hewlett-Packard completed under IPv6 Ready Logo Program

iv. Testing of CDoT DWDM carried out at IPv6 Ready Logo Setup, TEC, New Delhi

1.5 Study Papers/ White papers prepared on:

i. Automatically Switched Optical Network (ASON)

ii. Technologies to enable Broadband for Rural Areas in India

iii. Broadband definition and Speed Measurement Methods

iv. Affordable Broadband in India using Backhaul in TV White Space

v. Fiber Handling (Best Practices)

vi. Study of an open source fuzzing tool

vii. Software Defined Network {Network Function Virtualisation (NFV)}

viii. 5G

ix. e-waste Management

1.6 Technical Advice/Inputs to DoT and other Government Departments:

- Inputs given to:
  - DWA, WPC, DoT HQ regarding maximum permissible Base Station RF Power Output per channel for LTE Technology in 900 & 1800 MHz bands.
  - DoT HQ for applicability of import category to SGSN hardware and SGSN spares import by Vendor.
  - BRICKS summit at Ufa Russia.
  - Department of Industrial Policy and Research & Promotion i.r.o. PMO reference regarding implementation of Indian Languages in Mobile handsets/Wireless Devices.
  - DoT HQ regarding monitoring of mobile applications including Whatsapp running in the country.
  - DoT HQ regarding development & testing of Soft SIM bound Telecommunication Services.
  - IR Cell on India-US strategic and commercial dialogue. Inputs given to DoT HQ for 13th ASEAN India Summit in which Hon'ble PM was leading the Indian Delegation. Inputs given to DoT HQ on the possible areas of coordination with Sweden.

- Provided contact points for Indo-Japan Joint Working Group
- Report to work out integrated last mile technological solution for delivery of various services in rural areas under Digital India program submitted
- Draft Framework Document/Technical Approach Paper prepared for an Inter-operable Set Top Box (STB) and forwarded to TRAI with a proposal to organize discussion with stakeholders for comments to decide further course of action
- Note on last mile solution committee report forwarded to DoT

1.7 Technical Presentations:

i. Various presentations on “Software Defined Network”, “5G”, “Broadband Deployment through TV White Space”, “M2M Security Working Group Audio-Conferencing Meeting”, “M2M security working group F2F Meeting” were also organized by TEC.

1.8 Participation in Important Meetings/Seminars/Conference:

Senior Officers of TEC participated and gainfully contributed in meetings on various issues: Technological Updates in Telecom Field held with C-DoT, Information & Communications enabled installations for National Building Code held with BiCS, World Telecommunications Standardization Assembly (WTSA) meeting at Bangkok, World Radio Conference meeting at Geneva. Time to time Interactive Sessions/ Meetings were organized with stakeholders/ vendors/including domestic manufacturers. Demonstration given by C-DoT on “Multi-operator shared GSM-RAN (SG-RAN) system of C-DoT at Hosur, Tamil Nadu” attended by TEC officers. Demonstration given by ECIL on “Secure Calling VOIP, SMS and E-mail” was also attended by TEC officers.

1.9 ITU/NWG Group meetings:

Regular meetings of ITU-T groups were organized in TEC and below mentioned contributions on various topics submitted in ITU:

i. Proposal for new work on “X.samtn” on Security Testing Techniques for Telecom/ ICT Networks submitted and accepted by ITU-T, SG 17 in Geneva

ii. Proposal for new work created on “QoS norms for interconnection between telecom networks” at ITU-T, SG 12 in Geneva

iii. Participated in ITU-R Working Party-5A from July 6, 2015 to July 16, 2015 at Bucharest, Romania

iv. “QoS & QoE”, covering SG-12 activities and NWG-12 achievement/progress by ITU-T, SG 12 in Greece

v. Two contributions on X.gsiiso "Guidelines on security of the individual information service for operators" and Security Testing requirements of SGSN in GPRS Network submitted and accepted by ITU-T, SG 17 in Geneva

vi. Draft recommendation under ITU-T work item "G.PoiCong" with Scope "QoS parameters for interconnection between Telecom Networks that need facilitation of effective interconnections with reasonable handling capacities" sent to ITU-T

1.10 Other Significant Activities:

- New Certification Procedure of TEC released.
- Seminar on M2M Telecommunication was organized and Nine Technical Reports were released in the seminar.
- Hindi fortnight and Hindi workshops were organised.

1.11 Testing & Certification:

Interface Approval	:	45
Type Approval	:	01
Certificate of Approval	:	Nil
Revenue	:	`35,90,800/-

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3.3 Universal Service Obligation Fund

Organizations Structure and Functions & Objectives of USOF

The USO Fund was established with the fundamental objective of providing 'basic' telecom services to people in the rural and remote areas at affordable and reasonable prices. Subsequently the scope was widened to include all telecom services including mobile services, broadband connectivity and creation of infrastructure like OFC in rural and remote areas.

Selection of Universal Service Provider is on the basis of open bidding amongst "eligible operators" i.e. entities having valid license or registration or authorization from Central Government/ Department of Telecommunication for providing telecom services or infrastructure or any other entities as specified by the Central Government from time to time.

1. PROGRESS OF ON-GOING SCHEMES OF USOF

1.1 BharatNet

BharatNet/ National Optical Fibre Network (NOFN) project is planned to connect all Gram Panchayats (approximately 2.5 Lakh) in the country through optical fibre utilizing existing fibers of PSUs viz. BSNL, RailTel and Power Grid and laying incremental fiber wherever necessary to bridge the connectivity gap between Gram Panchayats (GPs) and Blocks, for providing broadband connectivity. The access providers/service providers like mobile operators, Internet Service Providers (ISPs), cable TV operators, content providers can launch various services in rural areas. Various applications for e-health, e-education, e-governance etc. will be provided. The project is being executed by a Special Purpose Vehicle (SPV) namely Bharat Broadband Network Limited (BBNL). BBNL is getting the project executed through 3 CPSUs viz. BSNL, Railtel and Powergrid.

Under this project, up to December 31, 2015, 1,11,645 km of pipes and 82,501 km of optical fibre cables have been laid in the country. Further, number of Gram Panchayats where OFC has been laid is 34,881.

Districts Completed -

- Kerala: All districts.
- Karnataka: Mandya, Hassan, Chamraj Nagar, Bengaluru urban
- Punjab: Chandigarh.
- Puducherry: All districts

Constitution of Expert Committee -

- An expert committee was constituted in Jan 2015 to review the strategy and approach towards speedy implementation of BharatNet/ NOFN. The committee has submitted its report which is under examination in the Ministry and discussions are on-going with State Governments to solicit their active participation and ownership in the project.
- 14 States have confirmed willingness in writing to take up a State led model of BharatNet as per the enhanced architecture. 4 more States (Madhya Pradesh, Maharashtra, Manipur & West Bengal) have indicated consent, but are yet to confirm in writing.

1.2 Scheme for Mobile Communication Services in Left Wing Extremism (LWE) affected Areas

Government, on August 20, 2014, approved a project to provide Mobile Services in 2199 locations in Left Wing Extremism (LWE) affected areas, identified by Ministry of Home Affairs, in the States of Andhra Pradesh, Bihar, Chhattisgarh, Jharkhand, Maharashtra, Madhya Pradesh, Odisha, Telangana, Uttar Pradesh and West Bengal. The scheme is being executed by Bharat Sanchar Nigam Limited (BSNL). 1288 sites are provided the service as on December 31, 2015.

1.3 Comprehensive Telecom Development Plan for the North-Eastern Region

On September 10, 2014, the Union Cabinet approved a proposal to implement a Comprehensive Telecom Development Plan for the North-Eastern Region. The Project envisages providing mobile coverage to 8621 identified uncovered villages, installation of 321 mobile tower sites along National Highways and strengthening of transmission network in the States of Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim and Tripura. The estimated cost of implementation is `5336.18 crore. The Project would be funded by Universal Service Obligation Fund (USOF).

The plan consists of the following schemes -

- Provision of mobile services in uncovered villages in Arunachal Pradesh and Karbi Anglong and Dima Hasao districts of Assam.
- Provision of mobile services in uncovered villages in rest of NER.
- Provision of seamless mobile coverage along the National Highways in NER.
- Augmentation of Transmission media in NER.

BSNL has been nominated to execute the work related to the provision of mobile services in two districts of Assam and in the State of Arunachal Pradesh.

1.4 Optical Fibre Network in North Eastern Region

USOF schemes for Creation of OFC Infrastructure in North-East are being implemented to provide sufficient back-haul capacity to integrate the voice and data traffic from the access network in the rural areas to their core network by strengthening the Optical Fibre Cable (OFC) infrastructure to provide for OFC network augmentation between the blocks' HQ and Districts' HQ in North-East.

In Assam, the scheme is being implemented by BSNL. 308 nodes installed out of targeted 354 nodes. In NE-I (Meghalaya, Tripura, Mizoram) the scheme is being implemented by M/s RailTel. 104 nodes out of targeted 188 nodes connected on OFC. In NE-II (Arunachal Pradesh, Manipur, Nagaland) the scheme is being implemented by M/s RailTel. 36 nodes out of targeted 407 nodes connected on OFC.

1.5 Forthcoming Schemes

Mobile services in uncovered villages

It is estimated that there are about 55,669 villages in the country that do not have mobile coverage.

Providing mobile coverage to the 8621 uncovered villages in the North Eastern Region (NER) has been included as part of Comprehensive Telecom Development Plan for NER.

Preparation of Detailed Project Report (DPR) for provision of mobile services in uncovered villages in Himalayan States (Jammu & Kashmir, Himachal Pradesh and Uttarakhand) and uncovered villages in Border States (Rajasthan, Punjab, Haryana and Gujarat) is underway.

Work for preparation of Detailed Project Reports (DPR) in respect of uncovered villages in Goa, Tamil Nadu, Uttar Pradesh, West Bengal, Daman & Diu, Dadar & Nagar Haveli has been entrusted to M/s Telecom Consultations India Limited (TCIL).

All the villages in Andaman & Nicobar Islands with population of 10 or more and not having mobile coverage are being planned to be provided with mobile services.

Mobile coverage to these uncovered villages will be provided in a phased manner, depending on the availability of financial resources.

1.6 Status of USO Fund

The Fund balance is `41834.10 crore as on December 31, 2015 with resources raised via universal levy to the tune of `70120.03 crore and an amount of `21337.29 crore disbursed as subsidy support, so far.

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3.4 Controller of Communication Accounts Office

There are 26 CCA Offices located across the length and breadth of the country. Even though initially they were established with a view to settle pension and terminal benefits, the Pr.CCA/ CCA circles now play an increased role as a critical professional interface between DoT and its various stakeholders at the ground level on various issues such as license fee and spectrum charges management, USO Fund management, USO activities progress review etc. Within a short span of time, the CCA offices have carved out a niche for themselves by serving the different stakeholders of DoT (telecom service providers and in particular BSNL employees) and bringing them closer to DoT with their professional working.

1. DISBURSEMENT OF TERMINAL BENEFITS

- Pension: With the promulgation of Rule 37(A) of the CCS Pension Rules, the government has a critical role in the payment of pension to the erstwhile government servants absorbed in BSNL. The CCA Unit is responsible for budgeting of pension expenditure and authorization of retirement benefits on CDA and IDA scale. Presently, the CCA offices are disbursing pension to over 2 lakh pensioners. The updated figures are as under:

Financial Year	No. of Pensioners (in lakh)	Pensioners Pension disbursed (` in crore)
2014-15 (as on March 31, 2015)	2.81	6954.76
2015-16 (April to October, 2015)	2.93	5874.49

- Pension Contribution and Leave Salary: The CCA offices carry out the functions of collection, scrutiny and monitoring of the amounts to be received as pension contribution and leave salary by the government.
- GPF & Long Term Loans Accounting: The CCA offices are also responsible for maintenance of GPF, long term loans and advances and their recovery/accounting.
- Audit Functions: The CCA Offices have been exercising post audit on the disbursements made by the designated banks and post offices on account of the pension and allied benefits of the pensioners. The CCA offices carry out the internal audit of field offices comprising of Wireless Monitoring Services, Telecom Enforcement Resource & Monitoring Cells, Regional Telecom Engineering Centers and Regional Licensing offices.

- Functioning as CPIOs Under RTI Act, 2005: Officers in the offices of CCA have been designated as Central Public Information Officers (CPIO) and Departmental Appellate Authorities (DAA) for ensuring smooth provisioning of information under the RTI Act 2005 for all matters being dealt with by CCA offices.

2. ACCOUNTS

Controller of Communication Accounts (CCA) office is the basic unit of departmentalized accounts organization and performs the PAO and DDO functions for field office like TERM, WMO and RLO. Preparation and submission of the accounts has been greatly streamlined by employing information system effectively in the CCA offices. Department of Telecom in 2013-2014 achieved complete integration of submission of accounts through COMPACT software, 'with e-lekha'. E-lekha is an e-governance initiative of CGA office, wherein the accounts are uploaded by all the Ministries online. Following this integration, online accounting information is available up to object head level to the management from the e-lekha site. Manual input of data has been completely done away with in the Principal Accounts Office (DoT Accounts HQ). E-payment process has been introduced in the department as per the instructions of Ministry of Finance by using GePG website and completed in seven offices. In respect rest of CCAs, the process is under progress. Implementation of Single window System for payment of Pension to DoT Pensioners through all Public Sector Banks all over India has been implemented for pensioners. Toll Free telephone number Helpline at Pr. CCA/ CCA offices for benefit of DOT Pensioners has been installed in 21 offices and installation in the rest of the offices is under progress. Comprehensive Drawing and disbursing office package has been implemented in three offices and in rest of the offices, implementation is under process. E-receipt system for accounting of receipts of DoT has been implemented at DoT HQ and roll out to CCA offices is in the process.

3. ASSESSMENT & REVENUE FUNCTIONS

- Collection of License Fee: The Pr. CCAs/ CCAs are responsible for the collection of License Fees and Universal Service Levy from various Telecom Service Providers in respect of all the Type of Telecom Licenses viz. Basic, CMTS, UASL/ UL, ILD, NLD, Captive V-SAT, Commercial V-SAT, CMRTS, PMRTS, ISP IT -'A', 'B' & 'C', ISP without Telephony 'A', 'B', & 'C', IP-I & IP-II etc. along with supporting documents viz. Statement of Revenue and License Fee (Adjusted Gross Revenue statements) and Affidavits etc.

- Assessment of License Fee: The Pr. CCAs/ CCAs are also responsible for the assessment of license fees in respect of standalone/ decentralized licenses viz. ILD, NLD, Captive V-SAT, Commercial V-SAT, CMRTS, PMRTS, ISP IT -'A', 'B' & 'C', ISP without Telephony 'A', 'B', & 'C', IP-I & IP-II etc.
- Verification of Deductions Claimed by Licensees: As per the license agreement, licensees claim deductions while arriving at the AGR for the license fee payment. These deductions, (on account of pass through charges, roaming service charges, sales tax, and service tax) admissible on actual paid basis are verified quarterly by the CCAs. The deductions claimed by the licensees vary from 25% to over 90% of the gross revenue under different categories of licenses.
- Maintenance of Financial and Performance Bank Guarantees: The Pr. CCAs/ CCAs are also responsible for the safe custody of Financial Bank Guarantees in respect of all the licensees and Performance Bank Guarantees in respect of decentralized licenses. CCA offices are also to ensure for proper maintenance of ledgers/ control registers, renewal, revision, invocation etc. of these Bank Guarantees submitted by the licensees.
- Penalties: Penalties relating to CAF, EMR and all other penalties imposed by CCA, TERM Cell, Security and TEC and their collections/ recovery.
- Miscellaneous Revenue: Monitoring of various sources of Revenue and its collections viz. OSP Registration Fee, Testing fee of BASE Transceiver Station (BTS), Survey/ Establishment charges from REPC Division, WMO, RLO etc.
- Representation from the Licensees: The Pr. CCAs/ CCAs are required to give replies to the representation submitted by the licensees with reference to deduction verification reports/ queries, collection of License Fees, submission of other documents required for maintenance of PBG/ FBGs.
- Court Cases: CCA offices also represent the Department of Telecom in legal cases and defending court cases relating to the concerned offices of Pr. CCAs/ CCAs before their respective Hon'ble High Courts/ Tribunal/ Ombudsman. These offices also furnish replies in respect of TDSAT cases containing paras relating to their offices.
- Posting of Data in LF Software: The CCA offices are required to post in LF software the data pertaining to LF collections and GR/ AGR within 2 working days of its receipt and reconciliation of LF collections with CAC figures. They are also required to post in the LF software the Financial Bank Guarantees in respect of all the licensees and Performance Bank Guarantees in respect of decentralized licenses.

- Collection of Spectrum Charges: The work relating to collection of spectrum charges in respect of cellular operators on revenue sharing basis has been delegated to CCA offices since April 01, 2004. The spectrum fee at a prescribed percentage of the revenue is collected in advance in each quarter.

The license fee and the spectrum charges collected from the Telecom Service Providers are a major source of non-tax revenue to the Govt. of India. Amount collected during the last five years on this account is given in the following Table:

(` in crore)

	2011-12	**2012-13**	**2013-14**	**2014-15**	**2015-16 (Upto October, 2015**
License Fee	11790.93	11456.48	14628.47	12358.29 (Including UAL)	6701.93 (Including UAL)
Spectrum Charges	5192.30	5679.19	6883.67	17841.93 (Including Auction fee)	28086.95 (Including Auction fee)
Auction Revenue	-	1722.24	18267.18	-	-

4. SINGLE WINDOW SYSTEM

In accordance with the directions of CGA, Ministry of Finance and Reserve Bank of India, it was decided to disburse pension to Telecom Pensioners through modified single window system through Public Sector Banks. This system enables all public sector banks to disburse pension to all the states and do away with link branches by introducing Central Pension Processing Centres (CPPCs). This facilitates pensioners to settle their grievances, if any, quickly by approaching CPPCs directly. Accordingly, an MOU was signed on September 19, 2012 with 24 Public Sector Banks and with Bank of India on March 6, 2013 for disbursement of pension to Telecom Pensioners and system has been implemented successfully in the department.

5. USO RELATED FUNCTIONS

Implementation of USOF schemes is monitored at the State level by the offices of CCAs being Designated Monitoring Agency of USOF Schemes. The CCAs also disburse USOF subsidy to Service Providers before disbursing the fund. They also carry out physical inspection of USOF sites for establishing the veracity of the claims. They also interact with State Governments to facilitate smooth implementation of the schemes. Amount of USO Fund disbursed during the last two years is given below:-

	Financial Year	(` in crores)
USO Fund Disbursed	2014-15	2086.98
	2015-16 (April to December 2015)	1295.63

They also perform the following functions:

- Processing claims submitted by the USPs
- Disbursement of subsidies and claims
- Field visits - Inspection of VPTs/RCPs/RHDELS/Mobile
- Data base management
- Filing of periodical returns to USO Funds Administrator
- Rural Telecom studies.

6. ADMINISTRATIVE FUNCTIONS

- The CCAs are performing DDO functions for WMO, RLO and TERM Cells, the field offices for DOT. Apart from carrying out other administrative functions as the Heads of the Department (HOD).
- Legal Functions: The CCAs also handle court cases at field level where the Govt. of India is a party in service related matters and matters of license fee, spectrum charges, pension, absorption issues etc.
- Arbitrators are appointed by the Department in accordance with the provisions of Section 7-B of Indian Telegraph Act, 1885 to determine a dispute that arises between the Telegraph Authority and user of the facility. On an average, close to 300 arbitrators are appointed every year by the Department. Recently, the Department has delegated its power to appoint arbitrators under section 7-B of Indian Telegraph Act, 1885, for billing related disputes in respect of BSNL & MTNL, to the Principal Controllers/Controllers of Communications Accounts. This has been done to increase the accessibility for the consumers and to expedite the process of grievance redressal.
- DoT being the owner of huge amount of assets in the form of land & building has embarked on the process of preparing an asset register of land & buildings. CCA offices have carried out verification of the DoT/ BSNL/ MTNL land with the BSNL/ MTNL officers. The Maintenance of the asset register/ transfer of land to BSNL is to be carried out by CCAs. DoT land & building asset register has been prepared in DoT asset website developed by National Informatics Centre. The GIS mapping of the land & building assets has been completed by NIC.

7. WIRELESS FINANCE SECTION

1. Spectrom auction in 2100/ 1800/ 900/ 800 MHz bands commenced on March 4, 2015, as scheduled and as per direction of Hon'ble Supreme Court.

2. There were 8 applicants for 2100MHz, 1800 MHz band, 900MHz band and 800 MHz band auction. There were no withdrawals of applications by any of the applicants. Auction was held for 85MHZ spectrum in 2100 MHz band, 99.2 MHz spectrum in 1800 MHz band, 177.8 MHz in 900 MHz band 108.75 MHz in 800 MHz band.

3. Bids were received in 14 (out of 17) service areas of 2100 MHz band, 14 (out of 15) Service areas in 1800 MHz band, 17 (out of 17) service areas of 900 MHz band and 18 (out of 20) zHHhadfkService areas of 800 MHz band, wherein the auction was held.

3.1 Auction went on for 115 rounds, over 19 days and concluded on March 25, 2015. A total of 82.4% of the spectrum (70 MHz out of 85 MHz) in 2100 MHz band, 94.6% of the spectrum (93.8 MHz out of 99.2 MHz) in 1800 MHz band, 94.5% of the spectrum (168 MHz out of 177.8 MHz) in 900 MHz band and 79.3% of the spectrum (86.25 MHz out of 108.75 MHz) in 800 MHz band has been provisionally won by bidders in the Auction. Overall, 88.8% of the spectrum on offer has been provisionally won by the bidders.

3.2 In 2100 MHz band, Auction closed at a price higher than the Reserve Price in 10 service areas. In 1800 MHz band, Auction closed at a price higher than the Reserve Price in 9 service areas. In 900 MHz band, Auction closed at a price higher than the Reserve Price in 17 service aeras. In 800 MHz band, Auction closed at a price higher than the Reserve Price in 14 service areas. The increase ranges from 1% to 348.78%.

3.3 The total amount obtained is `1,09,874.91 crores (67.8% more than the value of the allocated spectrum at reserve price), out of which amount corresponding to the spectrum in 2100 MHz is `10,115.41 crore (5.15% more than the value of allocated spectrum at reserve price), in 1800 MHz it is `9,636.17 crore (16.2% more than the value of allocated spectrum at reserve price), in 900 MHz it is `72,964.54 crore (92.8% more than the value of allocated spectrum at reserve price) and in 800 MHz it is `17,158.79 crore (76.7% more than the value of allocated spectrum at reserve price).

3.4 Upfront amount of `323,778,483,256 (including upfront amount of `10,791.08 crores received on March 31, 2014) and FBG for `151,333,568,101 has been received on April 9, 2015.

Achievements of WPF Wing:

(` in crore)

Category of Service	SUC collections etc. April, 2015 to December, 2015	Total (Actual collection + anticipated) collection during 2015-16
GSM	5090.57	6787.50
CDMA	162.54	216.72
Other Communication Services (including WPC receipts)	459.38	612.51
One Time Spectrum Charges (OTSC)	-	63.00
i) Auction proceeds from auction held in February/ March, 2015 (2014-15) amount already received in April, 2015 (2015-16)	21587.00	21587.00
ii) Revenue from installments of 2G/3G etc. (auction held in November, 2012 (1800 MHz), March, 2013 (800 MHz), February, 2014 (1800 & 900 MHz) (receipt – auction money `744/- Crore + 1.64 Crore interest)	745.64	1135.64
Total Receipts	**28045.13**	**30402.37**

8. NATIONAL INSTITUTE OF COMMUNICATION FINANCE

National Institute of Communication Finance (NICF) is an apex level Central Training Institute of Ministry of Communications & IT recognized by the DoPT. It is National level training institute for imparting training to the IP&TAFS officers/officials of Ministry of Communications & IT. The Institute is responsible for Training needs Analysis, giving inputs to DoT for policy and Plan formulations, coordination and organization of Training at various levels of Group 'A' and 'B' officers and Group 'C' officials of IP&TAFS and other organized services. The Institute organizes In-service courses, conferences, seminars, workshops, Mid-Career Training, Induction training etc. to various level officers and officials with benchmarking in a scientific way.

Training

Sl.No.	No. of training conducted	No. of participants	Total Mandays
1	26	555	6041

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3.5 Vigilance Activities

1. SCOPE & FUNCTIONS OF VIGILANCE WING

The Vigilance Wing in Department of Telecommunication (DoT) is headed by a full time Chief Vigilance Officer (CVO) of the rank of Joint Secretary. The CVO, assisted by Directors/ Deputy Secretary and other supporting staff, functions as the nodal point in the Vigilance set-up in DoT. Vigilance Wing caters to Vigilance activities including Vigilance/ Disciplinary cases in respect of officers/ officials posted in DoT and its sub-ordinate offices/ DoT officers deputed to other Departments & Public Sector Undertakings (PSUs)/ Board level officers in PSUs under DoT namely Bharat Sanchar Nigam Limited (BSNL), Mahanagar Telephone Nigam Limited (MTNL), ITI Limited, Telecommunications Consultants India Limited (TCIL), Bharat Broadband Network Limited (BBNL) and Autonomous body (Centre for Development of Telematics (C-DOT)) etc.

The Vigilance Wing is, inter-alia responsible for the following;

- Scrutiny of complaints having vigilance angle.
- Investigation/ inquiry of complaints having vigilance angle pertaining to Department of Telecommunications, various field offices of DoT, all PSUs/ autonomous bodies/ attached offices/subordinate offices, under the administrative control of the Department.
- Examination of the self contained notes/ SP's reports received from CBI and necessary follow up of the same.
- Seeking advice from CVC on the cases having vigilance angle.
- To extend assistance/ liaison with CBI/ Lokpal/ Police & other agencies in the investigation of cases.
- Processing of prosecution sanctions pertaining to Vigilance cases.
- Issues concerning suspension and other departmental action of employees concerned in vigilance matters.
- Processing of departmental disciplinary proceedings in vigilance matters, in respect of all employees, including retired employees, having disciplinary authority in DoT.
- Coordination with CVC, UPSC, DoPT, CBI & other agencies on vigilance matters.
- Monitoring the implementation of final orders issued in Vigilance cases.

- Ratification of major penalties in respect of absorbed employees of BSNL.
- Processing and issue of orders in appeal, review and revision petitions relating to vigilance matters.
- Issue of vigilance clearance.
- Preparation and maintenance of Agreed list, Officers of Doubtful Integrity (ODI) list etc and necessary action thereon.
- Conduct of periodic/surprise inspections/ reviews/ audits
- Suggesting systemic/procedural improvements for ensuring transparency and mitigating scope for corruption or malpractices.
- Identification of sensitive areas and monitoring implementation of rotational transfer policy.
- Scrutiny of 'Annual Property Returns' & 'Intimation of acquisition/disposal of property'.
- Coordination for organizing training/ workshop on vigilance matters and observation of 'Vigilance Awareness Week'.
- To review the existing arrangements for Vigilance works in the Department, Public Sector undertakings/ autonomous bodies/attached offices/subordinate offices under administrative control of the Department for vigilance work to see if they are adequate to ensure expeditious and effective disposal of vigilance work.
- Appointment of Chief Vigilance Officers/ Vigilance Officers in the Public Sector undertakings/autonomous bodies/attached offices/subordinate offices under administrative control of the Department

2. VIGILANCE ACTIVITIES

2.1 Complaints and disciplinary actions

Complaints are received by the Vigilance Wing of DoT from various sources like President's Secretariat/ Prime Minister's Office/ CVC/ Members of Parliament/ General Public etc. These complaints are then taken up for investigation to identify the delinquent officers/ officials and fix responsibility along with suggestion for systemic improvements, if any, required. During the period -

- 276 complaints have been handled
- 42 officers have been punished (with major & minor penalty).

- 32 officers have been charge-sheeted.
- 107 cases for imposition of penalty received from BSNL have been ratified
- 26 appeal cases against punishment orders have been disposed off.

2.2 Staff Training

- To have a better understanding of Vigilance matters, 2 days specialized workshop on Vigilance was organized for officers/ officials of DoT Vigilance Wing in coordination with NICF during June, 2015. The speakers from UPSC, CVC, DoP&T and CBI shared their knowledge and experience with the DoT officers.
- As per the advice of CVC to organize a training course on tendering/ procurement process, a two day workshop was organized on procurement process in coordination with NTIPRIT during September, 2015. The workshop was attended by senior officers dealing with procurement and vigilance matters in DoT, its PSUs (BSNL, MTNL, BBNL, ITI and TCIL), autonomous body (CDOT) and sub-ordinate unit (TEC).
- A total of 5 training programs, including the above two programs, were conducted. 128 officers/officials were trained in Vigilance/procurement matters, during the period.

2.3 Vigilance Clearance

This is an important activity of the Vigilance Wing because vigilance clearance is required at the time of promotion, retirement, obtaining passports, visiting abroad, deputation to other Organizations/ Departments etc. During the period, vigilance clearances have been granted to 3306 officers/ officials for various purposes.

2.4 Consultation with statutory/ constitutional bodies

- **Consultation with Central Vigilance Commission (CVC)**

  CVC is the apex vigilance institution having jurisdiction over all Ministries/ Departments/ PSUs etc for vigilance related matters. Action against Government officers/ officials is initiated in consultation with the CVC. The Vigilance Wing of DoT coordinates with the CVC for vigilance related matters. During the period, 40 cases have been referred to CVC for advice.

- **Consultation with the Union Public Service Commission (UPSC)**

  UPSC is required to be consulted in cases where the Disciplinary Authority is President of India including disciplinary proceedings under Rule 9 of CCS (Pension) Rules, 1972. In addition, UPSC is required to be consulted where the appellate Authority is the President of India and also in Review cases where modification in Penalty is proposed. During the period, 47 cases have been referred to UPSC for advice.

2.5 Vigilance Awareness Week

Vigilance Awareness Week was observed in the department from October 26, 2015 – October 31, 2015. The theme for the week was “Preventive Vigilance as a Tool of Good Governance”. The week started with Pledge taking ceremony. A signature campaign against corruption was also held. Various competitions like essay, quiz, debate, poster making and slogan writing were also held to increase anti corruption awareness among staff.

2.6 Preventive Vigilance

- Following activities are being coordinated and monitored on ‘Review of mechanism to ensure probity amongst Government Servants’:

  i. Review exercise under FR-56(j) by respective Cadre Controlling Authorities in the Department and the PSUs under the Department.

  ii. Rotation of officers holding sensitive posts.

iii. Timely disposal of prosecution sanctions as well as disciplinary cases within the stipulated time frame.

iv. Discontinuation of interview for junior level posts at Group-'C', 'D' & non-Gazetted Group 'B' in the Department and the PSUs under the Department.

- 'Agreed List' of officers has been prepared in consultation with CBI in the beginning of the year.
- A list of officers of Doubtful Integrity (ODI) has been prepared in the beginning of the year.
- Regular meetings are conducted with CVOs of PSUs/Sub-ordinate office/ Autonomous body under DoT in order to ensure early disposal of pending complaints and Vigilance matters.
- The Central Vigilance Commission (CVC) has emphasized the necessity to adopt Integrity Pact (IP) in Government organizations in their major procurement activities. The Commission has also directed that in order to oversee the compliance of obligations under the Pact, Independent External Monitors (IEMs) should be appointed with the approval of the Commission. Appointment of IEM is required in all cases of procurements beyond the threshold limit of `25 lakhs.

An IEM has been appointed in Department of Telecommunications.

2.7 Miscellaneous Activities

Court Cases: Court cases against the department generally arise out of disciplinary matters and such matters are handled by Vigilance wing in various courts/ tribunals all over the country. 201 number of court cases pertaining to Disciplinary matters are presently handled by Vigilance Wing.

RTI Applications: Timely supply of information to citizens is very important and this aspect is given due importance in Vigilance Wing. During the period, 125 RTI applications have been handled in by CPIO's and 25 appeal cases have been handled by First Appellate Authority in Vigilance Wing.

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3.6 Telecom Enforcement Resource and Monitoring

1. GENESIS OF CREATION OF TERM CELLS

With the liberalization of telecom sector resulting in increase in the number of telecom operators, increase in FDI, growth of internet services, advancement of technologies and increase in subscriber base in the country, the Government felt the need for presence of a Telegraph Authority in all the license service areas and large telecom districts of the country, in order to ensure that service providers adhere to the license conditions and also to ensure coordination in telecom network security issues. To address these issues, the Government during the period 2004 to 2007 had created 34 Vigilance and Telecom Monitoring (VTM) Cells.

Since the formation of the Vigilance & Telecom Monitoring (VTM) Cells in the DOT, the role and functions of VTM Cells have increased manifold. With a view to reflect the entire gamut of functions assigned to the Cells and to distinguish their role vis-a-vis staff-vigilance activities, the name of VTM Cells has been changed to Telecom Enforcement, Resource and Monitoring (TERM) Cells (22 LSA TERM Cells + 12 Non-LSA TERM Cells) w.e.f August 5, 2008.

2. FUNCTIONS ASSIGNED TO TERM CELLS

2.1 Monitoring of compliance to prescribed norms regarding acquisition of subscribers:

In the year 2007 it was decided to have a continuous monitoring of compliance to prescribed norms regarding acquisition of subscribers for security related concerns. For this it was decided to verify the Customer Acquisition Forms (CAFs) of all the active subscribers on sample basis every month. In the year 2008 the sample size was revised from 0.02% to 0.1% based on the recommendation of National Sample Survey Organization (NSSO). Penalties are also being imposed on Telecom Service Providers (TSPs) for non-compliance to the norms. Apart from above, TERM Cells are also carrying out following activities and penalties are being imposed for non-compliance:

- Analyses of subscriber databases submitted by TSPs
- Inspections of warehouses and Point of Sale (PoS) of the TSPs for having samples directly from the storage
- Investigation of complaint related to subscriber verification reported by various sources including Law Enforcement Agencies (LEAs)
- Analysis and verification of bulk customer verification (10 or more than 10 connections to an entity)
- Police verification of franchisee of TSPs in sensitive states (Assam, North East and J&K).

TERM Cells have audited approximately 7.15 Crore CAFs till December 31, 2015 across all TSPs and on non-compliant CAFs a penalty of approximately `2470 Crore has been imposed.

2.2 Checking of compliance to Electro Magnetic Field (EMF) radiation norms: With the increasing concerns over harmful effects of Electromagnetic Radiation on human health, in the year 2010, TERM Cells were entrusted with the work of cross checking the compliance of EMF radiation norms as prescribed by DoT from time to time. TERM Cells verify the prescribed EMF self-certificates submitted by TSPs and also check the EMF radiation exposure levels of up to 10% of Base Transreceiver Station (BTS) annually on random basis. In case of non-compliance of EMF radiation norms by TSPs, penalty on the concerned TSP(s) is levied by TERM Cells.

TERM Cells have tested approximately 2.57 lakhs BTS till December 31, 2015 across all TSPs and on non-compliance of EMF radiation norms a penalty of approximately `226.18 Crore (approximately) has been imposed.

2.3 Service Testing for checking Roll-out obligations: As per the license agreement all the Access Service Licensees are required to roll out their services within prescribed time periods. For this they have to offer their services in the districts selected by them for crosschecking the quality/ coverage and other parameters by DoT which is termed as Service Testing. In the year 2007 TERM Cells were entrusted with the responsibility to carry out the service testing of the cases offered by TSPs and issue Service Test Result Certificates (STRCs) against the cases tested by them. Liquidated Damage (LD) Charges is imposed on the TSPs who are not complying to Roll-out obligation conditions.

TERM Cells have carried out service testing for checking Roll-out obligations of approximately 4914 towns covering approximately 35103 BTSs till December 31, 2015 across all TSPs and `156.4 Crore (approximately) have been collected as testing fee.

2.4 Curbing of illegal set ups causing financial loss to the exchequer: TERM Cells also carry out investigation to curb the illegal operations (not permitted under Indian Telegraph Act) in coordination with LEAs. TERM Cells broadly have following sources/ methods to find out the clandestine activity/ grey market operations:

Through complaint/ information received by any means

Through Observation of unusual traffic in operators networks

Through social contacts

Through already investigated/ under investigation cases

Through Security/ Law enforcement Agencies

TERM Cells have unearthed around 584 cases of illegal setups till November 30, 2015.

2.5 Inspections of TSPs/ Subscribers: TERM Cells are carrying out inspections of UASL/ CMTS/ Basic/ UL/ NLD/ ILD/ ISPs/ OSPs/ IP-1s/ VSAT etc. licensees, for checking compliance to terms and conditions of their license/ registrations. TERM Cells also carry out the inspections of Bulk customers, Heavy users, ILL/ IPLC/ NPLC customers, V-SAT customers.

Till December 31, 2015 more than 18,953 such inspections have been carried out by TERM Cells and the discrepancies have been rectified in coordination with TSPs. For the period April - December 2015, 1555 no. of inspections have been carried out by TERM cells.

2.6 Handling of Public Grievance (PG) cases: TERM Cells are representing licensor in the field and complaints received through PG portal or from other sources are being analyzed and resolved by TERM Cells

Till November 30, 2015 approximately 13,370 PG cases were received through CPGRAMS and approximately 13,246 cases were disposed off.

2.7 Registration of Other Service Providers (OSPs): TERM Cells have been entrusted to register Other Service Providers in LSAs like BPO, KPO, Network Operation Centre, Vehicle Tracking System, e-Commerce, Tele-medicine, Tele-education etc.

Till December 31, 2015 more than 8,697 number of OSPs have been registered by TERM Cells. For the period April - December 2015, 760 OSP's registrations have been issued by TERM cells.

2.8 Other major works carried out by TERM Cells:

- Coordination among various network operators, telecom service providers in the field and monitoring of network parameters
- Checking of the compliance by the licensee of any directions issued by the licensor in public interest.
- Verification of Visitor Location Register (VLR) count for allotment of new MSC codes to the TSPs.
- Checking of the compliance by the companies in respect of No Objection Certificate (NOC) issued by the DOT for selling of the global calling cards, international SIM Cards etc.
- To monitor inter operator connectivity to ensure optimum Call Completion Ratio (CCR) for inter operator calls. Analysis of call details records/ exchange records/ subscription/traffic data of various licensees.
- Matters related to national security/ Coordination with LEAs and assisting various security agencies/LEAs in providing the information related to the customers, CDRs, exchange records etc.

- Technical arrangement for the lawful interception/monitoring of all communications passing through the licensee' network as and when offered by the licensee.
- Disaster Management: Co-ordination with Telecom Service Providers and State Agencies and monitoring of quick restoration of affected telecom services in disaster situations. Taking over of network in the events of natural calamities or the other emergency situations.
- Ascertaining that the licensee is providing the services within permitted area.
- Electromagnetic compatibility compliance enforcement of Telecom and Railway Operators across the country by RE Unit of TERM Cell Delhi.
- Issues related to Mobile Number Portability.

2.9 The new developments/ initiatives taken by this wing are as below:

- **e-KYC process :** For further simplication of the process of acquisition of new mobile connection, it has been proposed to activate the mobile connections using Aadhar based e-KYC as an alternate procedure to the existing ones. The testing of the proposal has been completed in the selected cities and is under consideration for its launch.
- **EMF portal** : The development of EMF portal is under process which will provide a public interface for viewing the EMF compliance status of mobile towers, anywhere in India. The portal is meant to generate confidence among the public about effectiveness of the EMF compliance process in India. The portal will also provide a common database based framework for TERM Cells, Operators, and Infrastructure Providers to manage RF technical parameter for handling EMF compliance work flows.

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3.7 Empowerment of Women

In accordance with the strategic approach of the Government to achieve the goals of gender mainstreaming and gender justice laid down in the National Policy for Empowerment of Women, certain steps have been taken by the Department of Telecommunications and the Public Sector Enterprises under its administrative control.

The Department of Telecommunications is effectively implementing the guidelines/instructions of the Supreme Court on prevention of sexual harassment of women at work place in all its units. In pursuance of the orders of the apex court, it has setup a committee on the sexual harassment of women, headed by a lady officer.

The steps taken for empowerment of women by various functional wings of the Department are given below:

1. UNIVERSAL SERVICE OBLIGATION FUND (USOF): SANCHAR SHAKTI SCHEME

The Sanchar Shakti is a rural development initiative of the USOF (Universal Service Obligation Fund) wing of the Department of Telecommunications (DoT).

Thus in line with the Department of Telecommunication's GRB commitments, it was decided to launch pilot projects under the aegis of Sanchar Shakti scheme, on March 7, 2011, on eve of Women's Day. It was aimed at facilitating Rural women's access to ICT-enabled services for their education, training, employment opportunities, health and safety needs.

1.1 Major goals and objectives

The Sanchar Shakti pilot scheme for Mobile Value Added Services (VAS) provisioning envisages development of content/ information customized to the requirements of women SHG members engaged in diverse activities in rural areas across India. The scheme entails innovative application of technology in designing & delivering the VAS content so as to ensure its easier accessibility and effective assimilation among the targeted women beneficiaries.

1.2 Main activities

- Provision of VAS to the mobiles of the targeted beneficiaries with a pre-set frequency of messages (either SMS or IVRS) and as per the pre-decided schedule of content, specific to each pilot project under Sanchar Shakti, over a period of 12 months (4 quarters).
- Development of relevant VAS content by the Service Provider and for which it shall undertake a Customer Profiling Exercise with the help of their

NGO-partner. This exercise is structured by Service Provider in such a manner that aspects such as needs, prefrences etc related to information, mobile phone, mode of content reception etc. are well addressed.

- The Service Provider ensures the training and handholding of the SHG members to effectively utilize the mobile VAS.
- The Service Provider operates a Toll-Free Helpline for the targeted SHG members for complaint registration and other assistance/ clarifications.

The subsidy is disbursed to the Service Provider through the field offices of USOF, i.e., Controller of Communication Accounts, over a max period of 12 months for VAS dissemination as per the terms & conditions of the agreement entered between USOF and the Service Provider for each pilot project.

1.3 Intended key results

- A demand would be created for information/ VAS/ ICT services in rural areas through the flow of the tailor-made information to the SHG women in rural areas on their mobile handsets, under the Sanchar Shakti.
- Digital inclusion would enhance women's feelings of self-worth and self-respect.
- Direct flow of information would reduce the exploitation and harassment due to information asymmetry in rural areas in respect of their due entitlements from the government and equip them to demand greater accountability from the local government machinery.
- Access to the information for a correct and informed decision making in their personal, economic, social and political spheres.

1.4 Partners in the Sanchar Shakti

The framework of this scheme is a Public-Private-People partnership model.

- USOF (PUBLIC) subsidizes the VAS content development, training/ handholding and VAS/ information dissemination by the Service Provider (PRIVATE). The NGO-partner (PEOPLE) of the Service Provider is involved in selection of beneficiries as well as, educating and spreading the awareness among them.
- Presently, M/s BhartiHexacom Ltd. in Rajasthan and M/s Reuters Market Light Information Services Pvt. Ltd. are the Service Providers under Sanchar Shakti.
- The targeted beneficiaries (women of rural areas) are actively involved by the Service Provider to customise and localise their VAS content.

1.5 Key successes of the Sanchar Shakti

- Beneficiaries - Rural women SHG members

Operational area of pilot project under Sanchar Shakti	Uttarakhand	Pune (Maharashtra)	Ajmer (Rajasthan)	Srikakulam East Godavari & Vishakhapatnam (Andhra Pradesh)
Beneficiaries	2200	2200	2860	3066

The USOF subsidy disbursed for the Sanchar Shakti activity as on December 31, 2015 is `0.20 Crore during the F.Y. 2015-16.

- Since the launch of Sanchar Shakti, the three pilot projects in Uttarakhand, Pune district (Maharashtra) and the 3 districts (Srikakulam, East Godavari, and Vishakhapatnam) of Andhra Pradesh for 12 months under Sanchar Shakti scheme have been concluded successfully.
- The VAS provisioning to women beneficiaries in Ajmer is yet to be commenced.

Thus the Sanchar Shakti scheme is still evolving and its success, in various parts of India, is being gauged and evaluated by USOF Headquarter with the aid of the offices of Controller of Communication Accounts, before scaling into a full-fledged scheme of USOF can be deliberated upon.

2. MAHANAGAR TELEPHONE NIGAM LIMITED (MTNL)

Mahanagar Telephone Nigam Limited has always endeavoured towards women participation in the organization and the nation building. This can be accessed from the manpower figures; viz. as on December 31, 2015, 23.06% of total manpower are women employees.

In addition, MTNL has also taken several steps towards furthering empowerment of woman employees. A few of those are enumerated below:

Special care has been taken in case of female employee working in night shift and they are provided with rest rooms/ Dormitory. Night Shift Allowance is also paid to them. Night shifts are organized in such a way that the woman employees do not have to travel at late nights.

For women working in the same positions as men, same remuneration is paid and there is no discrimination whatsoever in payment of compensation on the basis of Caste, Gender, Religion etc.

In order to redress the grievance relating to sexual harassment at work place Sexual Harassment Complaint Committee has been constituted at Unit level as well as in Corporate Office.

The service conditions are uniform and there is no gender bias.

Maternity/ Paternity leave is also available to employees.

Child Care Leave is provided for a maximum period of two years (i.e. 730 days) with pay up to 3 months and without pay up to 2 years inclusive of 3 months with pay.

Crèche facility has also been provided for women employees with infants.

Special grant is being sanctioned on annual basis for MTNL Woman Welfare Organisation, which in turn provides vocational training to kith and kin of working as well as retired/ deceased employees.

3. BHARAT SANCHAR NIGAM LIMITED (BSNL)

In BSNL, schemes for the benefit of women, inter-alia, include

- Maternity leave of 180 days are given to all women employees.
- Child Care Leave as per the provisions of DOP&T OM No. 13018/2/2008-Estt.(L) dated September 11, 2008 is available to women employees.
- Special allowance for Child Care for Women employees with disabilities @ `1,000 per month per child maximum for two children till the child attains two years.

4. TELECOMMUNICATIONS CONSULTANTS INDIA LIMITED (TCIL)

- TCIL is providing a friendly, workplace for its employees without any discrimination.
- The safety & security measures are strictly enforced ensuring equal opportunities to all employees.
- TCIL also has a Sexual Harassment Committee consisting of women employees (including two from TCIL and one outside member) for addressing the grievances of women employees regarding harassment and for welfare & security of women employees.
- Women employees are also occupying some of the higher/middle management posts and many women are being involved in the decision making process.
- TCIL's women employees have also attended workshops and seminars organized by external organizations.
- Various Women camps including health and awareness about diet were organized in TCIL during the Women's week in 2015.

5. ITI LIMITED

The major facilites being provided to women employees are as follows:

- It is a matter of pride to the Company that many of its women employees have been selected for the Shram Devi Award in the past.
- Separate lunch room in canteen, rest rooms and crèches have also been provided in the Units.
- The Company has comprehensive health care scheme providing medical treatment/ reimbursement to the employees and their families. Hospitals have set up in Bangalore, Naini, Mankapur, and Raebareli Plants which emphasize women and child welfare.
- In the light of Supreme Court Judgment on sexual harassment in the work place, the standing orders applicable to women employees have been amended to incorporate the clause on sexual harassment during the year 2004-2005, CDA rules were amended accordingly.
- Complaints Committee formed in each Unit to inquire into complaints of sexual harassment made by any women employees in the Company and also uploaded in Company Website.
- Care is taken to ensure that women employees are nominated for training programmes, which are need based.

6. CENTRE FOR DEVELOPMENT OF TELEMATICS (C-DOT)

C-DOT's Management has always been sensitive to gender issues and has consistently worked towards creating organizational culture reflecting gender equality. Presently, about 31.5% of staff in C-DOT are women.

Existing Policies:

- All female staff members are allowed to avail up to 180 days maternity leave & up to 90 days leaves subsequent to that (270 days inclusive of 180 days maternity leave). For miscarriage/abortion, leave of a total of 45 days in the entire service span is permissible.
- C-DOT offers accommodation and transport benefits to all its women employees with different options that maybe availed as per individual needs. This ensures the safety and security of all women employees in the company.

- In management cadres (Team Leaders, Group Leaders, Technical Experts and Sr. Technical Experts) about 17% are women.
- As per the directives of Supreme court, C-DOT has a Complaint Committee for its Centres, at Delhi and Bangalore in case of any complaints relating to Sexual Harassment of women staff at work place for fair and justified view of the complaints, if any, and recommend suitable action on the same to the C-DOT Board,

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3.8 Welfare of Differently Abled Persons

Department of Telecommunications provides reservation to the differently abled in appointments for effective implementation of the Persons with Disabilities Act, 1995.

1. CENTRE FOR DEVELOPMENT OF TELEMATICS (C-DOT)

C-DOT has a mechanism in place to look after the welfare of persons belonging to these categories and address any problems/ complaints that may come up.

1.1 Benefits for persons with disabilities

- C-DOT follows guidelines issued by Government of India with respect to reservations in jobs for persons with disabilities.
- The differently-abled employees are eligible for double the rates of transport allowance.
- The C-DOT Campus at Delhi has been constructed in such a manner so as to ensure barrier free environment for the differently-abled persons. The main entrance/exit can be approached through a ramp together with stepped entry. Even elevators connecting the various working areas have been installed in such a manner as to facilitate persons with disabilities to move around freely from one wing to another.

2. BHARAT SANCHAR NIGAM LIMITED (BSNL)

In respect of schemes for the benefit of differently-abled persons, the following schemes are in existance in BSNL:

- Double the rates of Transport Allowance are admissible to differently-abled employees.
- Rate of transport allowance to blind or orthopedically differently-abled employees shall is no case be less than `1000/-.
- As far as possible, subject to administrative constraints, differently-abled persons are posted near their respective native places within the region.

3. MAHANAGAR TELEPHONE NIGAM LIMITED (MTNL)

Mahanagar Telephone Nigam Limited has always endeavored towards upliftment of social status of differently-abled People by innovating and executing action plans falling under its realm. There are the several steps taken by MTNL in fulfilling its social responsibility and few other innovative schemes are being devised for providing a status of respect to the differently-abled people in the society.

The provisions of reservation for such candidates, as per Government of India Rules have been made in recruitment of officers in various streams. Further, to avoid delay in allotment of PCOs to the people in this category, mobile Booths based on CDMA/ GSM technology are being provided.

As on December 31, 2015, 0.46% of the total manpower are differently-abled employees.

4. ITI LIMITED

The facilities being provided to persons with disabilities are detailed below:

- PWD employees who are residing in the township are given special allowance at the rate of 5% of Basic pay subject to maximum of `75/- per month
- Those employees who are not residing in Company's township but are utilizing Company's Transport for commuting between residence to factory are given special allowance at the rate of 5% of Basic Pay subject to maximum of `100/- per month.
- PWD employees are permitted 10 minutes grace time to Punch In and Out for marking their attendance at the commencement and closure of shift respectively.
- PWD employees are allotted quarters out of turn basis
- As per the government directive ITI has been maintaining 3% reservation for PWD in recruitment and the reservation in promotion has also been maintained wherever applicable.
- For PWD candidates, the Company has been relaxing 10 years in age in recruitment for Group C and D posts and 5 years in case of Group A & B posts.

5. TELECOMMUNICATIONS CONSULTANTS INDIA LIMITED (TCIL)

- Forwarding cases/representations of disabled persons if any, and they are considered favorably subject to administrative Constraints.
- Employees from the differently-abled category of people are given double the conveyance allowance.
- No discrimination is done with differently-abled employees and they are treated equally in line with other employees.
- No differently-abled employee is posted in remote sites where harsh conditions/ hardships prevail. Whenever possible, they are mostly put in non technical jobs.
- A liberal view is taken while forwarding application of differently-abled candidates for any posting/ benefit outside the organisation.
- There is no discrimination against the differently-abled employees in TCIL.

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3.9 Citizen Charter & Grievance Redressal Mechanism

The Citizen's/ Clients Charter is a written declaration by a Government Department that highlights the standards of service delivery that it subscribes to, availability of choice for consumers, avenues for grievance redressal and other related information. In other words, it is a set of commitments made by a department regarding the standards of service which it delivers.

Though not enforceable in a court of law, the Citizen's/ Client's Charter is intended to empower citizens and clients so that they can demand committed standards of service and avail remedies in case of non-compliance by service provider organizations. The basic thrust of the Citizen's/ Clients Charter is to render citizen-centric public services by making them demand driven rather than supply driven.

Central Ministries/ Departments are expected to design a Client's Charter instead of a Citizen's Charter in case they are not dealing with the public directly.

DOT has formulated its Citizen's/ Client's Charter listing main services being delivered by DoT. All these services have been documented with associated process details which includes details of documents required, applicable fees, if any, along with its mode of payment for availing each of the services. The Charter specifies the standards of services delivery, the contact details of the centers responsible for delivery of these services, performance evaluation criteria in respect of delivered services, etc. The Charter also contains the details about clients, expectations and the details of Grievance Redressal Mechanism in accordance with the guidelines of Department of Administrative Reforms and Public Grievances (DARPG) on the subject matter.

The Citizen's/ Client's Charter of Department of Telecom, has been placed in public domain of DoT's website www.dot.gov.in. A summarized version thereof is as below:-

Sl. No.	DOT Unit	Service	Service Indicator	Service Standards
1.	DDG (Data Service)	Issue of Internet License	Time taken after the submission of complete application for the issue of Letter of intent (LOI)	60 days
			Time taken after the compliance of LOI conditions and necessary clearances.	30 days

Sl. No.	DOT Unit	Service	Service Indicator	Service Standards
2.		Security clearance for foreign nationals under Internet License	Time taken to issue Security clearance for foreign Nationals after reciept of clearance from Security agencies.	30 days
3.		Merger/demergers and amalgamation/ change of name/ change of registered office address of the licensee company holding Internet License	Time taken after receiving of complete application from the Licensee.	60 days
4.		Request for surrender of the Internet license	Time taken after receiving of necessary clearance to issue of cancellation of license.	60 days
5.		Issuing of direction to Internet service providers for blocking of website/URL/IP address	Time taken after receiving the direction for blocking of website/ URL/IP address to issue of letter for blocking to Internet service providers	07 days
6.		Issue of CUG VSAT Mobile Satellite Service-Reporting (MSS-R) License	Time taken after the submission of complete application to the issue of letter of internet (LOI).	60 days
			Time taken after compliance of LOI condition and necessary clearance.	30 days
7.		Issuance of Permission for Private Captive CUG networks on OFC or Wireless	Time taken after the submission of complete application to the issue of letter of internet (LOI).	60 days

Sl. No.	DOT Unit	Service	Service Indicator	Service Standards
8.		Issue of In-principle Clearance to Licensees for addition of new satellite services/ network	Time taken to issue In-principle Clearance to Licensees for addition of new satellite services/ network.	30 days
9.		Issuance of Permission for Private Captive CUG networks on OFC or Wireless	Time taken after compliance of LOI conditions for issue of permission to the applicant	30 days
10.	DDG (Investment Policy)	Processing of Foreign Direct Investment (FDI) application	Time taken for scruitinizing the application and pointing out discrepancy/Shortcomings,if any, or seeking additional information required , if any.	15 days
			Time taken to consult other Division of DoT to seek comments/views on FIPB application, if any	21 days
			After receipt of complete application in IP Unit in DoT,time taken to process the application referred by FIPB(DEA) and sending	30 days
11.		Processing of application from exporters for input-output norms submitted to DGFT	Time taken for scrutinizing the application and pointing out discrepancy/Shortcomings,if any, or seeking additional information required, if any.	15 days

Sl. No.	DOT Unit	Service	Service Indicator	Service Standards
12.		Processing of application from exporters for input-output norms submitted to DGFT	After receipt of complete application in IP unit in DoT, time taken to process the application referred by DGFT and sending comments to DGFT.	30 days
13.	DDG (Public Grievances)	Grievance Redressal/ Facilitation of Grievance Redressal Process.	Time taken to acknowledge and forward a grievance to the concerned units/subordinate organizations.	03 days
14.	DDG (Public Grievances)	Grievance Redressal/ Facilitation of Grievance Redressal Process.	Interim/Final response to complainant within 60 days of registration/receipt of grievance in PG cell.	90%
15.	DDG (Estt.)	Retirement benefits/ revision of pension cases in respect of Government/BSNL retiring employees/ Pensioners.	Time taken for Checking of recieved documents and pointing out deficiencies, if any	15 days
			Time taken for Checking of Employees Service records and pointing out deficiencies, if any in respect of cases recieved	20 days
			Time taken for issue of request to concerned administrative units for furnishing the requisite information /documents and to followup for the same.	10 days
			Time taken for preparing the pension calculation sheet after receipt of all the required documents completed in all respect and forwarding to PFP for further action.	25 days

Sl. No.	DOT Unit	Service	Service Indicator	Service Standards
			Time taken to forward the case of BSNL Corporate office to PFP for further action.	7 days
16.		Redressal of grievances in respect of DOT/ BSNL pensioner's/ Family pensioner's	Time taken for forwarding of the grievance application to tbe concerned Subordinate Offices from the date of receipt of the grievance.	5 days
17.		Issuance of Pensioner's Identity card, service certificate, Qualifying service certificate, Circulation of IDA orders for BSNL pensioner's. Dissemination of information relating to pension matters through website etc.	Time taken for preparation of pensioner's Identity cards from the date of receipt of the application form completed in all respects	20 days
18.		Redressal of grievances in respect of DOT/ BSNL pensioner's/ Family pensioner's	Time taken for sorting out of such grievances relates to this Section from the date of receipt of the grievances.	30 days
19.		Issuance of Pensioner's Identity card, service certificate, Qualifying service certificate, Circulation of IDA	Time taken for preparation of service certificate for availing of Telephone concessional facility provided to DOT pensioners	15 days

Sl. No.	DOT Unit	Service	Service Indicator	Service Standards
		orders for BSNL pensioner's. Dissemination of information relating to pension matters through website etc.	Time taken to circulate the orders relating to industrial Dearness Relief from DPE	03 days
			Time taken for uploading the pension related order to the website from the date of issue of the orders	03 days
20.	DDG (BPF)	Appointment of Arbitrator under section 7 B of Indian Telegraph Act 1885 in respect of billing disputes	Time taken from the date of receipt of the fully completed proposal in all respects	14 days
21.	DDG (Carrier Service)	Issue of authorisation for National Long Distance (NLD) / International long Distance (ILD) Service under the Unified Licensing regime.	Time taken for Scrutiny of application form and documents by Licensing Cell. Intimation to applicant of deficiencies/ discrepancies, if any	20 days
			Time taken for Scrutiny of application by Finance Wing of DoT. Intimation to applicant of deficiencies/discrepancies, if any	20 days
			Time taken for Processing and approval of competent authority for issue of letter of Intent (LOI) after fulfillment of all eligibility conditions/submission of requisite documents /clarifications.	20 days
			Time taken for Issue of LOI to the applicant company by CS Cell	05 days

Sl. No.	DOT Unit	Service	Service Indicator	Service Standards
			after approval of the case. Request for No dues certificate from LF/WPC/WPF Cells of DoT	
			Time taken for Receipt for No dues certificate from LF/WPC/ WPF Cells of DoT.	45 days
			Time taken for Signing of the license agreement for NLD/ILD services with applicant company after compliance of LOI conditions and necessary clearances.	10 days
22.		Request for issue of NOC/Renewal ofNOC for Sale/ Rent of International Roaming SIM Cards and Global Calling Cards.	Time taken for Scrutiny and intimation to applicant of deficiencies/discrepancies, ifany.	15 days
			Time taken for Processing and approval of competent authority for issue of NOC/renewal of NOC subject to fulfillment ofall eligibility conditions /submission of requisite documents/ clarifications.	20 days
23.	Wireless Advisor	Granting of Wireless Licenses (above 806 MHz)	Time taken to issue Letter ofIntent (LOI) (After receipt Of inter-ministerial clearances, if applicable)	30 days
			Time taken to issue Agreement in Principle(AIP)/DecisionLetter (DL).	30 days
			Time taken to issue Wireless Operating License (WOL) against AIP/DL letter	30 days

Sl. No.	DOT Unit	Service	Service Indicator	Service Standards
			Time taken to renew certificate of (Wireless Operating Licenses) WOL.	15 days
24.		Granting of Wireless Operating Licenses (below 806 MHz)	Time taken to issue letter ofintent (LOI).(After receipt of interministerial clearances, ifapplicable)	30 days
			Time taken to issue AIP/DL letter	30 days
			Time taken to issue Wireless Operating License against AIP	30 days
			Time taken to renew the WOL.	15 days
25.		Granting of Wireless Operating Licenses (GSM/3G/PMRTS)	Time taken to Issue LOI	30 days
			Time taken for assignment of frequencies/ AIP	30 days
			Time taken to issue wireless Operating Licenses against assignment of frequencies/ AIP	30 days
			Time taken to issue renewal certificate of WOL	15 days
26.		Granting of Wireless operating Licenses (BWA/CDMA/ISP)	Time taken to issue LOI conveying spectrum	30 days
			Time taken for assignment of frequencies/Agreement-in-Principle (AIP).	30 days

Sl. No.	DOT Unit	Service	Service Indicator	Service Standards
			Time taken to issue of Deployment plan and issue of Wireless Operating Licenses (WOL) against assignment of frequencies/AIP.	30 days
			Time taken to issue a renewal certificate of WOL.	15 days
27.		Grant of Wireless Operating Licensesfor Satellite services	Time Taken to issue LOI.	30 days
			Time taken to issue AIP letter.	30 days
			Time taken to issue Wireless Operating License (WOL) against the AIP.	30 days
			Time taken to renew the WOL.	15 days
			Time taken for Endorsementof TV	30 days
28.		Issue of Amateur Station Operator's Certificate (ASOC) licenses/Certificate of Proficiency (COP) licenses	Time taken for issue of ASOC licenses after receipt of the documents completed in all respects	45 days
			Time taken for issue of Radio Telephony Restricted (Permit) renewal Certificate after receipt of the documents completed in all respects	30 days
			Time taken for issue of Radio Telephony Restricted Conversion) renewal Certificate after receipt of the documents completed in all respects	30 days

Sl. No.	DOT Unit	Service	Service Indicator	Service Standards
			Time taken Issue of renewal Certificate of Global Maritime Distress and Safety System (General Operator Certificate) GMDSS(GOC) after receipt of the documents completed in all respects	30 days
			Time taken for Issue of renewal of Radio Telephony Restricted (Aeronautical)-RTR (A) license after receipt of the documents completed in all respects.	30 days
			Time taken for Issue of renewal of Old Maritime Licences i.e COP Second Class (SND), Radio operator General Certificate (ROGC), Radio Telephony Genera(RTG), Radio Telephony Restricted (Maritime) RTR(M), Radio Telephony Inland Maritime (RTIM), COP First Class (FST), COP Special (SPL)	30 days
			Time taken for issue of renewal of ASOC licenses after receipt of the documents completed in all respects	45 days
			Time taken for issue of Radio Telephony Restricted (Permit) after receipt of the documents completed in all respects	30 days

Sl. No.	DOT Unit	Service	Service Indicator	Service Standards
			Time taken for issue of Radio Telephony Restricted (Conversion) after receipt of the documents completed in all respects	30 days
			Timeframe to obtain the administrative approval from competent authority and issue of sanction Memo after receipt of financial concurrence	15 days
			Timeframe to get the plan approved from the date when complete Business Plan is received.	90 days
29.		Issue of Standing Advisory Committee on Frequency Allocation (SACFA) Clearance Certificate	Issue of SACFA Clearance (Full site/Mast Height-Sites other than 7/40 category)	30 days
			Issue of SACFA Clearance (Full site/Mast Height-7/40 category sites i.e. sites/antennae located at least 7 k.m. from nearest Airport Reference Point(ARP) and an effective tower/ mast height not more than 40 meters w.r.t. ARP site elevation))	60 days
			Issue of sitting clearance for sites under “Exemption category”	30 days
			Issue of Additional Antenna Clearances	30 days
30.	DDG (Security)	Promotion of research and development in	Time to get the Annual Report in Parliament from the date when the	45 days

Sl. No.	DOT Unit	Service	Service Indicator	Service Standards
		telecommunications through C-DOT	audited Annual Report alongwith performance review report is received from C-DOT	
			Timeframe to get the MoU Signed from the date when draft MoU is received.	60 days
			Timeframe to get the review of performance approved from the date when physical and financial achievement statement is received from C-DOT.	45 days
			Timeframe to put up the CDOT request for release of Grants for financial scrutiny on receipt from CDOT	15 days
31.	DDG (AS)	Administration of National Numbering Plan	Time taken after receipt of application and allocation of code	30 days
32.		Security clearance for Lawful interception monitoring capabilities	Time taken after receipt of application and issuance of letter for fixing demonstration date.	15 days
			Time taken after receipt of report from security agencies and issuance of directions to licensee	30 days

Grievance Redressal Mechanism

The responsibility of redressal of grievances lies with the concerned organizations/ subordinate units/ PSUs/ administrative sections of the Ministry/ Service providers (in case of a service grievance). However, PG Cell of DoT, without prejudice to the right of a complainant to approach an appropriate court of law, acts as a facilitator for resolutions of grievances so received. A complainant may approach to public grievance cell of Department of Telecommunications (DoT) along with documentary evidence for non-redressal of grievance at concerned Organization/ Service Provider level through following means:

(a) By Post: Public Grievances Cell, Department of Telecommunications, Room No. 603, Mahanagar Doorsanchar Bhawan, Old Minto Road, New Delhi – 110002.

(b) By hand: Information & Facilitation Counter, Sanchar Bhawan, 20, Ashoka Road, New Delhi - 110001.

(c) By Web Portal: www.pgportal.gov.in

i) With an object of speedy redressal/ fast access and effective monitoring of grievances, DoT has implemented an integrated application system, based on Web technology (CPGRAMS) which primarily aims at submission of grievances by the Citizens from anywhere and time (24x7) basis for instant and easy communication between DoT & Citizens.

ii) The system facilitates generation of unique registration number upon the online submission of grievances from aggrieved citizens (to DoT) through internet using any Browser interface.

iii) The system provides the online facility to a citizen to monitor the progress of redressal process in respect of the grievance lodged by him.

HEAD OF DEPARTMENT	CONTACT POINTS
Secretary (Telecom) Department of Telecommunications 210, Sanchar Bhawan New Delhi- 110001. Tel: 011-23719898, FAX No. 23711514 E-mail ID: Secy-dot@nic.in	Shri Ram Narain Deputy Director General (Public Grievances) Department of Telecommunications 612, Mahanagar Doorsanchar Bhawan, Jawahar Lal Nehru Marg, Old Minto Road, New Delhi – 110002. Tel: No. 011-23221231, FAX No. 23222605 E-mail ID: ddgpg-dot@nic.in Our website – www.dot.gov.in

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4. TELECOM REGULATORY AUTHORITY OF INDIA

TRAI has played a catalytic role in the development of the telecom, broadcasting and cable services. It has been its endeavor to provide an environment, which is fair and transparent, encourages competition, promotes a level-playing field for all service providers, protects the interests of consumers and enables technological benefits to percolate to one and all.

Under the TRAI Act, 1997, TRAI is mandated, inter-alia, to ensure compliance of the terms and conditions of licenses, lay down the standards of quality of service to be provided by the service providers and ensure the quality of service, specify tariff policy and recommend conditions for entry of new service providers as well as terms and conditions of license to a service provider. TRAI's scope of work also includes consideration and decisions on issues relating to monitoring of tariff policy, commercial and technical aspects of interconnection, principles of call routing and call handover, free choice and equal ease of access for the public to different service providers, resolution of conflicts that may arise due to market developments and diverse network structures for various telecom services, understanding the need for up-gradation of the existing networks and systems, and development of forums for interaction amongst service providers and interaction of the Authority with consumer organizations. During the period April 2015 to February 2016, the Authority, in discharge of its functions assigned under the Telecom Regulatory Authority of India Act, 1997, has given recommendations, framed Regulations and issued tariff orders which are discussed in the following paragraphs:

1. RECOMMENDATIONS

The authority has made the following recommendations during 2015-16

a. Recommendations dated April 7, 2015 on implementation of "Single Number based Integrated Emergency Communication & Response System"

To facilitate establishment of an efficient and robust Integrated Emergency Communication & Response System (IECRS) in India, the Authority after consultations with various stakeholders and internal analysis, suo-motu issued recommendations on implementation of 'Single Number based Integrated Emergency Communication & Response System (IECRS)' on April 7, 2015.

The salient features of the recommendations are as under:

- Number '112' be adopted as the single emergency number for India.

- Calls made from a landline or mobile phone/ device to the emergency number '112' will be routed to a Public Safety Answering Point (PSAP), which are akin to a call centre. The number of PSAPs in a State or Union Territory(UT) to be decided by the State Governments/ UTs; however there should be at least one PSAP in each State/ UT.
- The existing emergency calling numbers 100, 101, 102, and 108 are to be retained as secondary numbers. The calls made to the secondary numbers should be re-routed to 112 for termination with an announcement to the caller to call 112 as emergency number in future; once calls to secondary numbers reduce significantly, these numbers can be withdrawn gradually.
- Access to IECRS is to be permitted even from those mobile/ landline phones where the outgoing call facility has been debarred or the service is suspended temporarily.
- Calls to the single emergency number should be prioritized in the cellular mobile networks.
- SMS based access to IECRS should also be provided.
- All Telecom Service Providers (TSPs) will have to provide location information and details of caller to the IECRS. For this purpose, four regional database centres, one in each metro city, to be set up in the country. BSNL to setup and maintain these regional database centres.
- There should be a multi-sectoral agency having representations from MHA, Department of Telecommunications (DoT), Department of Electronics and Information Technology (DEITY), Ministry of Health and Family Welfare (MHFW), Ministry of Women and Child Development (MWCD) and other concerned Centre and State agencies which can coordinate and help in setting up of IECRS in the country.
- A trial version of PSAP based IECRS should be put in place as a prototype before full scale implementation.

b. TRAI's response dated April 8, 2015 on "Telecom Network Failures during Emergencies/ Disasters" – Priority routing of calls of persons engaged in 'response and recovery'

During major disasters, intense burst in telecom traffic congest networks resulting in call-blockages and lost-messages. During such times mostly the loss of infrastructure results in network congestion which can lead to failure of network elements.

The role of personnel involved in the rescue and relief operations is very critical during emergencies. Therefore, a system needs to be devised to facilitate such a mechanism which gives priority to these personnel on communication networks during emergencies.

To facilitate this system, the Authority, *suo motu*, sent its recommendations on **"**Telecom Network Failures during Emergencies/ Disasters-Priority routing of calls of persons engaged in 'response and recovery'" dated November 26, 2013 to the DoT after due consultation process. The Authority recommended that a priority call routing scheme should be instituted to ensure that calls of personnel responsible for 'response and recovery' during disasters are routed on priority.

The DoT vide its letter dated November 10, 2014 informed that a Committee was constituted in DoT to examine the recommendations the Committee gave its report commenting on various issues recommended by the Authority. The DoT also sought TRAI's comments / views on the Committee report.

After considering the report of the Committee, the Authority sent its response to the DoT on April 8, 2015.

c. Recommendations dated April 17, 2015 on 'Delivering Broadband Quickly: What do we need to do?'

Broadband penetration and adoption in the country is unsatisfactory. The Authority carried out a suo-motu consultation on the issue of "Delivering Broadband Quickly: What do we need to do?" On the basis of the outcome of the consultation with various stakeholders and internal analysis, the Authority issued its Recommendations on "Delivering Broadband Quickly: What do we need to do?"

The salient features of the Recommendations are as under:-

Institutional Revamping

- Wireless Planning and Coordination (WPC) should be converted into an independent body by de-linking it from the present DoT hierarchy and either converting it into a statutory body responsible to Parliament or transferring it to an existing statutory body. Even in a more limited role of assigning solely commercially available spectrum, there is a strong case for an institutional overhaul of WPC to realize goals of institutional efficiency, transparency in decision-making and full disclosure of decisions.
- The multi-layered structure for decision making for national project NOFN is just not suitable for a project that needs to be executed in mission-mode. The structure needs immediate overhaul.

Spectrum

- The spectrum bands need to be alligned with globally harmonized bands to achieve interference-free coexistence and economies of scale. Current availability of spectrum in our LSAs is about 40% of that available in comparable countries elsewhere. Clearly, there is a crying need for assignment of additional spectrum for commercial telecom services.
- There is a need to lay down a clear roadmap for spectrum management which should state the requirement and availability of spectrum for each LSA as well as for the whole country. This roadmap should be made available publicly to ensure transparency.
- There is an urgent need for audit by an independent agency of all allocated spectrum both commercial as well as spectrum allocated to various PSUs/ Government organizations. This ought to be a national priority and must be undertaken within 3 months.

Right of Way (RoW)

- Single-window clearance is an imperative for all Right of Way (RoW) proposals at the level of the States and in the Central Government. All such clearances have to be time-bound so that TSPs and infrastructure providers can move rapidly to project execution. Ideally, single-window clearance should be administered online with a defined turnaround time. The reasons for denial of RoW permission should be recorded in writing.
- There is a need for enunciating a National RoW Policy to ensure uniformity in costs and processes.

National Optical Fibre Network (NOFN)

- Project implementation should be done on Centre State Public-Private Partnership (CSPPP) mode by involving State Governments and the private sector.
- Award of EPC (turnkey) contracts by BBNL to private parties through international competitive bidding needs to be planned. Such contracts can be given region-wise with clear requirements for interconnection with other networks, as well as infrastructure sharing with other operators who would like to utilize this network. A commercial model around this will need to be suitably deployed.

Towers

- Single-window, time-bound clearance should be encouraged for installation of towers to ensure the rapid development of national networks.
- Extensive consumer awareness and education programmes should be organized so that consumers fully understand the latest scientific information on EMF radiation and its potential impact on health.

Fixed line Broadband (BB)

- To promote fixed line BB, the license fee on the revenues earned from fixed line BB should be exempted for at least 5 years.
- The infrastructure of PSUs is lying unutilized and thus they should be mandated to unbundle their network and allow sharing of outside plant (OSP).

CATV

- Cable operators should be allowed to function as resellers of ISP license holders to enable them to take advantage of their cable network to provide BB.
- Implementation of digitization of cable services to tier 2 and tier 3 cities in a time-bound manner.

Satellite

- Separation of Licensor, Regulator and Operator functions in the satellite space domain to conform to best international practices of free markets.
- The issue of coordination of additional spectrum in the 2500-2690 MHz band with DoS needs to be addressed urgently, so that this band can be optimally utilized for commercial as well as strategic purposes.

Hosting of Content in India

- The Government needs to encourage local and foreign companies to build 'Data Centre Parks' on the lines of industrial parks, SEZs etc. by providing them land, infrastructure and uninterrupted power supply at affordable rates.

Universal Adoption

- Governments, both Central and State shall have to act as model users and anchor tenants through delivery of e-Government services including e-education, e-governance, m-health, m-banking and other such services.

- Schools are the ideal and convenient point for early initiation to BB services. Government schools in the rural and remote areas can be provided subsidy from the USOF for BB connectivity.
- Cost of CPE (desktop/ laptop/ tabs etc.) are major barriers to the adoption of BB services. TSPs may be allowed to offer CPE bundled tariff schemes. Revenues from such offers ought to be exempted from the applicable license fee at least for a certain number of years (say for three years).

d. Recommendations dated May 1, 2015 on 'Introducing Virtual Network Operators in Telecom Sector'

The Department of Telecommunications (DoT) through its reference dated July 7, 2014 had sought recommendations of TRAI on 'Introducing Virtual Network Operators in Telecom Sector'. Virtual Network Operators (VNOs) are service delivery operators, who do not own the underlying core network(s) but rely on the network and support of the infrastructure providers for providing telecom services to end users/ customers. VNOs can provide any or all telecom services which are being provided by the existing telecom service providers.

The Authority, after consultation process under internal analysis formulated and forwarded its Recommendations on 'Introducing Virtual Network Operators in Telecom Sector' to DoT on May 1, 2015.

The salient features of the recommendations are:

- VNO be introduced through proper 'licensing framework' in the Indian Telecom Sector.
- The VNOs be permitted for all segments of Voice, Data and Video as well as for all services notified in the UL.
- VNO be introduced in the network based on the basis of mutually accepted terms and conditions between NSO and the VNO. The terms and conditions of sharing the infrastructure between NSO and VNO are left to the market to determine.
- VNOs be permitted to set up their own network equipment(s) where there is no requirement of interconnection with other NSO. However, they should not be allowed to own/install equipment(s) where interconnection is required with another NSO.
- Local Cable Operators (LCOs) and Multi Service Operators (MSOs) can become VNO and/ or are permitted to share infrastructure with VNOs.

- For introduction of VNO in the sector, there should be a separate category of license namely UL (VNO). Like UL authorization, only pan-India or service area-wise authorizations may be granted under a UL (VNO) license.
- Duration for VNO licenses should be 10 years, extendable by 10 years at a time.
- There should not be a restriction on the number of VNO licensees per service area. Also there should be no restriction on the number of VNOs parented by an NSO.
- Customer verification and number activation shall be the responsibility of a VNO for its own customers.

e. Clarifications/ Reconsideration dated May 21, 2015 on Recommendations on 'Working Guidelines for Spectrum Trading'

The Authority had sent its recommendations on 'Working Guidelines for Spectrum Trading' in January, 2014 to the Department of Telecommunications (DoT). In April, 2015, DoT sought clarifications/ reconsideration on some issues of the recommendations.

After considering the comments given by the DoT, the Authority furnished its response to the Government on May 21, 2015.

f. TRAI's response dated July 2, 2015 to DoT on issues relating to Spectrum Cap and minimum spectrum holding by Telecom Service Providers (TSPs) as follow up of Hon'ble Supreme Court's interim order dated May 14, 2015

As a follow up of Hon'ble Supreme Court's interim order dated May 14, 2015 in the Transfer Case (Civil) Nos. 43/2015 (WP No. 1635/2015 filed by M/s Reliance in Delhi High Court, 64/ 2015 (WP No. 53/2015 filed by M/s Reliance in Tripura High Court) and 65/2015 (WP No. 6176/2015), the DoT, through a letter dated May 29, 2015 requested TRAI to provide its comments on the following issues -

Related to Spectrum Cap:-

- Whether the capping should still remain and, if so, what should be its formula and how it should be interpreted and applied?
- While calculating the cap, if the exercise is undertaken with existing methodology, whether the commercially available spectrum, which is available with the department and not put to auction, should be included in the computation of such caps?

Related to minimum Spectrum Holding:-

- The successful bidders who have got less than 5 MHz and in case they fail in the next auction, how they can deal with the spectrum?
- Whether do they have a choice to hold it or the department would take steps to take back such spectrum considering that no economic viable services can be provided with a spectrum holding less than 5.0 MHz? If so, TRAI may suggest the terms and conditions for taking back such spectrum.

The Authority after carefully examining the issue forwarded its response dated July 2, 2015 to DoT. The Authority in its response, inter-alia, stated that:

- The Authority is of the opinion that at present there is no need to modify the existing spectrum cap (50% of the spectrum assigned in each of the 800/ 900/ 1800/ 2100/ 2300/ 2500 MHz and 25% of the total spectrum assigned in all these bands put together in each service area).
- On the methodology of calculating the spectrum cap, the Authority is of the opinion that all spectrum assigned to the TSPs including any spectrum which was put to an auction but remains unsold, spectrum which was assigned but subsequently surrendered by the TSP or taken back by the Licensor and spectrum put to auction should be counted. However, any spectrum out of the above will not be taken into calculation, if the Government assigns it for non-commercial purpose e.g. assignment to Defence.
- The Authority is also of the view that the spectrum which may become available to the WPC/ DoT for commercial use after its refarming from other users such as Defence at different point of time should not be counted for determining the spectrum caps until it is put to auction by the DoT.
- The Authority is also of the view that telecom being an evolving sector, review of such policy decisions such as spectrum cap is a continuous process. The Authority may review it at an appropriate time like introduction of new spectrum bands, additional spectrum released for commercial purpose or if any major development takes place.
- The Authority is of the opinion that Licensees should be able to decide for themselves whether or not there is a business case for them to hold on to the spectrum. Moreover, once the guidelines of spectrum sharing and spectrum trading are notified by the Government, the TSPs will have alternate options to manage their spectrum holding. Therefore, the Authority is of the opinion that the Government should not take back spectrum assigned to TSP even if it is less than 5 MHz in any band.

g. TRAI's response dated November 17, 2015 to the reference received from DoT on TRAI's Recommendations on allocation and pricing of Microwave Access (MWA) and Microwave Backbone (MWB) RF carriers dated August 29, 2014

- On October 16, 2015, DoT sent back reference on TRAI's Recommendations on allocation and pricing of Microwave Access (MWA) and Microwave Backbone (MWB) RF carriers dated August 29, 2014.
- The Authority after due deliberations on the comments received from the DoT finalized and forwarded its response to DoT on November 17, 2015.

h. Recommendations on 'Valuation and Reserve Price of Spectrum in the 700 MHz, 800 MHz, 900 MHz,1800 MHz, 2100 MHz, 2300 MHz and 2500 MHz bands" dated January 27, 2016

Department of Telecommunications (DoT) sought the Authority's Recommendations on Reserve Price and associated conditions for auction of 700 MHz, 800 MHz, 900 MHz, 1800 MHz, 2100 MHz, 2300 MHz and 2500 MHz bands. DoT also sought the Authority's recommendations on the liberalization of administratively allotted spectrum in 900 MHz band.

In this context, TRAI had issued a consultation paper on "Valuation and Reserve Price of Spectrum in the 700 MHz, 800 MHz, 900 MHz, 1800 MHz, 2100 MHz, 2300 MHz and 2500 MHz bands" on November 26, 2015 seeking the comments of the stakeholders. An Open House Discussion was conducted by TRAI on January 4, 2016 at New Delhi.

After considering the comments received from the stakeholders and further analysis, the Authority has come out with its recommendations on **"Valuation and Reserve Price of Spectrum in 700 MHz, 800 MHz, 900 MHz, 1800 MHz, 2100 MHz, 2300 MHz and 2500 MHz Bands"** on January 27, 2016. The salient features of the recommendations are given below:

APT700 band plan should be adopted for the 700 MHz (698-806 MHz) spectrum band with Frequency Division Duplex (FDD) based frequency arrangement. Entire available spectrum (2x35MHz) in the 700 MHz band should be put to auction in the upcoming auction.

DoT should carry out carrier re-assignment exercise in the 800 MHz band at the earliest and ensure that entire spectrum that is available with DoT for commercial use should be put to auction.

The DoT, in coordination with Defence and the TSPs, should complete harmonization process in the 1800 MHz band before upcoming auctions so that the entire spectrum that is made available due to this exercise is put to auction.

Rollout obligations for 700 MHz band: All towns/villages having population of 15,000 or more but less than 50,000 to be covered within 5 years and all villages having population of 10,000 or more but less than 15,000 to be covered within 7 years.

Audit for all allocated spectrum both commercial as well as spectrum allocated to various PSUs/Government organizations. This should be done by an independent agency.

Recommended reserve price for various spectrum bands is as per table given below:

RECOMMENDED RESERVE PRICE (` in Crore)							
LSA	**700 MHz**	**800 MHz**	**900 MHz**	**1800 MHz**	**2100 MHz**	**2300 MHz**	**2500 MHz**
	Per MHz (Paired)				**Per MHz (Unpaired)**		
Delhi	1595	848		399	554	143	143
Mumbai	1192	727		298	461	146	146
Kolkata	596	160		149	116	33	33
AP	971	606		243	272	68	68
Gujarat	952	285	673	238	258	39	39
Karnataka	740	303	558	185	328	98	98
Maharashtra	1272	799		318	341	58	58
Tamil Nadu	900	360		225	344	132	132
Haryana	186	57	151	47	55	8	8
Kerala	334	243		83	177	16	16
MP	331	408		83	123	8	8
Punjab	308	119		77	91	21	21
Rajasthan	364	204		91	140	6	6
UP (East)	459	219	776	115	110	9	9
UP (W)	384	182	739	96	111	12	12
West Bengal	183	82		46	52	5	5
Assam	158			40	46	2	2
Bihar	248	136	444	62	86	6	6
Himachal Pradesh	64	24		16	20	1	1
Jammu & Kashmir	52			13	11	1	1
North East	44			11	12	1	1
Orissa	152	57		38	38	4	4

2. REGULATIONS

"The Telecom Consumers Protection (Eighth Amendment) Regulations, 2014" dated August 7, 2015

The Authority after due consultation with various stakeholders and internal analysis issued 'The Telecom Consumers Protection (Eighth Amendment) Regulations, 2014' on August 7, 2015 to protect the interest of consumers using wireless data services. The salient features of the Regulation are as under:-

- **Information to consumers relating to usage of data:** Service providers have been mandated to provide, through SMS or USSD-
  - ➢ Information to mobile data users regarding data used, after every 10MB of data usage to all mobile data users except users of special data packs (STV/ Combo/ add-on-pack). The consumers to be provided an option to opt out if they do not desire to receive such information.
  - ➢ Information to users of various of special data packs (STV/ Combo/ add-on-pack), whenever the limit of data usage reaches 50%, 90% and 100% of data available in the account of the subscriber or when the data balance available in the account of the subscriber reaches 500 MB, 100 MB and 10 MB. Further the consumer shall be informed about the details of tariff applicable after exhausting the data limit, when the data limit reaches 90% or the data balance available in the account reaches 10 MB.
  - ➢ An alert to international roaming customer cautioning him to deactivate data service if he does not intend to use data services.
- **Activation or Deactivation of data services:**
  - ➢ Data services should be activated only with the explicit consent of the subscriber through a toll free short code 1925. The data services could also be deactivated through the toll free short code 1925.
  - ➢ Data services through Special Tariff Voucher or Combo Voucher or add-on pack will be deemed to have been activated with consent till the expiry of the validity period of the voucher/pack or on the consumption of entire data, whichever is earlier.
  - ➢ The customers should also be informed through SMS at periodic intervals about the prescribed procedure for deactivation of data.

'Prohibition of Discriminatory Tariffs for Data Services Regulations, 2016' dated February 8, 2016

TRAI issued a Consultation Paper on 'Differential Pricing for Data Services' in December, 2015. This Consultation primarily sought the views of the stakeholders on whether the service providers should be allowed to charge differential tariffs based on the websites/applications/ platforms being accessed on the internet. Based on the responses received and the internal deliberations, the Authority issued these Regulations. While formulating the Regulations, the Authority has largely been guided by the principles of Net Neutrality seeking to ensure that consumers get unhindered and non-discriminatory access to the internet. These Regulations intend to make data tariffs for access to the internet to be content agnostic. An overwhelming number of detailed and well reasoned responses, representing a diverse set of views were received in the consultation process. There were views suggesting both in support and against ex ante steps for regulating differential tariff for data services based on content. After careful examination of all the comments and feedback, the Authority decided that ex ante regulation, rather than a case by case tariff intervention regime, would be more appropriate as it would give the much needed certainty to industry participants. Such a step is also warranted in view of the high costs of regulation in terms of time and resources that will be required for investigating each case of tariff discrimination.

The Authority mandated the following:

a) No service provider shall offer or charge discriminatory tariffs for data services on the basis of content.

b) No service provider shall enter into any arrangement, agreement or contract, by whatever name called, with any person, natural or legal, that has the effect of discriminatory tarIffs for data services being offered or charged by the service provider for the purpose of evading the prohibition in this regulation.

c) Reduced tariff for accessing or providing emergency services, or at times of public emergency has been permitted.

d) Financial disincentives for contravention of the regulation have also been specified.

3. TELECOM TARIFF ORDERS

"Telecommunication (Broadcasting and Cable) Services (Seventh) (the Direct to Home Services) Tariff Order, 2015 dated April 1, 2015." Tariff Order applicable to direct to home operators prescribing a framework for commercial interoperability of Customer Premises Equipment (CPE) offered by the Direct-to-Home (DTH) operators to their subscribers was

notified on April 1, 2015. The salient features of the "Telecommunication (Broadcasting and Cable) Services (Seventh) (the Direct to Home Services) Tariff Order, 2015 dated April 1, 2015 are :

- Transparent price declaration of all types of CPEs by the DTH operators to enable a subscriber to make an informed choice.
- Transparent and upfront declaration of installation & activation charges by DTH operators which shall not exceed `450/-.
- DTH operators to mandatorily offer an outright purchase scheme called Standard Scheme for all types of CPEs on standalone basis.
- DTH operators may offer additional schemes including bundled schemes and rental schemes.
- In the rental schemes, DTH operators can charge a specified one-time interest free refundable security deposit, installation and activation charges from the subscriber during enrolment followed by specified monthly rental charges. No repair/ maintenance charges are permissible from such subscribers. DTH operators shall cater for free maintenance and repairs of CPEs for three years after installation/activation). In case of outright purchase and hire purchase schemes, DTH operators may levy visitation charges not exceeding `250/- per visit after the warranty period has elapsed.
- Subscribers shall have an option of buy-back/ refund for CPEs in all the offered schemes including bundled schemes with an exception of rental schemes. In rental scheme, subscriber will get back the security deposit.
- DTH operators may prescribe a lock-in period not exceeding six months for a subscriber to remain committed. Subscribers can surrender the CPE any time subject to levy of certain charges that have been prescribed.
- DTH operators shall setup collection centers at every district headquarters to enable easy return of CPEs. Subscribers shall be provided with a toll-free telephone number for registration of request for surrender of connection.
- Subscribers shall have option of returning the CPE by paying a nominal collection charge of `300/- to the DTH operator or to return the CPE at the designated collection center.
- No other charges by any other name other than those specified in the TO can be levied on the subscribers by DTH operators.

- DTH operators shall declare all current schemes on their websites while also publishing all charges for each scheme. Subscribers to be given details of the scheme opted by him.
- DTH operators have been given a time of 60 days to align their business processes for compliance with the provisions of this TO.

Telecommunication Tariff (Sixtieth Amendment) Order, 2015 dated April 9, 2015.

The ceiling tariffs for national roaming were last revised by the Authority through the Telecommunication Tariff (55th Amendment) Order, 2013 dated June 17, 2013. This year, the Authority issued a Draft Telecommunication Tariff (60th Amendment) Order, 2015 on February 27, 2015 for comments of the stakeholders. After examining the comments of the stakeholders on the Draft Telecommunication Tariff (60th Amendment) Order, 2015 and further analysis, the Authority, through the Telecommunication Tariff (60th Amendment) Order, 2015 dated April 9, 2015, revised the ceiling tariffs for voice calls and SMS while on national roaming, which came into effect from May 1, 2015. This Amendment Order brought about the following changes in the tariff regime for national roaming service:

Item	Ceiling tariff as per TTO (55th Amendment), 2013	Ceiling tariff as per TTO (60th Amendment), 2015
Outgoing local voice call	`1.00 per minute	`0.80 per minute
Outgoing long distance (inter-circle) voice call	`1.50 per minute	`1.15 per minute
Incoming voice call	`0.75 per minute	`0.45 per minute
Outgoing local SMS	`1.00 per SMS	`0.25 per SMS
Outgoing long distance (inter-circle) SMS	`1.50 per SMS	`0.38 per SMS

Through this Amendment Order, the Authority has removed the existing mandate to service providers for providing RTP and RTP-FR and has mandated service providers to offer a Special Roaming Tariff Plan (SRTP) to their pre-paid and post-paid subscribers. In Special Roaming Tariff Plan, incoming voice calls while on national roaming shall be free, on payment of fixed charge, if any. The Authority is of the view that the reduced ceilings will benefit all subscribers.

The Telecommunications (Broadcasting and Cable Services) (Fourth) (Addressable system) Tariff (Fifth Amendment) Order 2015 dated September 8, 2015 and The Telecommunications

(Broadcasting and Cable Services) (Second) Tariff (Fifteenth Amendment) Order 2015 dated September 8, 2015

TRAI notified two Tariff Amendment Orders (TAOs) on September 8, 2015 relating to TV services for commercial subscribers, one applicable for TV services being provided through analog cable TV systems (Non-CAS areas) and the other one applicable for TV services being provided through Digital Addressable cable TV systems (DAS). The salient features of these TAOs are as under:-

- 'Subscriber', "Ordinary subscriber' and 'Commercial subscriber' have been defined.
- Total forbearance has been prescribed both at the wholesale & retail level with respect to tariffs for Commercial subscribers and the broadcasters have the option to enter into tripartite agreements with the Distribution Platform Operators (DPOs) and the commercial subscribers, if so desired.
- Broadcasters have been mandated to offer their channels/ bouquet of channels for commercial subscribers, on non-discriminatory terms and conditions.
- The Broadcasters have been mandated to file their tripartite agreements, if such agreement is done with commercial subscribers, with the Authority within 30 days of entering into such agreement.
- TV Signal to commercial subscribers have to be provided by DPOs only, in accordance with "Policy Guidelines for Up-linking/ Down-linking of Television Channels"

These Tariff Amendment Orders have been notified in accordance with the Hon'ble TDSAT's Order dated March 9, 2015 in the matter of Indian Broadcasting Foundation& Ors Vs TRAI (Appeal No 7(C)/2014). It is expected that with the coming into force of these changes in the regulatory framework for commercial subscribers, distribution of TV services to commercial subscribers would be streamlined and would be available to them at competitive rates. It is also envisaged that it would balance the interests of all the stakeholders in the value chain and bring in complete transparency in the business transactions.

Telecommunication (Broadcasting and Cable) Services (Fourth) (Addressable Systems) Tariff (Sixth Amendment) Order, 2015 dated December 29, 2015

A Tariff Order namely "Telecommunication (Broadcasting and Cable) Services (Fourth (Addressable Systems) Tariff (Sixth Amendment) Order, 2015 (6 of 2015) uploaded/ issued on December 29, 2015. The salient features of the said Tariff Order are as under:

- Simplified 'Twin Conditions' have been prescribed to ensure availability of an effective choice to the consumers allowing them to subscribe to their desired channels on a-la-carte basis at a reasonable price.
- Platform operators continue to enjoy flexibility to notify a-la-carte rates of channels at any time to facilitate lower rates for a bouquet consisting of such on a-la-carte channels.
- Flexibility to platform operators to devise and offer innovation and attractive packages/ bouquets of channels by offering discounts upto 66.66% over a-la-carte rates of channels forming the bouquet.

4. OTHER ACTIVITIES

Consumer Advocacy and Education

Realizing the importance of reaching out to consumers all over the country, TRAI has a public interface with consumers through Consumer Outreach Programmes through its regional offices at Bhopal, Jaipur, Kolkata, Hyderabad, Bangalore & Delhi. It also seeks their views and opinions through face-to-face interactions at various other forums. TRAI has also instituted a system for registration of consumer bodies and organizations as Consume Advocacy Groups (CAGs) which acts as interlocutors between consumers, Telecom Service Providers & TRAI and also assists TRAI in consumer education. TRAI is also working for educating the consumers through promotional literature and release of advertisements on various consumer issues in print and electronic media.

Achievement till December 31, 2015

During the year 2015-16, TRAI organized 69 Consumer Outreach Programmes (CoPs) across the country till December 31, 2015. 3 Outreach Programmes were organized exclusively to disseminate latest available scientific information on EMF radiation from Mobile Towers and to address the concerns of general public about possible health hazards from it. In addition to CoPs, 4 Regional Workshops for Capacity Building of Consumer Advocacy Groups and Consumer Education were organized. TRAI has released updated Consumer Handbook on Telecommunications in Hindi, English and various regional languages which are being distributed amongst the consumers & also to Registered Consumer Advocacy Groups for distribution in their respective areas for creating awareness among the consumers about the various issues related with Telecom & Broadcasting sector.

TRAI also released advertisements on Digitalization of Cable TV Services, Value Added Services & Mobile Number Portability in Hindi, English and regional languages across the country for creating widespread awareness among the consumers about their rights and consumer welfare measures mandated by TRAI.

Through letter dated January 6, 2016 the Authority has recommended to the DoT for acceptance and adoption of Aadhaar based e-KYC service along with Aadhaar based e-sign as a valid alternative process to the existing process for digitally signed, biometric based verification of the new mobile subscribers;

5. ANTICIPATED ACHIEVEMENTS

- Consultation on "Tariff issues related to TV Services"
- Consultation on "Radio Audience Measurements and Ratings"
- Advisory for implementation of electronic CAF (E-CAF)
- Notification of amendment in the Interconnection Regulation for DAS in cooperating the provisions of Model and Standard Interconnection agreement between Multi-system Operators (MSOs) and Local Cable Operators (LCOs) for offering cable TV Services through digital addressable systems (DAS).
- Consultation on Amendment to Register of Interconnect Regulation, 2004 in respect of Broadcasting and Cable Services.
- Consultation on "A common interconnection framework for addressable systems".
- Consultation on "Quality of service of Addressable Systems".

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5. TELECOM DISPUTES SETTLEMENTS & APPELLATE TRIBUNAL

The Telecom Regulatory Authority of India (TRAI) Act, 1997 (as amended) provides for the establishment of the TRAI and the Telecom Disputes Settlement and Appellate Tribunal (TDSAT) to regulate the telecommunication services, adjudicate disputes, dispose off appeals and to protect the interests of service providers and consumers of the Telecom, Broadcasting & Cable sector and to promote and ensure orderly growth of the Telecom, Broadcasting & Cable sector and for matters connected therewith or incidental thereto.

The TDSAT was created in the year 2000 by the Central Government under the TRAI Act, 1997 (as amended) to settle and adjudicate disputes involving licensor, licensee, and a group of consumers. In January, 2004 the jurisdiction of TDSAT was extended to include broadcasting and cable services besides telecommunication services.

The jurisdiction of TDSAT is exclusive and an appeal against its order lies to the Hon'ble Supreme Court of India on points of law only. Statutory appeal does not lie against the interim order of TDSAT. TDSAT exercises both original as well as appellate jurisdiction. TDSAT is an expert body and comprises of a Chairperson and two Members. (The present Chairperson is a former Judge of the Supreme Court of India while the two Members are experts in the field of administration/ telecommunications).

TDSAT is not bound by the provisions of Civil Procedure Code. It has formulated its own Procedure (TDSAT Procedure 2005) which is simple and is based on the principles of natural justice. Court fees for filing a petition, appeal and Miscellaneous application before TDSAT is `5,000/-, `10,000/- and `1,000/- respectively.

World over, the disputes in telecom and broadcasting sectors are resolved by the regulator or normal courts. However, in India, a unique institution in the form of TDSAT exists for speedy settlement and adjudication of disputes in telecom and broadcasting sectors. As such, dispute resolution in India is outside the purview of the telecom regulator. Indian model for resolution of disputes has been seen with great interest by various telecom regulators across the world.

In telecom sector, various types of matters relating to interconnection, inter-operator billing disputes, customer application form (CAF), certain policy and regulatory actions failing to address legitimate expectations of stakeholders, recovery of outstanding dues of stakeholders, licensing disputes including disputes on computation of Adjusted Gross Revenue (AGR) and allocation of spectrum, disputes on access deficit charges (ADC) etc., can be filed in TDSAT.

In broadcasting and cable sector, cases relating to signal disconnection/ refusal/ denial, pricing of channels/ bouquets, non-payment/ recovery of subscription/ carriage charges, piracy of signals/ illegal transmission of signals, licensing disputes, disputes arising out of tariff order of the TRAI etc., can be filed before TDSAT.

The number of cases in the Tribunal has been increasing every year since its establishment in May, 2000. The total number of cases filed before TDSAT in the 2001 were 105 (including Petition/ Appeal/ E.A./ R.A./ M.A.), which increased to 926 in 2014. In the year 2015, up to December 31, 2015, a total of 1234 cases have been filed. The disposal of cases has kept pace with the filing and all efforts are made to ensure that there is speedy disposal. A statement of cases filed, disposed off and pending since 2001 till December 31, 2015 is enclosed.

TDSAT has been organizing seminars from time to time, in different parts of the country to bring public awareness amongst various stakeholders including consumers, about the dispute redressal mechanism in the Telecom, Broadcasting and Cable Sectors and to find ways and means to strengthen the grievance redressal system in these sectors. TDSAT has so far organized 46 such seminars.

As sector Member of International Telecommunication Union (ITU), TDSAT has been participating in the international seminars, conferences and events organized by ITU and other international bodies. Officers/ Officials of TDSAT from time to time, are being deputed to participate in Training programmes organized by the National Productivity Council (NPC).

TDSAT maintains its own website with all judgments and other activities of the Tribunal uploaded on it at www.tdsat.nic.in.

TDSAT set up a Mediation Centre to help litigants go through a mediation process and arrive at a mutually agreed settlement of disputes with the help of trained mediator. The Mediation Centre has started functioning from July 29, 2013 and has been successful in helping settle large number of cases so far. As on December 31, 2015 a total number of 330 cases have been referred to Mediation Centre. Out of this, a total number of 133 cases have been settled and 173 numbers of cases were referred back to the Tribunal unsettled. The remaining 24 cases are currently under mediation.

Recently, pre-litigation mediation has also been started by TDSAT. So far 5 cases have been taken up by the Mediation Centre out of which 4 have been resolved and 1 case is pending.

The TDSAT has also set up a Registrars' Court which has started functioning w.e.f. July 22, 2013 for completion of pleadings, framing of issues and taking up evidence etc. to speed up of the disposal of cases before TDSAT. As a result of these steps taken by the TDSAT, the pendency of cases has been reduced in last few years.

Statistics of Mediation Centre

July 29, 2013 to December 31, 2015

Mediation centre started in TDSAT from July 29, 2013

Sl. No.	Year	No. of cases referred to the mediation centre	Cases Settled by Mediation centre	Referred back to Hon'ble Tribunal	Cases Pending
1.	2013-2014	233	102	131	Nil
2.	2015	97	31	42	24
Total		**330**	**133**	**173**	**24**

Pre-Litigation Mediation Cases

Sl.No	Year	No of cases referred to the mediation centre	Cases Settled by Mediation centre	Cases Pending
1.	2015	05	04	01

STATEMENT OF INSTITUTION, DISPOSAL AND PENDENCY OF CASES AS ON DECEMBER 31, 2015

Sl.No.	Discription	Institution																
		2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	Total	
1	Petition	24	20	20	56	155	328	333	271	284	437	523	981	478	545	707	5162	
2	Review Application	0	1	2	2	3	7	17	5	9	11	14	19	9	11	2	112	
3	Appeal	12	15	32	5	12	18	15	11	9	11	2	22	19	7	5	195	
4	Received on Transfer from Trai	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16	
5	Received on Transfer from High Court	0	0	0	0	0	0	0	0	0	0	0	0	13	0	0	13	
6	On Remand from SC	5	1	1	0	2	3	10	6	7	1	0	0	0	0	0	36	
7	Executition Applicaton	0	0	0	7	2	18	27	4	10	36	24	46	15	27	12	228	
	Total	57	37	55	70	174	374	402	297	319	496	563	1068	534	590	726	5762	
	M.A.	48	57	48	176	253	148	165	214	179	355	348	718	406	336	508	3959	
	Grand Total	105	94	103	246	427	522	567	511	498	851	911	1786	940	926	1234	9721	
Sl.No.	Discription	Disposal																Pendency
		2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	Total	
1	Petition	24	20	20	56	155	328	333	271	284	437	519	882	379	472	157	4337	825
2	Review Application	0	1	2	2	3	7	17	5	9	11	14	16	9	8	1	105	7
3	Appeal	12	15	32	5	12	18	15	11	9	11	2	22	18	7	0	189	6
4	Received on Transfer from Trai	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16	0
5	Received on Transfer from High Court	0	0	0	0	0	0	0	0	0	0	0	0	13	0	0	13	0
6	On Remand from SC	5	1	1	0	2	3	8	5	7	1	0	0	0	0	0	33	3
7	Executition Applicaton	0	0	0	7	2	18	27	4	5	35	24	37	4	16	6	185	43
	Total	57	37	55	70	174	374	400	296	314	495	559	957	423	503	164	4878	884
	M.A.	48	57	48	176	253	148	165	214	179	353	346	685	341	279	359	3651	308
	Grand Total	105	94	103	246	427	522	565	510	493	848	905	1642	764	782	523	8529	1192

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6. AUDIT OBSERVATION OF C AND AG

Status of C&AG Audit Paras pending as on December 31, 2015

Sl. No.	Year	Report No.	No. of Paras/ PAC Reports on which ATNs have been submitted to PAC after vetting by Audit (from April, 2015 – December, 2015)	Details of the CAG Paras/PAC Report** on which ATNs are pending as on December 31, 2015		
				No. of ATNs not sent by the Ministry even for the first time.	No. of ATNs sent but returned with observation and Audit is awaiting their resubmission by the Ministry	No. of ATNs which have been finally vetted by audit but have not been submitted by the Ministry to PAC
1.	1996-97	6 of 1998	01	Nil	Nil	Nil
2.	2002-03	2 of 2004	02	Nil	Nil	Nil
3.	2003-04	2 of 2005	01	Nil	Nil	Nil
4.	2004-05	9 of 2006 (NTR)	Nil	Nil	0.5*	Nil
5.	2006-07	CA 1 of 2008	01	Nil	Nil	Nil
6.	2009-10	19 of 2010-11	03	Nil	Nil	Nil
7.	2013-14	17 of 2014	Nil	Nil	Nil	Nil
8.	2014-15	20 of 2015	Nil	Nil	04	Nil
	Total		**08**	**Nil**	**4.5**	**Nil**

1. Total C&AG Audit Paras of DoT pending as on December 31, 2015 = 12 **[4.5 (Under Modification) + 7.5 (Sent to Audit)]**

a) *Part ATN on Para No. 2.6.27 of C&AG Report No. 9 of 2006 have been sent to O/o DG Audit (P&T) for vetting remarks.

b) 03 ATNs on Para No. 2.1, 2.2 and 2.3 of C&AG Report No. 17 of 2014 have been sent to O/o DG Audit (P&T) for vetting remarks.

c) 04 ATNs on Para No. 2.1, 2.4, 2.6 and 2.8 of C&AG Report No. 20 of 2015 have been sent to O/o DG Audit (P&T) for vetting remarks.

2. Total paras of PAC Report pending as on December 31, 2015 = 02

02 Paras out of 05 Paras pending for the 49th Report of PAC on **'Administration of Universal Service Obligation (USO) Fund'. Theses 02 Paras have been replied and sent to O/o DG Audit (P&T) for vetting remarks. Advance copies of ATNs furnished.

Summary of Important Audit Observations – Audit Report on Communications & IT Sector.

Report No. 20 of 2015 on the Communications & IT Sector for the year ended March, 2013 contained significant audit findings which arose from the performance and compliance audit of the Ministry of Communications and Information Technology. The Report was presented to the Parliament on May 8, 2015. Some of the important findings included in this Report are given below:

1. DEPARTMENT OF TELECOMMUNICATIONS

Functioning of TERM Cells in Department of Telecommunications

The prime objectives for which TERM Cells have been formed to curb illegal and clandestine activities in the premises of the TSPs, to prevent misuse of telecom networks by the vested interests having no licences and to undertake other vigilance and monitoring activities remained mostly unfulfilled and unattained. The performance in testing of BTS regarding EMF radiation, was not up to the mark and instances were noticed where EMF radiations were above the acceptable level. Further, TERM Cells have failed to discharge their major responsibilities/ functions since they have not taken up timely action against the service providers/ unauthorized users due to lack of co-ordination with otherwings/ branches of DoT despite clear-cut instructions issued by DoT from time to time. Due to such failure apart from non-imposition of penalty pointed out through test check, vigilance function of the department was also compromised.

Paragraph 2.1

Irregular Amendment of the Telecom Licences to permit Intra-Circle Roaming in June, 2008 and its adverse financial impact on the Telecom revenues

Amendment in UAS/ CMTS licences in June, 2008 in irregular manner facilitated unilateral sharing of spectrum by the telecom service providers in the guise of Intra Service Area Roaming (ISAR) without making any payment of one time charge for spectrum holding above

4.4 MHz (GSM) based on reserve price/ auction price of auction held on November, 2012 (for permission of sharing of spectrum) and the additional spectrum usage charges at the enhanced rate for combined spectrum holding as applicable comes to `8,210 Crore and `1,394.53 Crore respectively.

Paragraph 2.2

Hasty merger of Chennai Metro and Tamil Nadu Telecom Circles

Merger of Chennai Metro and Tamil Nadu Telecom Circles without any cost benefit analysis of the proposal in 2005 for the CMTS/ UAS Licence resulted in undue benefits to the select Telecom Operator to the tune of `499.35 Crore.

Paragraph 2.3

Undue favour to CDMA licencees

Despite TRAI's recommendations and approval of the EGoM, DoT decided not to auction the 800 MHz spectrum for EVDO services in 2010 though CDMA operators were providing 3G EVDO services with the available 2G spectrum (800 MHz) without liberalisation of spectrum. This resulted in non-realisation of upfront charges amounting to `9626 crore and undue favour to the CDMA licencees.

Paragraph 2.4

Undue favour to operators using dual/multiple technology

Pursuant to TRAI's recommendations (August, 2007), DoT granted telecom licences for dual technology in October, 2007 but failed to implement TRAI's recommendations to levy spectrum Usages charge for the combined total of spectrum allocated in different technology in specific bands resulting in undue benefit to the licencees to the extent of `882.06 Crore (2009-10 to 2013-14).

Paragraph2.5

Inordinate delay in issue of demand letters to eight telecom licencees

Department of Telecommunications did not raise demands on eight licencees, whose telecom licences were quashed and cancelled and who continued operations after February 2, 2012 despite the Hon'ble Supreme Court of India ruling that they should pay the reserve price fixed by the Government for the purpose of conducting auction in November, 2012 leading to non realization of `2,117.88 Crore from eight licencees. The licences of those licencees who did not bid or did not win in the auctions were also not cancelled timely.

Paragraph 2.6

Lack of due diligence in auction of spectrum for Broadband Wireless Access (BWA) Services

The NIA for BWA Auction suffered from deficiencies in scope of usage of spectrum for different class of Licencees. The UAS/ CMTS and ISP operators were allowed to bid for the same BWA spectrum while the usage of spectrum was governed by their respective licences. This led to post-auction demand by M/s Infotel for network codes which would have enabled them to provide voice services beyond the scope of their ISP licence. DoT facilitated the request by permitting them to migrate to Unified Licence after the auction. This migration, allowed at prices discovered in 2001, resulted in undue advantage of `3,367.29 Crore to M/s Reliance Jio Infocomm (formerly M/s Infotel). It was also seen that even after four years of auction the roll out of BWA services has been negligible.

Paragraph 2.8

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7. CENTRE FOR DEVELOPMENT OF TELEMATICS (C-DOT)

C-DOT, DoT's R&D centre, is committed to providing a wide range of cost-effective, indigenously developed and state-of-the-art total telecom solutions. Starting from the single mission of providing a dial tone, C-DOT has grown to the level of a national centre for Research and Development in the cutting-edge state-of-the art technology to fulfill the needs of communication technologies in the areas – Optical (optical transport, GPON), router & switches (terabit capacity router, L2/L3 switches), next generation network (voice-over-IP), wireless technology (WiFi, 2G, 4G mobile), satellite communications, interception & monitoring, telecom services & applications (network management, Gyansetu for rural), etc.

1. ACCOMPLISHMENTS AND ACTIVITIES DURING F.Y. 2015-2016 (APRIL TO DECEMBER, 2015)

During first three quarters of the F.Y. 2015-2016, significant progress has been made in the development of state-of-the-art and cutting edge technologies, technology trials, efforts in technologies' commercialization, which include signing of MoUs with manufacturers, technologies' promotions, showcasing to prospective vendors, building requisite IPR assets, etc.

Some of the major technology projects, wherein progress has been made, are summarized below:

- **Communication and security research and monitoring**: CMS infrastructure roll-out, which include installation of Central Monitoring Centre (CMC) data Centre build and it its IT- infrastructure, RMCs' data centre build in 21 LSAs, ILDs etc., for lawful interception of voice and data by LEAs.
- **Broadband technologies:** Carrying-out software adaptations of multi-terabit router for IMS (IP Multi-media System) and LTE.
- **Next generation mobile technologies:** Development for LTE-A femto eNodeB system.
- **Carrier networks transport technologies for transport and access networks:** Technology development for the next generation PON system for applications requiring more bandwidth in the access and DWDM-based transport network system for long haul applications.
- **Secure wireless and wire line networks:** WiPS tablet design and development.
- **Next Generation security for telecom and data networks:** Development of an AIMS to scale-up the architecture framework of the present CMS, development of interception solutions for new technologies like LTE/ LTE-A, IMS-compliant FMCP, integration with other security agency solutions, like,

content analysis, integration of satellite and marine interception and advance intelligence manager AI technique(s).

- **Satellite-based technology:** Design and development of a satellite hub baseband, system.
- **Power efficient green telecom technologies:** Design and development of an alternate power supply system based on green technologies specifically for mobile towers (BTS) and also to supply power to current and future products developed in C-DOT.
- **Enabling technologies and telecom networks:** Undertaken feasibility studies/ prototyping on emerging telecom technologies.
- **Technology field implementation/trials:** Undertaken some of the technologies for field implementation

Through these indigenous developments and the support of indigenous manufacturers, C-DOT offers complete solutions required for urban, rural, north-east and strategic sectors, such as, Defence and Security. Besides, C-DOT also provides life-time support to its technology in the TSPs' network with continuous technology upgradation, value addition, bug-fixing and providing alternate designs to address component obsolescence.

Achievements and progress made in the various schemes of technical projects are discussed in the following sections.

1.1 Communication and security research and monitoring

The progress under this development scheme includes development, enhancements, software customization and progressive roll-out of the technology in the field.

Technology roll-out for CMS commenced and progressively completed various activities, namely, RMCs installation in 14 LSAs, operationalization of 3 ILDs (International Long Distance) in CMS network, release of tender CMC - DR build, etc.

1.2 Broadband technology

Design and development for high capacity multi-terabit router is in-progress with hardware implementation, about 90% complete; Software porting ongoing – activity likely to complete by end of Q3. System integration and testing also commenced with module level testing presently ongoing. The design of security applications over multi-terabit router has also progressed.

1.3 Next generation mobile technology

Next generation mobile technology comprises of development for LTE-A, 4th generation mobile technology the activities significantly progressed include development completion for

RRM, OAM and commencement for internal testing. ToT package also made ready femto LTE system in FDD band; efforts ongoing for manufacturing tie-up.

1.4 Carrier networks transport technologies for transport and access networks

The development projects presently ongoing under carrier network transport, progressed significantly, are given as below.

Optical Aggregation and Access System (OAAS) - *is a next generation PON system.* The development presently ongoing based on two different technologies, namely, DWDM-based (known as WDM PON) 32G WDAN PON (Wavelength-based Distribution and Aggregation Network) System) to cater to 32 ONTs on one PON fibre and TDM /TDMA – based X-GPON supporting 10G downstream and 2.5G upstream on the PON interface. 32G WDAN PON system provides 1G guaranteed symmetrical bandwidth in access, suitable for civil and defence applications and X-GPON OLT will facilitate in upgrading existing OLT infrastructure installed in the network to higher capacity. The development for 32G PON system has been completed Discussion ongoing with BBNL/ Navy for its pilot trial in their network. X-GPON (10 Gigabit PON) OLT prototype development and implementation (including integration and testing) has also been completed and its validation is ongoing.

Optical Core Network (OCN) – *is DWDM-based optical transport network for long haul applications to support data rate of 40/ 100 Gbps per channel at line/ WDM side. 100G OTN platform, namely, suteerva, for point-to-point communication has been developed. The technology has also been deployed in the MTNL network in Delhi for trial. The development for WDM-based OTN platform for 80–channel system (traffic handling capacity of 8000 Gbps) also progressed significantly with completion of terminal equipment for 40G mux-ponder, ILA, ROADM, DWDM EMS architecture design. System integration and testing ongoing for 40G system in the lab.*

1.5 Secure wireless and wire-line networks

Design and development of WiPSis ongoing, involving development of core network elements, end user device(s) for setting-up a secure mobile wireless network using standard wireless technologies, like, 3G, WiFi. Development for core network element has been completed, WiPS software also ported on the off-the-shelf handset. The design and packaging for the end-user device - secure tablet (ver.2), has been completed.

1.6 Satellite based technology

The development of a satellite hub baseband system with connectivity to terrestrial networks with RF front-end to be a standard off-the-shelf procured system is presently in progress. The prototype hub baseband system testing has been completed and architecture has been finalized for carrier-grade satellite hub.

1.7 Next Generation Security for Telecom Data Networks

AIMS project is ongoing to address the enhanced security and interception requirements of LEAs.

The progress made under the AIMS include design and development completion of interception solution for new technologies, like IMS-compliant FMCP Ipv6 support for interception, NMS enhancements, CMS enhancements for end-to-end workflow optimization, EMS for NGN LIS (Lawful Interception), call data prototyping with basic AI techniques, enhancements in analysis for PSTN and CDMA CDRs, CMS software scaling-up, etc.

1.8 Power efficient and green telecom technologies

Testing of 75W system has been completed, and discussion is ongoing for pilot trial of the 75W system in the field. The requirement specifications and architecture design finalized for 2000W system and design implementation is in-progress.

1.9 Enhancements, new features, up-gradations, adaptations and technical support for developed technologies

Significant progress made for technology support in the field include enhancements, feature addition, scalability, value-addition and customization, etc.. Technology-wise progress is briefly summarized as under:

MAX-NG technology roll-out of in the BSNL network - *Acceptance testing ongoing for core; NMS installed for NOC operation and testing ongoing;*

NGN roll-out in MTNL network - trial network set-up for roll-out of NGN technology and TAX functionality integrated into NGN network; completed installation NGN core and copper access node in Delhi & Mumbai for 1000 subscribers; MTNL TFS migrated on C-DOT NGN–IN Platform;

ISP monitoring-solution implemented at 20 additional ISP Gateways. Training infrastructure set-up, one IMS training course for LEAs conducted, IMS handed-over to 2-central LEAs and 1-state LEA, others in the process of hardware procurement; thus thereby 8-LEAs are on IMS onboard, and technical SOP is under finalization for handing over of IMS infrastructure to PCI;

NMS for NOFN-NMS integrated with DCN link status monitoring system, DCN NMS development completed for data centre monitoring, its integration with vendor specific Mibs ongoing; NOFN NMS customization completed, load testing for 1 lakh GPs awaits H/W availability, etc.;

Fault localization, Geo-intelligence & technology planning for NoF-FFLS successfully field tried in NCR Delhi, survey report analysis for 1.3 lakhs gram panchyats completed and activities ongoing for balance states, etc.

1.10 Enabling technologies and telecom network

Feasibility study/ proof-of-concept, prototype development, are ongoing in some of the new/ green field areas e.g. M2M communication & carbon foot print monitoring, whitespace radio, network optimization radio access network, etc.

1.11 Organization processes and practices to sustain CMMI level-5

The organization is CMMI maturity level-5 and through continuous improvement of organization processes, practices and periodic internal audits, CMMI maturity level-5 is being sustained.

1.12 IPRs, papers presentations and publications

Intellectual Property Asset	No.	Related project/product	Subject invention
Patents Filed	4	GyanSetu (PCT international)	Gesture Based Human Machine Interface Using Marker
		Geo-Intelligence	GIS Based Centralised Fibre Fault Localisation System.
		The deterministic Ethernet network	Real-Time Distributed Engine Framework of Ethernet virtual connections.
		Geo-Intelligence (PCT-international)	GIS Based Centralised Fibre Fault Localisation System.
Design Filed	3	VoIP- based Secure Network	VOIP - CPE 2 for LG network
		GPON	DAMAK-11
		GPON	Electronic equipment for USB charging and holding portable communication devices (Titli Damak)
Papers presented in the national and international conferences and seminars	2	General- All C-DOT products	Role of R&D in Telematics in the effective implementation of “Make In India “program
		General- Technical-DSP	Query-by-example spoken term detection using dimensional posteriorgrams motivated by articulatory classes

1.13 Business promotion

Awards Received

- "Recognition of Excellence" award for GyanSetu at ITU Telecom World 2015, awarded on October 15, 2015
- ELCINA – EFY 2014-15 'Certificate of Merit' for C-DOT Green Power Supply unit awarded on September 24, 2015

Events Held

- MSRIT Open Day Exhibition conducted during May 13-14, 2015 at Bangalore.
- Digital India Week Celebration & launch of Broadband products on July 6, 2015 at CDOT Delhi.
- 6th Strategic Electronics Summit (SES) 2015, July 30-31, 2015 at Bangalore.
- C-DOT Foundation Day, August 25-26, 2015 at CDOT Delhi & Bangalore.
- MSME meet, August 25-26, 2015 at CDOT Bangalore.
- Indo-Kenya Expo, September 28-29, 2015 at Nairobi, Kenya.
- Advantage Health Care India 2015, October 5-7, 2015 at New Delhi.
- ITU Telecom World 2015, October 12-15, 2015 at Budapest, Hungary.
- Vendor development program in association with MSME development Institute Bangalore, October 9, 2015 at C-DOT campus, Bangalore.
- C-DOT with TCOE conducted India Innovation meet on October 30, 2015 at Delhi- a platform for Start-up/ Entrepreneur projects for evaluation & assessment, supported by representatives from Government/ Academia/ Venture Capitalists/ Angels.

1.14 Technology Commercialization

During the period 9 nos. of various agreements, namely, MoU, project agreements, ToT, signed with prospective PSUs, manufacturers for technology implementations, manufacturing, customized development, etc. The details are as given below.

Sl.NO.	Strategic Partner	Purpose
A	**MOUs/ Project Agreements signed with prospective organization**	
(i)	CAIR, DRDO	Creation of advanced technologies for establishing secure high speed communication network and services
(ii)	BSNL	Technical support for DSS
(iii)	TCIL	Co-operation for delivery of telecom products
B	**TOT Agreements signed with prospective manufacturer**	
(i)	BEL (Bharat Electronics Ltd.), Bangalore	Terabit router
(ii)	BEL, Bangalore	DSP platform for transcording (NGSP)
(iii)	BEL, Kotdwara	MAX-NG
(iv)	ITI, Mankapur	MAX-NG
(v)	IL (Instrumentation Ltd.), Kota	MAX-NG
(vi)	HFCL (Himachal Futuristic Ltd.)	BBWT

Purchase orders/ & letter of intent received for project implementation in the field, MoU for field support, etc. signed for approximately `50.23 crores.

1.15 Campus Infrastructure

Construction activity commencement is awaiting statutory approval.

1.16 Recruitment of SC/ST

For recruitment of differently abled persons and those belonging to SC/ST category, C-DOT follows government rules providing for reservation in jobs in C-DOT. C-DOT has also conducted special reservation drive in various campuses to fill up its shortfall.

C-DOT has a system in place to look after the welfare of persons belonging to these categories and address any problems/ complaints that may come up.

1.17 Knowledge/Skill Development

- As part of Knowledge/ Skill development program, C-DOT is conducting organizational, strategic and tactical training in-house and, at the same time, is sponsoring candidates for product/ tool-specific trainings, conference, seminars, etc.

- Staying competitive is the key to sustainability. Getting the staff trained, keeping them motivated and geared up with industry trends and new technologies is essential to the organizational excellence. Trained staff is a valued asset in the organization. Regular training and learning opportunities constitue the investment that allows employees for synergise with the business-giving skilled work force and competitive advantage in the market. These skills are technical, organizational, or contextual.
- To identify the training needs, C-DOT's Knowledge Management Group collects the training requirement of all the groups annually. Each groups capture the training requirement of the same in the light of the annual business plan. Skill gap of every employee is identified. After due deliberation and analysis, the Organizational trainings are identified and training calendar is released.
- Training areas which are not identified for Organizational training but are very much essential for the groups functioning, are identified as group-specific training and candidates are sponsored for appropriate external training programmes.
- Apart from imparting regular training to the staff, new research engineers are providedinduction training at the time of joining C-DOT on Process, products, software, technologies, organizational, soft skill etc.
- Till December, 2015, a total 1300 man-days of training were imparted to around 660 employees of the organization on the following technical and general subjects.
    - ESD/EMI/EMC
    - 4G & 5G
    - Overview of REDHAT (Linux Operating system)
    - S/w Automation for Regression And Load testing
    - Signal Integrity
    - Wireless & Emerging Technologies
    - Hindi typing refresher course
    - Workshop on MPLS
    - Training on Advanced Excel
    - Advanced JAVA
    - Advance Communication Course
    - Basic to advance in IP
    - TBR functionalities & protocols

1.18 Anticipated Achievements during January - March, 2016

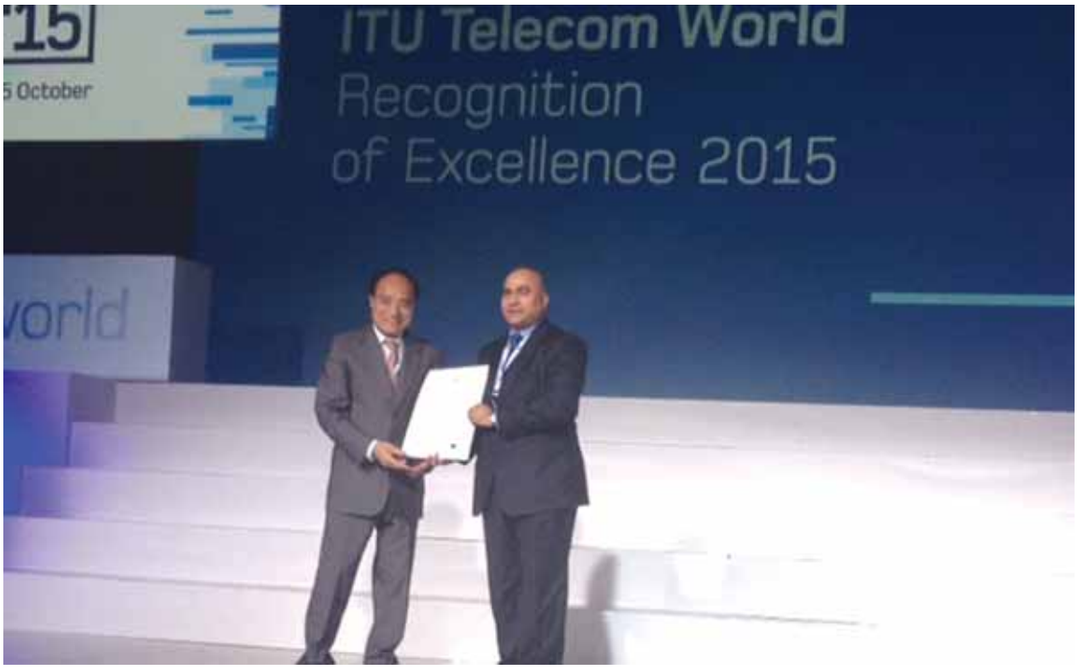
- CMS Roll-out - CMS operationalization in 9 LSAs, carrying-out CMC data centre build activities for DR and procurement of required DR infrastructure for installation;
- Broadband technology - Multi-terabit router validation commencement in the lab;
- Next Generation Mobile technology-Femto LTE system in TDD band, ToT commencement;
- Carrier networks transport technologies-32G WDAN system pilot trial commencement, X-GPON OLT (prototype - 10G G-PON) System validation in the lab; readiness of 100G OTN with multiple wavelengths for pilot;
- Secure wireless communication - integration testing of WiPS services with SDCN
- Satellite Hub baseband-development for enhanced carrier grade, fully redundant Hub;
- AIMS- CMS technology enhancements and migration to new architecture frame-work;
- Field roll-outs/ implementation for some of the technologies – MAX-NG deployment in BSNL network, NGN deployment and operationalization in MTNL network for roll-out of services, NMS deployment in the NOFN network, and design enhancements to address component obsolescence, feature additions, bug-fixes/ field support, etc.;
- Feasibility study/prototype development completion in some of the new/green-field areas e.g. M2M, white space radio, etc.;
- Technology commercialization, business promotion, etc. - ToT for 100G OTN, L2-switch, ToT of 2000W green power supply system.

Digital India Week Celebration & launch of Broadband products on July 6, 2015 at C-DOT Delhi

6th Strategic Electronics Summit (SES) 2015, July 30 – July 31, 2015 at Bangalore

Indo-Kenya Expo, September 28 - September 29, 2015 at Nairobi, Kenya

Advantage Health Care India 2015, October 5 – October 7, 2015 at New Delhi



ITU Telecom World 2015, October 12 – October 15, 2015 at Budapest, Hungary

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8. PUBLIC SECTOR UNDERTAKINGS

8.1 Bharat Sanchar Nigam Limited

ROLE AND FUNCTIONS

Bharat Sanchar Nigam Limited (BSNL) had been formed on October 1, 2000 by Corporatisation of the erstwhile Department of Telecom operation & Department of Telecom Services. The company has taken over the erstwhile functions of the Department of Telecom in respect of provision of telecom services across the length and breadth of the country excluding Delhi and Mumbai. BSNL has large number of work force of around 2.14 lakh as on December 31, 2015. BSNL is a 100% Govt. of India owned Public Sector Undertaking.

BSNL is a technology-oriented company and provides all types of telecom services namely telephone services on wireline, WLL and Mobile, Broadband, Internet, leased circuits and long distance telecom Service.

The company has also been in the forefront of technology with 100% digital new technology switching network. BSNL nation-wide telecom network covers all District headquarters, Sub-Divisional headquarters, Tehsil headquarters and almost all the Block Headquarters.

1. HIGHLIGHTS

The details of physical targets and Achievement for the year 2014-15 & 2015-16 are given as under:-

Achievement during financial year 2014-15:

Sl. No.	Item	Unit	MOU for the year 2014-15	
			Target	Achievement
1	Total Telephone Connection	Lakh	100	(-) 198.98
1 (a)	Wire-line	Lakh	-	(-) 20.76
1 (b)	WLL	Lakh	-	(-) 2.64
1 (c)	Mobile	Lakh	100	(-)175.58
2	Broadband (DSL)	Lakh	30	0.19
3	Rural Telephone	Lakh	-	(-) 71.16
4	VPT	No.	-	(-) 1,170

1.1 Achievement during Financial Year 2015-16 (up to December 31, 2015):

Sl. No.	Item	Unit	MOU for the year 2015-16			
			Target (2015-16)	Status as on April 01, 2015	Status as on December 31, 2015	Achievement
1	Total Telephone Connection	Lakh	-	937.56	977.66	40.10
1 (a)	Wire-line	Lakh Connection	-	164.12	151.34	(-) 12.78
1 (b)	WLL	Lakh Connection	-	19.85	14.56	(-) 5.29
1 (c)	Mobile	Lakh Connection	50	753.59	811.77	58.18
2	Total Switching Capacity Mobile	Lakh Lines	60	859.78	900.08	40.31
2	Broadband (DSL+FTTH+EVDO +WiMAX)	Lakh	25	99.09	98.45	(-) 0.64
3	Rural Telephone	Lakh	-	313.05	312.53	(-) 0.52
4	VPT	No.	-	577,097	5 77,097	-

1.2 Financial Performance:

The details of profit/ loss figure for the year 2012-13, 2013-14, 2014-15 & 2015-16 (up to September 30, 2015) are given as under:

(Figures in ` Crore)

Financial Year	2012-13	2013-14	2014-15	2015-16 (Up to September 30, 2015)*
Total income	27,128	27,996	28,645	12,929
Total expenditure	35,012	35,016	37,292	16,734
Net profit	(-) 7,884	(-) 7,020	(-) 8,234	(-) 3,462

*Note: * Data is Provisional & Un-audited*

1.3 Computerization & Information Technology in BSNL:

(a) Achievements during the year 2015-16:

- 0.6 million NGN Core equipment has been commissioned during the period from April, 2015 to December, 2015.
- Acceptance Testing (A/T) and Validation Testing (V/T) for Phase - I NGN Core & Access Equipment have been completed.
- Purchase Order for 3 million lines under Phase-II NGN Core & Access Equipment has been issued and equipment supply is in progress.
- Previous Purchase Order issued for C-DOT MAX-NG Project of 100 sites in First Phase was cancelled and a new tender has been floated.
- The techno-commercial evaluation of bids reveived w.r.t procurement of 24.34 LCKM PIJF UG Cables of small sizes namely 10, 20, 50, 100 and 200 pair is completed and financial bid has been opened on January 28, 2016.
- Acommittee has been constituted for assessing the requirement of PIJF U/G Cable higher size namely 400, 800 and 1200 pair for the financial year 2016-17. Tender will be floated after finalising the requirement and subsequent approval by the competent authority.
- Tender for procurement of 20 lakhs CLIP instruments is in process and is scheduled to open on February 5, 2016.

Milestones for 2015-16

- Implementation of IPV6 in CDR System is ready.
- Development of password projected website for CLIR (Calling line Identification Restriction) has been completed.
- Development of website for Digitization of PTCC (Power and Telecom Coordination Committee) rout has been completed.
- Implementation of Plan India E-Stapling Solution including GSM for Corporate Customers has been completed.

Inputs on planned action for the January, 2016-March, 2016.

- Implementation of Ipv6 in CDR system is ready.
- Implementation of leased lines in CDR systam.

(b) Enterprises Resources Planning (ERP) System Implementation

The implementation of ERP in BSNL was planned in two phases i.e Phase-I Proof of Concept (POC), Phase-II Rollout. The ERP had been implemented in 8 POC Circles/ units viz; Telecom Factory, Mumbai, ALTTC Ghaziabad, WTP Mumbai, STR, Karnataka, BSNL Corporate Office, Maharashtra Including ITPC. The POC Phase was completed in June, 2014.

Rollout Phase has been started and implemented in all 41Circles/ units till November 2015, thus ERP completed in all 49 Circles/units of BSNL.

During April, 2015 to December, 2015 the ERP has been implemented in pending 19 Circles/ Units viz; ETP, ETR, NETF, Uttaranchal, Haryana Telecom Circle, Himachal Telecom Circle, Andaman & Nicobar, Assam, Odisha, North East-I &II, J&K, CTD, Jharkhand, West Bengal , NTR, Telecom Factory Jabalpur, Bihar and Telecom Factory Kolkata.

1.4 Rural Telephony:

(a) Village Public Telephones [VPTs] :

- About 98.12% of the eligible Census 2001 inhabited revenue villages are already covered with Village Public Telephone (VPT).
- USOF, DOT had already assigned total 5,93,601 villages as per Census 2001 to provide VPT facility under different agreements. Total villages having VPT facility were 5,82,482 in which 4086 VPTs had been provided by PBSOs (Private Basic Service Operator). It is pertinent to mention here that total 155,821 VPTs have been disconnected as those were non-techno commercial viable, besides subsidy support against them have also been expired.
- An agreement was signed with USOF in February, 2009 to provide subsidy support for provision of VPTs in 62,443 (Now proposed to be revised in 61,254 VPTs sent to USOF, DoT for approval) inhabited uncovered villages as per census 2001 in the country. As on December 31, 2015, 51,365 VPTs have been provided by BSNL (including 432 MHA VPTs). The request for dropping of 7,741 non-feasible villages has already been sent to USOF, DoT. The rollout period of agreement would expire on February 26, 2016, all-out efforts are being made to extend the rollout period for one year from date of approval and subsidy for five years up to February 26, 2021, but approval from USOF, DoT is still awaited.

2. TELECOM FACTORIES:

BSNL Telecom factories are In-house manufacturing units of the BSNL and located at Kolkata, Gopalpur, Kharagpur, Jabalpur, Bhilai, Richhai and Mumbai. Telecom Factory Mumbai and Kolkata are ISO 14000:2004 certified. Telecom Factory Mumbai is 18001:2007 OHSAS certified while all other factories are ISO 9001:2008 certified. Presently, these factories are engaged in production of SIM Card, PLB HDPE Telecom Duct, OFC Accessories, FDMS, SS Drop wire, Jointing Kits, Transit Safety Device, LJU cum splitter, DDF, Towers & other conventional items such as Mini Pillar, CD Cabinet, CT Box, DP Box, LJU etc. In the ever changing Telecom scenario, it is the endeavor of the Telecom Factories to venture into new technology areas and support BSNL as manufacturing cum service support organizations.

Amidst all constraints posed by declining demand of almost all conventional products, decreasing work force and inter - operator competitive environment, factories have tried their best to meet the requirement of various Telecom goods in the BSNL field unit upto December 2015 of the current financial year.

3. INTERNATIONAL RELATION

Foreign Deputations:

A total of 53 BSNL officers were deputed abroad during the period April - December, 2015 (2015-16) for various events.

4. TRAINING:

BSNL has 30 Telecom Training Centres countrywide comprising of three APEX level Training Centres namely:

- *Advanced Level Telecom Training Centres (ALTTC), Ghaziabad.*
- *Bharat Ratna Bhim Rao Ambedkar Institute of Telecom Training (BRBRAITT), Jabalpur*
- *National Academy of Telecom Finance and Management (NATFM) Hyderabad.*

In terms of training in the current year 2015-16 (up to December 31, 2015) details are as under:

- Induction training to Fresh Recruits : 302
- In-house training to Executives/Employees : 26,241
- Training under National Skill Development: 7,501 (The course is in process. The completion of training will be in March 2016)
- Mandatory Training for Executive under EPP in e-mode : 5,878

Training Revenue:

During the period April, 2015 to December, 2015, training centers/ field units have reported revenue of about `18.40 Crore by providing vocational training to 64,140 students/external trainees.

Center of Excellence (COE):

ALTTC, Ghaziabad has been designated by ITU as Centre of Excellence (COE) in Broadband Access & NGN for the cycle 2015-18 and two face training programmes have been scheduled as part of Broadband Access Network Planning program. One program on "Broadband Access Network Planning program" has been completed from October 5, 2015 to October 9, 2015 and the other is scheduled in February, 2016.

5. DEVELOPMENT OF TELECOMMUNICATION FACILITIES IN SELECTED AREAS

5.1 Special Component Plans: Annual Plan of BSNL pays special emphasis on accelerated growth of telecommunication facilities under Special Component Plans in (1) North Eastern Region and (2) Tribal Sub-plan in Tribal Areas.

5.2 Network Status of NE Region States: The status of telecom facilities as on December 31, 2015 in each of the state of North East Region is shown in the following table:-

Sl. No.	Name of State	Telephone Exchange (Wire-line)	Total Capacity (Wire-line + Wireless)	Total DELs (Wire-line+ Wireless)	Broadband Connection	VPTs (As per census 2001)
1	Assam	577	22,25,837	14,71,957	93,143	24,692
2	NE-1	201	12,85,002	7,47,771	42,891	6,852
2(a)	Meghalaya	50	4,29,697	2,15,455	42,891	5,290
2 (b)	Mizoram	65	2,76,132	1,84,267		704
2 (c)	Tripura	86	5,79,173	3,48,049		858
3	NE-II	223	11,37,402	9,27,288	24,774	6,247
3(a)	Arunachal Pradesh	109	421916	3,64,732	24,774	2,810
3(b)	Manipur	49	333207	239055		2,174
3(c)	Nagaland	65	382279	323501		1,263
4	Sikkim	48	1,64,448	59,009	3,199	429
	NE Region	**1,049**	**48,12,689**	**32,06,025**	**1,64,007**	**38,220**

5.3 Development Status: Target and achievement during the year 2015-16 for the North East Region are as follows:

Sl. No.	Items	Target (2015-16)	Status as on April 1, 2015	Status as on December 31, 2015	Achievement
1	Total Switching Capacity	3,78,881	44,98,188	48,12,689	3,14,501
1 (a)	Wire-line	-	10,25,762	10,30,642	4,880
1 (b)	WLL	-	4,63,660	4,63,660	0
1 (c)	GSM	3,78,881	30,08,766	33,18,387	3,09,621
2	Total Telephone Connection	2,28,200	31,33,992	31,93,114	59,122
2 (a)	Wire-line	2,200	3,03,908	2,94,355	(-) 9,553
2 (b)	WLL	-	2,44,592	2,47,915	3,323
2 (c)	Mobile	2,26,000	25,85,492	26,50,844	65,352
3	Broadband	43,350	1,62,003	1,64,007	2,004
4	Rural Telephone	-	10,37,574	10,62,884	25,310
5	VPT	89	38,220	38,220	-

***Tele-density**: Status of telephone connections in N.E Region and the tele-density State/ Circle- wise as on December 31, 2015 are given in the following table:*

Name of State	Projected Population as on December 31, 2015 (in thousand)	Telephone connection of BSNL	Tele-density due to BSNL's phones	Tele-density by All Operators	% Market share of BSNL
Assam	32,379	14,71,957	4.55	55.23	8.23
NE-1	7,646	7,47,771	9.78	78.22	15.41
NE-II	6,269	9,29,228	14.82		
Sikkim	608	46,098	7.58	*	—
Total NE Region	**46,902**	**31,95,054**	**6.81**	**62.14**	—

** The figure of tele-density by all operator and market share for Sikkim is not available separately as this information is compiled for LSA viz. West Bengal.*

6. TRIBAL SUB PLAN:

The Tribal Sub Plan (TSP) is a part of the Annual Plan for providing telecom facilities in the tribal areas. For a balanced and faster development of telecom facilities in tribal areas, these areas are treated as special focus areas. The main objectives of the Tribal Sub Plan areas are (i) to provide the telephone facility on demand in tribal areas (ii) to provide NSD facility to all exchanges in tribal areas and (iii) to provide public telephone in all tribal villages.

Tribal areas fall in the States of Andaman & Nicobar, Andhra Pradesh, Assam, Chhattisgarh, Gujarat, Himachal Pradesh, Jharkhand, Karnataka, Kerala, Maharashtra, Madhya Pradesh, NE-I, NE-II, Orissa, Rajasthan, Tamil Nadu, Uttaranchal, U.P (East) & West Bengal.

Targets and achievements for the year 2015-16 under Tribal-sub-plan (TSP) are as follows:

Sl. No.	Items	2015-16	
		Target	Achievement during 2015-16 (up to December 31, 2015)
1.	Wireline Telephone exchanges	-	(-) 9
2.	Switching Capacity (Wireline + Wireless)	6,04,233	1,49,610
3.	DELs (Wireline + Wireless)	5,58,613	2,49,744
4.	OFC (RKms)	1,107	261
5.	Broad band Connection (in nos.)	87,737	7,552

7. WELFARE MEASURES/ FACILITIES/SPORTS UNDERTAKEN BY BSNL

BSNL is running various welfare programmes for its employees and their family members as part of BSNL's welfare measures for the year 2015-16. A sum of `10 Crore has been allotted for various welfare programmes for the year 2015-16. Grants to the tune of `4.48 Crore approx. has already been released.

7.1 Holiday Homes: There are 38 Holiday Homes all over the country for use by its employees and their family members.

7.2 Special Dispensation: Relaxation of 10% marks is given in respect of students who are wards of SC, ST, OBC & Physically Handicapped employees in the grant of Scholarships, Book Awards. In the case of girl students 15% relaxation is being given for grant of Book awards.

7.3 Sports: BSNL is encouraging its employees to participate in various sports activities by annually organizing 15 Games and one Cultural competition. This year an allocation of `2.00 Crore has been made for sports.

- Sanchar Krida Award/ Cash Awards are given to sportspersons/Coaches who excel at National and International level.
- BSNL Sports Board is affiliated with 12 Sports Federation of India.
- Sports grant is being given for organizing 15 All India BSNL sports tournaments and one cultural meet. Funds are given for participation of BSNL teams in various events at International/National and other levels.

8. STAFF STRENGTH

Total number of working employees as on December 31, 2015.

Group	Number of employees	Employees-Scheduled		OBC	Ex-Servicemen	Women Employees
		Scheduled Caste	Scheduled Tribe			
Executive	45,113	7,189	2,228	5,842	95	7,412
Non-Executive	1,69,147	31,285	8,711	14,973	241	24,866
Total	**2,14,260**	**38,474**	**10,939**	**20,815**	**336**	**32,278**

Number of differently-abled employees as on December 31, 2015 is 492*

** ERP is under roll out, the category wise staff strength is not yet updated completely , thus the figures being sent are tentative.*

Shri Ravi Shankar Prasad, Hon'ble Minister for Communications & IT addressing on launch of NGN Switch of BSNL at Bharat Sanchar Bhawan, New Delhi on March 13, 2015

Shri Ravi Shankar Prasad, Hon'ble Minister for Communications & IT inaugurating WiFi facility at Lord Jagannath Temple; and Puri on July 9, 2015

Shri Ravi Shankar Prasad, Hon'ble Minister for Communications & IT launching Wi-Fi facility at two Ghats of Varanasi. Shri Rakash Garg, Secretary, DOT Shri Anupan Srivastava, CMD, BSNL were also present on the accession on February 8, 2015

Shri Anupam Srivastava, CMD, BSNL welcoming Shri Ravi Shankar Prasad, Hon'ble Minister for Communications & IT on the accession of function for up gradation of minimum broadband speed from 512 kbps to 2mbps at Gurgaon on September 7, 2015

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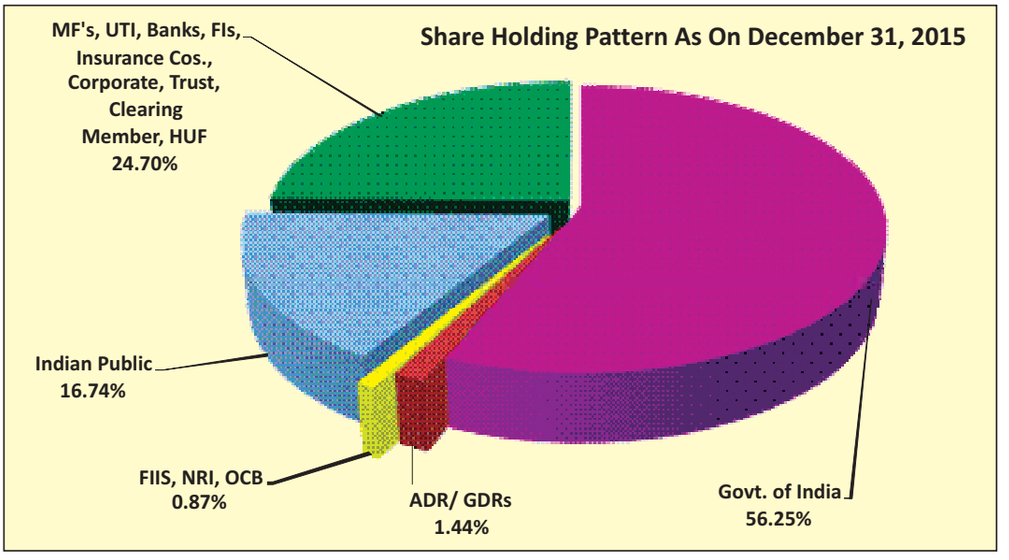
8.2 Mahanagar Telephone Nigam Limited

Mahanagar Telephone Nigam Limited (MTNL) was incorporated on February 28, 1986 under the Companies Act as a wholly owned Govt. Company and on April 1, 1986, assumed responsibility for the control, management, operation of the telecommunications services in the two Metropolitan Cities of Delhi and Mumbai. The jurisdiction of the Company comprises the city of Delhi and the areas falling under the Mumbai Municipal Corporation, New Mumbai Corporation and Thane Municipal Corporation for providing fixed line and WLL based limited mobility services. However, for Cellular services the company has the license to provide services in Delhi including NCR (towns of Ghaziabad, Faridabad, Noida and Gurgaon) and in Mumbai including Navi Mumbai, Kalyan & Dombivili.

MTNL is a complete telecom solution provider, providing the following wide range of services to its esteemed customers:

i. Basic Telephone Service
ii. Cellular Mobile Service (both 2G/ 3G GSM)
iii. Internet Service
iv. ISDN
v. Broadband
vi. Leased Circuits
vii. IN Services
viii. Wi-Fi hot spots
ix. Data Centre Services



In addition MTNL is providing a host of value added services to its wire line & wireless customers. VAS is normally a third party item & is provided on franchise model on revenue share basis as & when available.

The authorized capital of the Company is `800 Crores. The paid up share capital is `630 Crore divided into `63 Crore share of `10 each. At present, 56.25% equity shares are held by President of India & his nominees and remaining 43.75% shares are held by FIIs, financial institutions, banks, mutual funds and others including individual investors.

1. PHYSICAL PERFORMANCE

During the year 2015-16 (upto December, 2015), there is net addition of 65,302 connections (including Fixed line, GSM & Broadband). During this period as sufficient spare capacity was available for all type of services & severe financial constraints of the company, no addition in the Networks installed Capacity was made.

Details of achievements of MTNL Delhi & Mumbai during 2015-16 (upto December, 2015) are as follows:

Sl.No.	Items	Achievements 2015-16 (upto December, 2015)	
		Delhi	Mumbai
A	DELs (includes Landline, GSM & Broadband)		
	(i) Gross	194625	257876
	(ii) Net	21733	43569
B	Transmission: SDH System		
	(i) STM-16	2	6
	(ii) STM-4	0	4
	(iii) ADM-1/STM-1	26	37
C	Optical fiber Cable(in Route Kms)	161.776	70.86
D	Optical fiber Cable(in Fiber Kms)	5672.004	1618.25

It is worth mentioning here that, MTNL is operating only in Delhi and Mumbai which are the most fiercely competitive markets characterized by high saturation and having more than 150% tele-density. However, to overcome these limitations MTNL has modernized its network by incorporating state of art technologies and adopting customer friendly approach. The

company has been constantly seeking ways and means to provide the Telecom Services of International standard. Status as on December 31, 2015 of total Network Capacity & subscriber base in respect of Fixed line, GSM, CDMA & Broad band services are summarized below:

Sl.No.	Services	Network Capacity	Subscriber base
1.	Fixed Line	5002897	35,17,794
2.	CDMA	9,42,230	1,25,364
3.	GSM	56,00,000	35,27,552
4.	Broadband	16,34,644	11,92,157

As can be seen from above, enough network capacity is available & all the services which are being provided by MTNL to its' customers are available on demand and there is no waiting list for any of the services.

2. DIFFERENT SERVICES AND PROJECTS

MTNL has planned several initiatives/ projects to improve its network capabilities and provide better quality of service to its customers. Some of the salient initiatives and projects are as below:

I. **Higher data rates to mobile customers:** Existing HSDPA 3G network in Mumbai is being upgraded to HSPA+. With this, the existing downlink speed of 3.6 Mbps & uplink speed of 384 Kbps will be enhanced to a speed of 21.1 Mbps & 5.76 Mbps per sector.

II. **Optical Fiber Connectivity for existing BTS/ Node-B sites:** MTNL is planning to provide backhaul connectivity to existing its mobile radio network (BTS/ Node-B sites) in Delhi & Mumbai on Optical fiber in place of Microwave connectivity.

III. **Synergy with BSNL:** To enhance the synergy in between MTNL & BSNL in line to the MOU signed between these two companies, BSNL has been requested to take care of Billing of Leased Lines/ Land Line/ Broadband of MTNL. Work has been started already to make over Leased Circuit data for billing purpose. MTNL is also exploring the managed services model with BSNL for its Mobile network as a part of synergy between the two organizations.

IV. **C-DOT IMS:** MTNL plans to replace the ageing TDM Fixed line switches with new technology of NGN/ IMS in phased manner. For trial of Tandem exchange,

a Line-Media-Gateway (LMG) of capacity 1K has been installed at Hauz Khas Exchange, and validation is in progress.

V. **Provision of High Speed Internet on FTTH and Wi-Fi at the Hon'ble M.Ps residences:** The House Committee, Lok Sabha has assigned MTNL the work to provide high speed Broadband on FTTH and Wi-Fi services at the residences of Hon'ble MPs in Delhi. The total estimated cost of the project is `43.20 Crore and MTNL has received an upfront grant of `34.56 Crore so far from DOT. Under the scheme, initially a total number of 735 Hon'ble MPs residences at Delhi were proposed to be covered. Out of these connections have already been provided to 703 houses and providing of wiring/ connections is held up due to inaccessibility of the remaining houses. For provision of Wi-Fi services, PO has already been issued on September 18, 2015. Physical installation has been completed for WI-Fi Services in 310 residences and commissioning is likely to be done shortly.

VI. **MCS Project of Mumbai**: MTNL Mumbai had signed an agreement on March 17, 2015 with M/s L&T for about `281 Crore for the Mumbai surveillance project. The project execution works such as site survey, trenching & laying of optical fiber cable etc. is in progress. Already 1235 cameras out of a total of 6000 have been installed. The datacenters at Worli & Belapur catering to this project have already been accredited with Tier III design certification and constructed facility certification.

VII. **IPv4 to IPv6 Migration:** DoT has directed all major service providers to make their core network infrastructure ready, so that they are able to offer IPv6 services across all segments. IPv6 migration is a challenging task as MTNL has many legacy networks and equipments for various line of business i.e. broadband, wireless, leased circuit etc. Given these challenges, MTNL is striving hard to achieve the objective. MTNL has taken proactive steps in this direction and has already replaced its core network (IPv4 only) with dual stack MPLS network and has also done testing for its Broad-band network along with other equipments. Peering at ISP for IPv6 has already been completed. CPE procurement is being done as IPv6/IPv4 compliant. The broadband network of MTNL is IPv6 ready on dual stack.

MTNL GSM Network is not IPv6 compliant due to some non - IPv6 Core elements (Eg. GGSN, SGSN). The last revised target to DOT for IPv6 compliance in GSM was June, 2015 in view of the GSM tender finalization. Presently, GSM tender is in under consideration of MTNL Board.

MTNL is being offered IPv6 services to its Enterprise Broadband and Retails Customers. Presently MTNL has about 5 no. of Leased Line & about 98 Retails customers of IPv6.

VIII. **International Bandwidth:** Purchase Order (PO) has been placed on M/s Reliance communication and M/s Tata Communication Ltd for procurement of 27905 Mbps & 11960 Mbps respectively for the quarter ending September, 2015.

IX. **DNS Protection & cache System:** DNS protection & security system has been finalized for Mumbai unit through open tender. Delhi unit has also been authorized to place a tender for the procurement of DNS Protection & security system.

X. **Expansion of Broadband network capacity:** A tender is being prepared for procurement of 400 nos. of DSLAMS to expand existing broadband network capacity and to facilitate customer by installing of these DSLAM near to customer premises. This will enhance MTNL's capacity to provide high quality broadband services to its customers.'

XI. **Redeployment of DSLAMs of existing Broadband Network:** Approximately 100 nos. of existing DSLAMs have been redeployed near to subscriber premises in Delhi and Mumbai each to enhance the quality of service by reducing copper loop length. This will hopefully reduce the number of complaints from broadband subscribers.

XII. **Implementation of Security Guidelines:**

Cross Functional Internal Audit: To enhance the network security, MTNL formed the teams for cross functional internal audit and GM (IT) Mumbai, imparted training on ethical hacking to team member. Security guidelines and policies issued by various agencies are circulated.

Common IT Policy: MTNL IT Security policy reviewed by an independent Auditor i.e. M/s PwC and a common IT Security Policy has finalized for all LoBs. The said policy will be in effect from January 1, 2016.

Compliance of DoT direction on IPDR: MTNL is complaint to the extent that all the parameters suggested in the IPDR are available with different systems/ databases of MTNL.

XIII. **Centralized Wi-Fi authentication**: The project is under commissioning stage.

XIV. IT initiatives: Initiatives have been taken to facilitate in house developments for the purpose of ease of operations/ monitoring management.

- Development of common intranet site of MTNL
- Launch of MTNL e-Patrika
- Procurement of blocking system to block the webpage's/ URLs
- In-browser Messaging solution
- E-Mail solution up gradation/ migration
- EPS system for MTNL Delhi

XV. Utilization of MTNL's Assets: MTNL has been making conscious efforts to maximize revenue by gainful utilization of its assets. Besides other intiatives, MTNL has already started sharing its surplus unutilized built up spaces and staff quarters with other Government, Semi Government, PSUs and Government controlled autonomous bodies. In addition, under a comprehensive review from policy prospects regarding effective utilization/ disposal of real estate assets, a comprehensive proposal of "MTNL Real Estate Port-folio" (containing the details of under-utilized properties/ lands identified and proposed for monetization) has already been sent to DoT for seeking necessary approvals/ directions & relaxations from DoT and other Governemnt departments, through DoT.

During the year 2015-16 (upto November, 2015), MTNL has earned `94.61 Crore (`88.59 Crore + `6.02 Crore) from the gainful utilization of its assets which includes rental income from properties and rent on staff quarters Inspection quarters/ hostels & other services etc.

3. JOINT VENTURES AND SUBSIDIARY COMPANIES

3.1 MTNL-STPI IT Services (MSITS): MTNL STPI IT SERVICES LTD (MSITSL) is a 50:50 Joint Venture company of Mahanagar Telephone Nigam Limited (MTNL) and Software Technology Parks of India (STPI). MSITSL was incorporated on March 31, 2006 under the Companies Act, 1956, with authorized Capital of `50 Crore. In order to implement one of its objectives MSITSL has established the physical infrastructure of Tier III Data Center at Chennai on space taken on lease basis from STPI. The Data Center has server farm area of around 3500 sq. ft. and the total investment made in this regard is of `477 Lakhs. This Tier III Data Center is maintaining 99.98% uptime on 24X7 basis. The commercial operation of the Data Center commenced in 2009. The Ministry of External Affairs (MEA) has hosted the Passport Seva Project at MSITSL Data Center through M/s TCS. The Directorate General

of Employment & Training (DGE&T) in Ministry of Labour & Employment has hosted National Career Project through STPI at MSITSL Data Centre. Many IT/TES companies have also co-located servers and networking equipments in the MSITSL Data Centre.

MSITSL has earned the revenue for the period of 2009-10: `196 Lakhs, for the year 2010-11: `275 Lakhs, for the year 2011-12: `297 Lakhs, for the year 2012-13: `360 Lakhs, for the year 2013-14: `388 Lakhs and for the year 2014-15: `422 Lakhs. For the period 2015-16 (up to December, 2015): `456 Lakhs.

MSITSL is in the process of expanding the Data Center server farm area at an estimated cost of `146 Lakhs. About 50 nos. of additional 42U server racks can be co-located in the server farm area after the planned expansion.

3.2 United Telecom Limited (UTL): The Joint Venture is working for providing telecom service in Nepal based on CDMA technology. UTL has total voice customer base of more than 506,459 in number and total data customer base is more than 56,059. UTL has more than 118 personnel consisting of telecom engineers and finance professionals and other support staffs. Apart from this, more than 110 people are working through outsourcing agencies for Fault Repair Services, Customer Care and Marketing of phones, security and campaigns. The Management closely monitors the overall performance of the network, quality of services, subscriber complaints, fault rates, BTS wise traffic and ILD traffic. The Company is sustaining its operational expenses from internal revenue generation. As on date, MTNL holds 22.06%of Equity Share in UTL.

UTL is planning to migrate from CDMA to GSM technology. It has completed all formalities including making necessary payment to obtain Unified Service License under which it can operate any telecom service. UTL plans to roll out GSM and 3G network from 3rd Quareter of 2016 and expect to launch its GSM/3G services in 1st Quarter of 2017.

3.3 Millennium Telecom Limited: It is a wholly owned subsidiary of MTNL, incorporated in February, 2000 under the Companies Act, 1956. It has its registered office located in Mumbai.

Services being offered by MTL are:-

- Telecom & IT Consultancy,
- Project Management,
- End-to-end ICT Solutions,
- IT for Education and Health Sector,
- Skill Development & Capacity Building,

- Security & Surveillance
- Cloud Computing,
- Managed Services etc.

Some of the projects undertaken by the company were

- Web Hosting Services to NHAI
- RF link to Air India
- ICT for women in J&K
- Campus wide Wi-Fi CUH

MTL was in loss for many years. But now it is moving ahead towards the path of revival. In 2014-15, the company turned into profit by System Integration other ICT related works at Pan India level. MTL had a net profit of `3,261,283/- for the period ending December 31, 2015. MTL is in the process of winning over more orders in the upcoming years.

4. SUBSIDIARY COMPANIES:

Mahanagar Telephone Mauritius Limited (MTML): MTML is a 100% subsidiary of MTNL. The company is having license for mobile services, international long distance services and internet services. The customer base of MTML as on December 31, 2015 has grown to 267,808 resulting in a market share of around 18%. MTML is offering 2G/3G in all over island and 4G at selected areas. The revenue of the company also is growing consistently.

MTML has already earned gross revenue of approximately `767 million till December, 2015 as against `720 Million in the corresponding period of last fiscal year, thereby registering a growth of around 7% so far. Despite the intense competition and saturated market, the company could increase its revenue due to customer centric efforts in designing specific packages and services.

In the year 2015, the company has upgraded its entire network for high speed data services (HSPA) and introduced LTE (4G) in some select areas.

All the expenses of the company are paid from its own internal resources and CAPEX for procurement of equipments is also being met. MTML is operating from its own building also constructed from internal resources situated at 63, Cyber City, Ebene, Mauritius which is considered to be heart of IT hub in Mauritius. There is no debt liability on the company.

The company is managed by CEO, CTO, CFO and 9 more officers all on deputation from the parent company. Other operations are managed through outsourcing.

5. HUMAN RESOURCE:

ManPower: The total employees of MTNL, including various employee categories as on December 31, 2015 were 31,393. Employees belonging to Scheduled Caste are 5799, which constitute 18.47% of the total employees. The total number of employees belonging to Scheduled Tribes is 1128, which is 3.59% of total employees.

Group	Total Working Strength	SC	ST	Women	Persons with disabilities
A	502	91	32	12	1
B	3684	498	89	503	8
C	18625	3099	327	5724	120
D	8582	2111	680	999	15
TSM	-	-	-		-
Total	**31393**	**5799**	**1128**	**7238**	**144**

MTNL has endeavoured to fulfil the statutory requirement with regards to implementation of reservation policy for Candidates belong to SC/ST/OBC communities and as well as physically challenged candidates.

Training: At present MTNL has two state of the art training centres located in New Delhi and Mumbai:-

(a) The Institute of Telecom, Technology & Management (ITTM) shadipur, New Delhi: The Institute of Telecom, Technology & Management ITTM Shadipur, New Delhi is a state of the art training centre of MTNL, Delhi engaged in imparting induction training and short duration training to its officers and employees in the filed of Telecom, IT, Computer System and Management.

ITTM has the necessary infrastructure, technical and academic competence and excellence for providing training in specialized courses in the filed of GSM, Broadband Technology, Switching, Transmission, External Plant, IT, Computer System, Management and various wellness and Life Style management subject comprising motivation, positive thinking, stress management & spirituality at workplace and other healthcare programs.

2150 Internal employees and 587 external candidates were trained in ITTM in relevant area from April, 2015 to December, 2015.

(b) Centre for excellence in Telecom Technology and Management (CETTM), Mumbai: CETTM, The ISO 9001-2008 certified training centre of MTNL Mumbai apart from training in-house personnel, also has a client base various sectors like BPO, Banking, Finance, Oil Pharma, IT etc. The Customers have always rewarded our good work by giving us the repeated business.

2282 Internal employees and 1777 external candidates were trained in ITTM in relevant area from April, 2015 to December, 2015.

6. FINANCIAL PERFORMANCE

The Financial performance of MTNL is detailed below:

(Figures in ` Crore)

Items	2013-14	2014-15	2014-15 (upto December, 2014)	2015-16 (upto December, 2015)
Income from Services	3391.73	3400.08	2523.66	2361.61
Other Income	395.64	420.98	169.42	201.23
Total Income	3787.37	3821.06	2693.08	2562.84
Expenditure	6870.41	6723.48	5033.33	4759.09
PBT	8537.89	-2902.42	-2340.25	-2196.25
Net profit	**7825.13**	**-2893.39**	**-2340.25**	**-2180.33**

Despite stiff competition, from other operators, MTNL has achieved a financial turnover of `2562.84 Crore during the year 2015-16 (upto December, 2015), as compared to the previous year's turnover of ` 2693.08 Crore (December, 2014). During the said period MTNL posted a Loss of `2180.33 Crore basically due to the major portion of our working expenses goes toward staff cost (more than 70%).

7. CAPITAL EXPENDITURE ON TECHNOLOGY

During the year 2015-16 (upto December, 2015) MTNL has spent an amount of `173.88 (provisional) Crore on the Capital Expenditure. This was achieved largely through other resource market borrowing generation.

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8.3 ITI Limited

Introduction

ITI Limited had been established in 1948 as the First Government undertaking in the Independent India. With the vision on attaining self-reliance in the field of telecommunication needs of the Country, the company was set up at Bangalore [Karnataka]. Government of India holds majority equity stake in the Company. ITI has its Registered & Corporate Office located at Doorvaninagar, Bangalore-560016.

Over a period of time, ITI widened its manufacturing bases in the states of Jammu & Kashmir [one unit at Srinagar], Uttar Pradesh [Three units at Naini, Rae Bareli and Mankapur] and Kerala [at Palakkad]. All the manufacturing Plants are accredited with ISO 9001-2000 standards.

In addition to these manufacturing plants, ITI has a dedicated Network System Unit (NSU). It has service units across the country with headquarters at Bangalore. It has executed several turn key projects for BSNL, MTNL, Defence and State and Central Governments. ITI has received the top turnkey solution provider of the country award many times in the last decade.

For the support of GSM projects of BSNL and MTNL, there are three separate Project Divisions situated at Mumbai, Pune and Bangalore. In addition, there is Marketing Division with 8 Regional Offices and 23 Area Offices spread across the country.

The Company is a Schedule 'A' CPSE in Medium and light Engineering Sector under the administrative control of Ministry of Communications and Information Technology, with 90% shareholding by the Government of India.

The Company started making losses from 2002-03 onwards, was referred to BIFR and declared sick in 2004.

1. REVIVAL PLAN:

ITI's Revival Plan was approved by the Cabinet Committee on Economic Affairs (CCEA) in February 12, 2014. This approval included a financial package of `4156.79 Crore, with `2264 Crore as equity for capital investments for implementing various projects in ITI. Out of the above amount, Government had released `192 Crore, during February, 2015, as first phase disbursement to the company towards capital investments under revival plan. This amount is currently being utilized by the company for implementing projects under Defence business, SCADA, MLLN, Smart cards, HDPE Pipe manufacturing, SMPS, Component screening, Vehicle Tracking System (VTS), 3D printing, Contract manufacturing, Business with PSUs etc. The infrastructure upgradation for implementation of these projects has almost been

completed in various plants of ITI. For the year 2015-16, Government has allotted `50 Crore which will be utilized before March, 2016. Further amount has been requested from the Government for execution of various projects as detailed below under 'Future Outlook'. As per the revival plan, the company is expected to turn around within a period of two years.

The current initiatives of the Government like "Make in India", "Digital India", "Preferential Market Access policy", etc., are expected to give fillip to ITI's proposal for absorption of new technologies for manufacturing and help in turning around the company.

2. PROJECT/PRODUCT UNDER EXECUTION

Projects under execution during 2015-16:

The major projects under execution are Network for Spectrum (NFS) project for BSNL, National Population Register (NPR) project for Registrar General of India (RGI) under Ministry of Home affairs, Next Generation Network project for BSNL, Supply of Secrecy communication equipments for Defense sector, Solar project, Data center and IT projects, AMC contracts OCB exchanges, GSM-West zone and GSM-South zone for BSNL, AMC contract for ASCON network for Defence.

Future Outlook:

ITI is proposing to implement projects having good market in the current/ future scenario. The project details are briefly summarized below.

- **Solar Panel Manufacturing and Establishing Solar Plant inside ITI premises:**

  Taking into consideration of Government's thrust towards solar energy, it is proposed to augment company's infrastructure for the manufacturing of solar panels. The company also proposes to build solar power plants in all the units of ITI as huge land is available in all the units. The electricity generated is planned for selling to the grid. These plants will give good revenue each year for a long time with very low maintenance cost.

- **HDPE pipe and Optical Fiber manufacturing:**

  Laying of optical fiber cable (OFC) underground is to be carried out through PLB HDPE (Permanently lubricated high density Poly ethylene) Pipe only. The demand for HDPE Pipes has quickly risen due to several Government projects like, NFS, ASCON, NOFN etc. As per Govt. of India initiative for "DIGITAL INDIA" programme, optical fibre network is to be established in the whole country for easy inter-net accessibility. Therefore, huge demand of PLB HDPE

pipe will be able to generate high business opportunity. Apart from BSNL, other service providers are also requiring such type of PLB HDPE pipes for their telecom service. ITI Raebareli plant has established one line for HDPE manufacturing. The plant is now ready for bulk production, after the TSEC certification. Considering the huge market available for this product in projects like NFS and NOFN, it is proposed to establish 3 more lines of manufacturing these pipes in Raebareli plant and similar facility in Palakkad plant also.

Similar to HDPE pipes, there is huge demand for optical fiber also. Company has proposed to manufacture optical fiber in Raebareli and Palakkad plants.

- **Manufacture of Smart Cards:**

  As an extension of National Population Register project, which is under execution by ITI as a consortium partner with Bharat Electronics Ltd. (BEL) and Electronics Corporation of India Ltd. (ECIL), ITI is looking at the huge opportunity of manufacturing Smart card based identity cards for the citizens in the Country. In addition, there are opportunities regarding supply of smart cards for unorganized workers, driving licenses, motor vehicle registration etc. ITI is already having smart card manufacturing facility at its Palakkad plant. This is being further augmented to take manufacture of various types of identity cards.

- **Manufacturing of Li-ion Batteries:**

  High density back up power solutions using Li-ion technology have been proved in all fields of consumer electronics like PCs, Mobile phones, Tablet PCs etc,. They are also making inroads into other applications like powering GSM towers. ITI is planning to take up assembling of Li-Ion batteries in one of its plants, specifically for supplying to the BTS sites.

- **Component Screening Project:**

  Component Screening is a Project suggested by VSSC for ITI Palakkad to take up for meeting their requirement of approximately 5 Lakh screened components per year. Screened Components are required regularly for VSSC for their space missions. Basic component screening facility has been established using the funds already allocated last year under the revival plan. Currently, based on the indications from VSSC, the company proposes to augment the component screening infrastructure to test integrated devices.

- **Data Center and IT Business:**

  Company has planned investment to address the huge growth in the service sector related to Information Technology. Currently ITI has been operating one Data Center in its Bangalore plant in partnership with a private company.

However, the company plans to build its own Data Center under the revival plan. In addition, company has planned to launch some IT solutions, like E-Banking, Aadhaar based authentication on Software as a Service (SaaS) base basis from the Data Center. ITI is also planning to address the opportunities arising out of the Digital India and Smart Cities projects.

- **Wi-Fi products:**

  Wi-Fi products have revolutionized the way we communicate. In addition to low power Wi-Fi products in residences, Wi-Fi hot spots are coming up all around the country. Further, Wi-Fi products are also expected to be part of the Digital India programme to connect every citizen to Broadband network and also in setting up of Smart Cities. ITI is planning to address this business opportunity through right a technology partner.

- **Encryption Products for Defence:**

  The encryption products for Defence communication networks are being supplied by ITI for long time. ITI has been the leader in this field. The products are evolved in tune with the evolution in the digital communication technology. There are major requirements of encryption products for Defence for their NFS networks and ASCON network.

- **Managed Leased Line Network (MLLN) Equipments**

  ITI has been the leader in supplying MLLN equipments for BSNL and MTNL. The existing MLLN networks of these PSUs have been set up by ITI.

- **Business with PSUs/ Contract Manufacturing**

  Contract manufacturing for PSUs is an existing activity in ITI. ITI is already executing job works for PSUs like, BHEL, BEL, VSSC, NPOL. With upgradation of infrastructure in ITI, there is more scope for getting new businesses.

3. KEY PERFORMANCE FACTORS

Year 2015-16 (Half Yearly)

The Company's MoU target is `1800 Crore (sales) for the year 2015-16. Against this MoU target, the Company has achieved Sales (including ED & Service Tax) of `484.89 Crore during the year upto September, 2015 (half yearly) with the profit of `7 Crore.

The turnover for the year 2015-16 is mainly constituted from NFS, GSM Projects, Defence, ASCON Projects, IT Solutions and services sector for NPR Projects, AMC business of fixed line exchanges.

The MoU rating of ITI Limited is continuously improving.

DETAILS OF ACHIEVEMENTS FOR THE LAST THREE YEARS

(Value in ` Crore)

Sl. No	Product/Projects	Performance 2013-14	Performance 2014-15	Performance (April-June 2015) Prov.	Performance (July -Sept 2015) Prov.	Cummulative Performance Up to Sept 2015
1	Solar Panel	18.85	0.15	—-	—-	—-
2	NGN	—-	47.49	—-	—-	—-
3	C-DoT Products	0.16	0.34	—-	—-	—-
4	Diversified Products/ Cont. Mfg.	16.70	68.40	1.58	3.18	4.76
5	Optic Fibre Equipments(STM)	—-	—-	—-		
6	PCM MUX	1.33	1.73	—-	—-	—-
7	DWDM	—-	—-	—-	—-	—-
8	MLLN	105.45	38.42	6.50	13.35	19.85
9	GSM_WZ(incl.BTS, RTT Shelter)	84.04	19.72	4.45	21.08	25.53
10	GSM-MTNL	-	5.43	—-	4.39	4.39
11	GSM-SZ	0.96	48.30	12.69	10.00	22.69
12	WLL-CDMA INFRA	3.27	—	0.08	—-	0.08
13	Data Centre	14.61	11.56	1.85	3.14	4.99
14	ADSL-CPE	—-	—-	—-	—-	—-
15	Misc. Services	22.85	29.03	1.76	2.46	4.22
16	DEFENCE/ASCON	69.02	81.72	7.93	54.53	62.46
17	OCB AMC BUSINESS	37.82	36.86	8.61	9.30	17.91
18	SIM/SMART Cards	—-	0.89	1.46	—-	1.46
19	NPR/SECC Data Collection	234.25	51.10	16.45	18.73	35.18
20	SMPS	1.27	5.75	1.59	1.43	3.02
21	G-PoN	8.77	14.83	—-	6.66	6.66
22	Ros/CCO/IT	150.55	158.09	39.14	23.83	63.23
23	Supply of NFS cable	-	-	22.29	186.17	208.46
	TOTAL	**769.90**	**619.81**	**126.38**	**358.51**	**484.89**

Note: The performance includes Excise Duty and Service Tax.

6. CAPITAL STRUCTURE:

The Authorized Share Capital of the Company as on March 31, 2015 was `800 Crore. The paid-up Share Capital as on that date was `588 Crore. (`288 Crore equity shares of `10/- each and `300 Crore as preference shares of `100/- each). The percentage share of Central Government in equity as on March 31, 2014 is 89.89%.

Financial Highlights

Particulars	Performance During the Year (` Crore)			
	2015-16 (For 2nd Qtr July, 2015 – September, 2015)	2015-16 (For 1st Qtr April, 2015 – June, 2015)	2014-15	2013-14
1. Turnover & Other income	386	292*	706	810
2. Expenditure	420	251	1003	1154
3. Net Profit/Loss	(34)	41	(297)	(344)

Note: ******* *Turnover & other income includes extraordinary .income of `112.50 Crore and Excise Duty/Service Tax.*

7. IMPORTANT ACTIVITIES/EVENTS:

- ITI Limited has signed the Memorandum of Understanding (MoU) for the year 2015-16 with the Department of Telecommunications, Ministry of Communications & IT, Government of India. Mr. Rakesh Garg, Secretary, Department ofTelecommunications and Mr. K.L.Dhingra, the then Chairman and Managing Director ITI Limited signed the MoU on March 30, 2015 in New Delhi.
- ITI Ltd and CDAC (Centre for Development of Advanced Computing) has signed an Memorandum of Undertanding on March 13, 2015 at CDAC office, Trivandrum, to develop solar charge controller unit for telecom application,. The MoU has been signed by Sri K Alagesan, Unit Head- Raebareli plant, ITI and Dr Z V Lakaparampil, Sr Director & Head, CDAC.
- ITI celebrated the Government of India's ambitious project - 'Digital India' week- during July 1 to 8, 2015. ITI webcasted the speech of Shri Narendra Modi, Hon'ble Prime Minister of India, on 'Digital India' event on July 1, 2015.

- **Under the Government's ambitious program- Pradhan Mantri Kaushal Vikas Yojana (PMKVY)-.** In a workshop on how to set up a Skill Development Institute at Gonda, UP, on September 14, 2015, ITI highlighted its infrastructure and manpower strength to showcase its willingness to provide support in providing training and contribute towards nation-building.
- First International Yoga Day was celebrated on June 21, 2015 at Bangalore plant, ITI Ltd. A Yoga practicing session was organized on this occasion.
- The World Telecommunications Day was celebrated on May 17, 2015 at ITI Limited, Bangalore. Shri Ezil Budhan, GM-BSNL, Bangalore was the Chief guest, Shri K.K. Gupta, then CMD with other Directors also participated in the programme. The Theme for this year's celebration was "Telecommunications and ICT- drivers of innovation".
- 65th Annual General Meeting was held on September 23, 2015 at Bangalore.
- ITI Limited observed Vigilance Awareness Week in all the Plants and Units from October 26-31, 2015. The Theme of this year was "Preventive Vigilance as a tool of good governance".

8. HUMAN RESOURCES DEVELOPMENT (HRD)

Manpower strength as on October 31, 2015 detailed in the table below:

Group	Total Working Strength	SC	ST	Women	Persons With Disabilities (PWD)
Officers	2722	434	41	304	28
Non-Officers	2797	471	11	209	49
Total	**5519**	**905**	**52**	**511**	**77**

The Company employed about 5519 employees (Executives -2722 & Non-Executives -2797) as on October 31, 2015. About 12.84% of the employees are having professional qualification in the field of Engineering, Finance, Human Resource and medicare around 11.46 % are graduates and post graduates, 16.79% were Diploma Holders and 37.48% are Trade Certificate holders and 21.28% others. Around 78% fall under the age bracket of 51 and above.

9. SC/ST EMPLOYEES SCHEMES

9.1 Schemes for SC/ST Employees

- exempted from payment of application/examination fee
- Relaxation in age by 5 years in recruitment

- Concessions in qualifying marks
- Reservation in recruitment and promotion as per Presidential Directives.
- Out of Turn allotment of quarters

9.2 Budget allocated and expenditure incurred

There is no specific budget allocation for expenditure on schemes for SC/ ST employees and Differentl-abled Persons. However, as and when expenditure is required to be incurred, specific approval of Competent Authority is obtained.

The voluntary retirement scheme was not in operation during the year.

10. INDUSTRIAL RELATIONS

The Industrial Relations scenario in the Company was cordial during the year. Employees' Union and Officers' Association extended their co-operation and support in ensuring smooth workflow to meet the Company's objective.

11. OFFICIAL LANGUAGE

All Units/Offices have established Check-Points in their concerned Offices to make more efforts for effective implementation of the Official Language Policy, monitored by the Official Language Implementation Committees constituted in every Unit/ Office.

12. RIGHT TO INFORMATION

Since introduction of the Right to Information Act, 2005, a mechanism has been drawn to process all requests received by Corporate Office/ Units under the Act. The Units and Regional Offices have designated PIOs/ APIOs with CPIO, Appellate Authority and Transparency Officer at the Corporate Office.

13. AWARDS

- ITI Limited Rae Bareli and Mankapur plants were conferred with "National Safety Awards 2015" respectively for maintaining safety standards. The awards were received by Shri K K Gupta, then CMD of ITI Ltd, from Shri Bandaru Dattatreya, Honorable Minister of State (Independent Charge) for Labour & Employment, Govt of India, on September 17, 2015 at the Awards ceremony held at New Delhi.
- ITI Limited has been conferred with "Certificate of Excellence" award by the Institute of Economic Studies, Delhi (IES). Shri. Premchand, Unit Head of ITI

Ltd. Bangalore Plant received the award from Shri Qamar Ul Islam, Hon'ble Minister Government of Karnataka – Municipalities and local bodies, Department of Public Enterprises and Minorities Welfare, Haj and Wakf Department on May 15, 2015 at Bangalore.

- ITI Limited has been honoured with India's No.1 Brand Award, organized by IBC InfoMedia Pvt. Ltd. ITI received this award in the category of top telecom equipment manufacturing Company.
- Telecom Equipment Manufacturers Association of India (TEMA) has conferred "**Excellent Efforts for PSU Revival**" award on ITI Limited for its efforts towards revival of the company on May 22, 2015.

14. CITIZEN'S CHARTER:

ITI LIMITED is a Public Sector Undertaking under the administrative control of Department of Telecommunications.

Company's website: itiltd-india.com

ITI Limited has signed the Memorandum of Understanding (MoU) for the year 2015-16 with the Department of Telecommunications, Ministry of Communications & IT, Government of India. Mr. Rakesh Garg, then Secretary, Department of Telecommunications and Mr.K.L.Dhingra, then Chairman and Managing Director ITI Limited signed the MoU on March 30, 2015 in New Delhi.

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ITI Limited has been conferred with "Certificate of Excellence" award by the Institute of Economic Studies, Delhi (IES). Shri. Premchand, Unit Head of ITI Ltd. Bangalore Plant received the award from Shri Qamar Ul Islam, Hon'ble Minister Government of Karnataka on May 15, 2015 at Bangalore.

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8.4 Telecommunications Consultants India Limited

1. COMPANY PROFILE

Telecommunications Consultants India (TCIL) had been set-up on March 10, 1978 with the main objective to provide world-class technology in all fields of telecommunications and information technology, to excel in its operations in overseas and in the domestic markets by developing proper marketing strategies, to acquire state of the art technology on a continuing basis and to maintain leadership. It has diversified into Cyber Parks, Intelligent Buildings, Cyber & Smart Cities and upgrading legacy networks by focusing on Broadband Multimedia Convergent Service Networks, entering new areas of IT as systems integrator in telecom billing, customer care value added services; e-governance networks and telecom fields by utilizing TCIL's expert technical manpower, developing telecom and IT training infrastructure in countries abroad and aggressively participating in SWAN and IT-education projects in various States.

TCIL is a Schedule-A Miniratna CPSE in Industrial Development and Technical Consultancy service sector, under the administrative control of Department of Telecommunications under Ministry of Communications & IT with 100% shareholding by the Government of India. Its registered and corporate office is located in New Delhi.

2. VISION

"To excel in providing solutions in Information and Communication Technology, Power and Infrastructure Sectors globally by anticipating opportunities in technology"

3. MISSION

'To excel and maintain leadership in providing optimal solutions on turnkey basis in Telecommunications and Information Technology Service Sector globally and to diversify through provisioning of excellent Infrastructure facilities particularly in the high tech areas.'

4. INDUSTRIAL/BUSINESS OPERATIONS

TCIL is undertaking turnkey projects in all fields of Telecommunications & IT in India and abroad. The core competence of the company is in core and access network projects, Telecom Software, Switching and Transmission Systems, Cellular Services, Rural Telecommunications, Optical Fibre based Backbone Transmission System, IT and Networking solutions, E-governance, Civil and Architectural Consultancy for Cyber Cities, Telecom Complex etc. The company has also diversified into Architectural Consultancy and Civil Construction.

The company operates through its 5 Branches. It also has 4 Joint Ventures namely Bharti Hexacom Ltd., United Telecom Ltd, Intelligent Communication System India Ltd. and TBL International Ltd. In addition the company has 4 subsidiary companies namely, TCIL Oman LLC, Tamilnadu Telecommunications Ltd., TCIL Bina Toll Road Ltd. (TBTRL) and TCIL Lakhnadone Toll Road Ltd.

The physical performance i.e turnover excluding other income of the company during the period from 2012-13 to 2014-15 are mentioned below:

(` in Crore)

Main Services/Segments	Unit	2014-15	2013-14	2012-13
TCIL Standalone				
Telecom	` in Crore	654.56	528.95	489.27
Civil	` in Crore	147.52	271.13	192.78
Total	` in Crore	802.08	800.08	682.05
TCIL Consolidated	` in Crore	2259.29	2053.79	1861.91

5. STRATEGIC ISSUES

The company has diversified in hi-tech areas like WLL, Fiber to the home, Cyber Park, Cyber city, e-Medicine, E-education and also in civil construction business.

6. PERFORMANCE HIGHLIGHTS

Despite global slowdown, TCIL faced the new challenges with great determination and was able to maintain its overall performance and achieved turnover of `831.48 Crore (Including other income). The standalone profit after tax increased to `21.37 Crore as against `14.75 Crore of previous year.

7. HUMAN RESOURCES MANAGEMENT

The enterprise employed 886 regular employees as on March 31, 2015. The retirement age in the company is 60 years. Category wise employment status for last 3 years is given below:

(in Nos.)

Particulars	2014-15	2013-14	2012-13
Executives	407	416	428
Non Executive	479	483	488
Total Employees	886	899	916

8. ACHIEVEMENTS, ACTIVITIES AND PERFORMANCE DURING APRIL – DECEMBER, 2015

During the year 2015-16, till December, 2015, Company has secured orders of over `1853.88 Crore. The major orders booked during the year are as under:

a) Work awarded for STC project & outsourcing of manpower in Saudi Arabia, for the value of `23.07 Crore.

b) Work awarded for Procurement, Design, Supply, Testing, Installation, and Commissioning & Maintenance of Digital Open Standard Radio Trunking system in 800 MHz with all accessories for Ujjain City, M. P. Police, for the value of `13.48 Crore.

c) Work awarded for "Procurement, Supply, Trenching, Laying, Installation, Testing and Maintenance of Optical fiber cable, PLB Duct, Optical Inventory Tool Fibre Monitoring System, Fibre intrusion prevention system and accessories for construction of OFC network on turnkey basis for Indian Navy" by Bharat Sanchar Nigam Limited at the total value of `666.00 Crore.

d) Work awarded for the supply, installation and supervision of microwave radio system in Myanmar for the value of `38.08 Crore.

e) Turnkey OSP project in Saudi Arabia from STC for the value of `17.65 Crore

f) Work awarded for implementation of integrated vehicle tracking system along with Boom Barrier, RFID, CCTV, Weigh bridge centering system for the value of `27.96 Crore on rental basis for South East Coal Limited, Ballarpur, Chhattisgarh.

g) Work awarded for operation and maintenance of FTTH and Metro for Easter Region Network, OSP work and Re allocation of STC assets in Saudi Arabia for the value of `40.94 Crore.

h) Extension of Pan-African e-Network project for the value of `951.00 Crore.

Turnover of TCIL as well as Group **during April –December, 2015** is as under:

(` in Crore)

	Up to December 2015
TURNOVER - TCIL	1110.18
SHARE IN JVs TURNOVER	1198.29
TOTAL	**2308.47**

9. GENDER RELATED ISSUES

TCIL also has a Sexual Harassment Committee consisting of women employees (including two from TCIL and one outside member) for addressing the grievances of women employees regarding harassment and for welfare & security of women employees. Awareness sessions for TCIL employees was done to sensitize the employees about Sexual Harassment Act in 2015.

10. TRAINING, STRESS BUSTING AND REJUVENATION PROGRAMMES

The TCIL believes in developing the individual, and thus empowering the team and the organization. This, in turn helps its clients worldwide to achieve better business results and profitability.

Keeping in view the fact that the business of the TCIL is characterized by hi-tech operations, it is ensured that the employee is up-to-date with the latest technologies. So, training is imparted to the TCIL employees in various fields such as technology, finance, management and health. Every employee, after undergoing external training, is expected to organize an internal training and submit training reports on the same topic. The TCIL also works on the development of varied skill sets of non-executives, helping them specialize in specific technical areas, including the latest computer technologies. Finance officers and executives are trained on the latest procedures and policies of various financial areas.

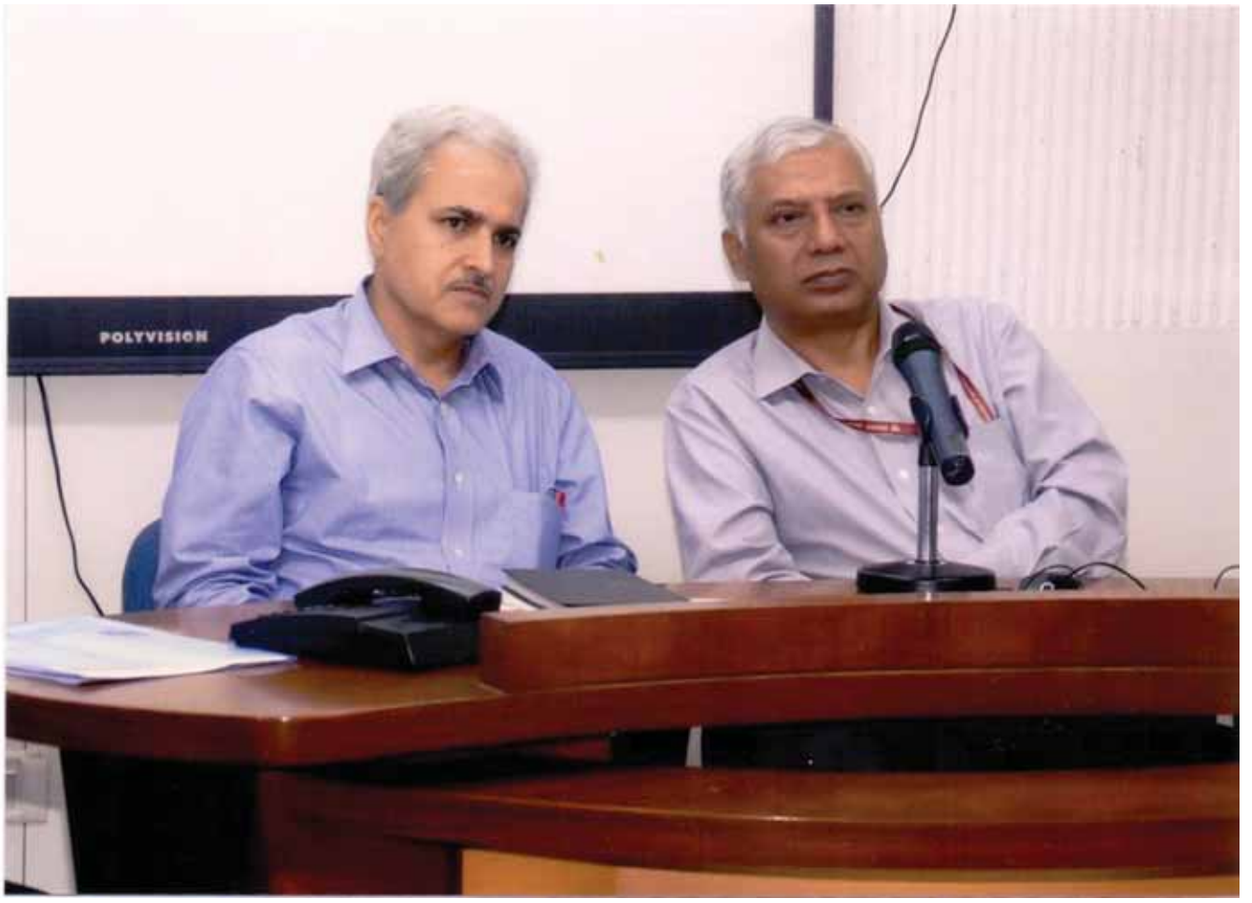
The TCIL also believes in the saying “Health is Wealth,” and, hence, a number of health management trainings, like Stress Management, Yoga, Meditation, etc. are organized for all employees.

In the International market there is an increasing demand from the clients for deployment of human resources with a particular certification. Hence the young engineers and managers of the TCIL are motivated to undergo certification programmes like EDPM, PMP, CCNA etc., and they are sponsored for the same.

Employees are also sponsored by the company to participate in workshops, seminars, conferences etc.

The TCIL, provides managers with practical guidelines for motivating, retaining, and coaching individual employees. The training cell provides employees with a clear understanding of their own behaviour that enables them to become more effective team members and leaders. This exercise even includes a mapping of their stress behaviour, and how those impact other team members and employees. Time to time, TCIL organizes many stress busters and yoga

classes to rejuvenate and motivate our employees. For energizing and rejuvenating the employees from job stress and for change from day to day monotony, tours are regularly organized for employees every year.



CMD TCIL, giving presentation to the then Secretary & Chairman Telecom Commission on PAN – African e-Network project, dated May 19, 2015 at TCIL Bhavan, G.K -1, New Dehi -110048

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8.5 Bharat Broadband Network Limited

Bharat Broadband Network Limited (BBNL) was set up as a Special Purpose Vehicle (SPV). BBNL was incorporated on February 25, 2012 under the Companies Act, 1956 as a Public Sector Company with limited liability by shares. However, the Company had started its business on April 9, 2012. As per the mandate given by the Government of India, BBNL shall set up, provide (i.e. procure, install, test, commission), operate, maintain and manage OFC transport network and associated infrastructure required for effective provision of at least 100 Mbps bandwidth on sharing basis in all the estimated 2,45,748 Gram Panchayats of India. As per the agreement between the Administrator, Universal Service Obligation Fund and BBNL, USOF shall provide subsidy to BBNL for the entire Capital Expenditure (Capex) and Net cost of Operating expenditure (Opex) net of revenue for a period of five years w.e.f. February 25, 2012 for creation, operation and maintenance of National Optical Fibre Network.

As per approval of the Government, in September, 2013 the work execution of connecting the GPs had been phased out to be completed in 3 phases as follows:

a) Phase I - 1,00,000 GPs

b) Phase II - 1,00,000 GPs

c) Phase III - 45,748 GPs

Phase I work has been awarded to be completed by December 31, 2016. For balance work, a High Power NOFN Committee was formed. This has submitted its report on March 31, 2015 for execution of Bharatnet. The report is under examination and approval.

The survey work has been completed for more than 2,00,000 GPs of the 2,45,748 GPs. Out of these, Technical Sanction Provisional (TSP) has been issued for around 2,14,000 GPs covering 5800 Blocks, distributed in 580 Districts. Final Technical Sanctions (TSF) has been issued for 1,53,692 GPs covering 4774 Blocks.

The CPSUs have finalised and awarded works of Trenching and Cable Laying for 2473 Blocks out of 2727 Blocks of Phase I, out of which, work has started in 2248 Blocks. PLB Duct has been laid for around 50,000 GPs, Fibre has been laid for around 39,000 GPs and around 4400 GPs have been tested with FTTH connection.

All the Districts of Kerala and Puducherry, Bengaluru Urban, Mandya and Chamrajnagar in Karnataka, Kamrup Metro in Assam, Kishanganj and Sheohar in Bihar and Chandigarh have been provided with NOFN connectivity.

Sharing Holding Pattern: The authorised share capital of BBNL is 100,00,00,000 equity share of `10/- each i.e. total authorised capital is `1000,00,00,000.00. The issued,

subscribed and fully paid share capital is 6,00,00,003 equity shares of `10/- each. Out of total issued subscribed and fully paid share capital, the Government of India holds 6,00,00,000 equity shares of `10/- each valued `60,00,00,000.00. Apart from that Bharat Sanchar Nigam Limited, a Govt. of India Enterprise under the control of Department of Telecommunications hold one equity share of `10/-. Further, Power Grid Corporation of India Limited (PGCIL) and RailTel Corporation of India Limited (both Government of India Enterprise) hold one equity share each of `10/-.

Financials and turnover etc:

Financial Year	Particulars (in `)					
	Turn Over		Total Expense	Profit/(Loss) Before Tax	Tax Expense	Profit/(Loss) after tax
	Income from Operation	Other Income				
2012-13*	-	4,01,38,687	1,50,44,208	2,50,94,479	81,83,648	1,69,10,831
2013-14*	41,33,355	7,98,79,064	5,63,31,542	2,76,80,877	99,09,874	1,77,71,003
2014-15*	41,33,354	10,91,35,562	11,46,85,467	(14,16,551)	14,39,721	(28,56,272)
2015-16**	20,66,677	4,63,06,967	6,61,03,249	(1,77,29,605)	-	(1,77,29,605)

*As per audited annual financial statements

**As per Provisional and Unaudited Statement of Profit & Loss for the 1st half of 2015-16.

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8.6 Hemisphere Properties India Limited

At the time of 25% stake strategic sale in Videsh Sanchar Nigam Limited (now Tata Communications Limited), surplus land measuring 773.13 acres was demarcated out of total 1230.13 acres of land at four stations and decided that surplus land will not be a part of disinvestment bid and will be managed by a separate realty company. Rights of the Government in this land were protected through a scheme of arrangement incorporated in the Share Purchase Agreement (SPA) and Share Holders Agreement (SHA).

Accordingly, the Government has approved the scheme of demerger of Surplus land of VSNL into a Resulting Company and during March, 2014, 51.12% shares of resulting Company namely Hemisphere Properties India Limited (HPIL) have been acquired by the Government. With this, HPIL has become 6th Public Sector Undertaking (PSU) of Department of Telecom.

Due diligence on the title deed, physical verification, demarcation and the process of transfer of Surplus land is underway between Tata Communications Limited and the government. The Company shall start its business only after transfer of aforesaid land and completion of requisite statutory requirements. Among other things, the object of the company is to construct, acquire, hold, manage, develop, administer, protect, preserve and to deal in any other manner with surplus land, including sale and purchase thereof.

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9. STATISTICAL SUPPLEMENT

Page No.

Table -1

Telephone per 100 Population-Urban/Rural (Tele-density) as on March and December 31, 2015.

Sl. No.	Service Area	Tele-Density						Telephones						% of Rural Phones to Overall Phones	
		Overall		Urban		Rural		Overall		Urban		Rural			
		March'15	December'15	March'15	December'15	March'15	December'15	March'15	December'15	March'15	December'15	March'15	December'15	March'15	December'15
1	ANDHRA PRADESH	84.15	86.53	174.94	178.38	49.04	50.95	73817145	76357699	42798321	43950435	31018824	32407264	42.02%	42.44%
2	ASSAM	53.95	55.22	132.26	128.79	39.18	41.16	17318325	17883080	6737171	6691789	10581154	11191291	61.10%	62.58%
3	BIHAR[1]	51.20	52.55	164.26	161.70	33.16	35.09	69674187	72151688	30765963	30615953	38908224	41535735	55.84%	57.57%
4	GUJARAT	95.61	97.58	143.01	143.25	61.85	64.74	60116265	61915853	37400926	38021955	22715339	23893898	37.79%	38.59%
5	HARYANA	82.67	84.42	124.23	130.92	59.62	58.22	22412258	23141487	12012250	12934462	10400008	10207025	46.40%	44.11%
6	HIMACHAL PRADESH	114.52	124.54	340.71	365.74	84.87	92.62	8064289	8823830	2780193	3028334	5284096	5795496	65.52%	65.68%
7	JAMMU & KASHMIR	76.93	78.84	132.04	134.42	55.85	57.40	9462601	9773186	4493415	4637352	4969186	5135834	52.51%	52.55%
8	KARNATAKA	97.54	102.33	174.89	179.76	49.05	53.27	60324342	63729198	41680588	43419108	18643754	20310090	30.91%	31.87%
9	KERALA	95.41	100.52	178.73	215.32	67.09	61.56	33937335	35908326	16128840	19490340	17808495	16417986	52.47%	45.72%
10	MADHYA PRADESH[2]	60.25	63.07	122.85	127.40	36.81	38.83	61708096	65289366	34277640	36101001	27430456	29188365	44.45%	44.71%
11	MAHARASHTRA	80.75	84.50	117.32	123.88	60.24	62.14	79058530	83349989	41277600	44252619	37780930	39097370	47.79%	46.91%
12	NORTH-EAST[3]	77.00	78.17	154.91	154.19	51.09	52.67	10630814	10882668	5336606	5392095	5294208	5490573	49.80%	50.45%
13	ORISSA	66.85	65.69	172.11	154.97	44.46	46.51	28187654	27864923	12727175	11624198	15460479	16240725	54.85%	58.28%
14	PUNJAB	103.79	104.15	145.39	147.41	71.96	70.51	31749930	32117607	19277436	19884289	12472494	12233318	39.28%	38.09%
15	RAJASTHAN	77.76	82.24	153.93	161.06	53.55	57.13	56028852	59858839	26750636	28322326	29278216	31536513	52.26%	52.68%
16	TAMIL NADU[4]	117.52	117.27	141.81	140.30	82.75	83.25	83077410	83254527	59022707	59387443	24054703	23867084	28.95%	28.67%
17	UTTAR PRADESH - [East]	60.51	63.51	133.87	140.58	38.88	40.67	83913423	89115355	41189500	43855904	42723923	45259451	50.91%	50.79%
18	UTTAR PRADESH - [West][5]							52506526	55762654	27522086	29455945	24984440	26306709	47.58%	47.18%
19	WEST BENGAL[6]	60.69	61.40	139.77	133.01	47.41	49.35	47515156	48376798	15730142	15096075	31785014	33280723	66.89%	68.79%
20	KOLKATTA	150.20	160.30	#	#	#	#	23564791	25350969	21974133	23599920	1590658	1751049	6.75%	6.91%
21	DELHI	237.99	240.93	#	#	#	#	49328987	51037816	47106184	48743796	2222803	2294020	4.51%	4.49%
22	MUMBAI	147.81	149.45	#	#	#	#	33733296	34626669	33056982	33834913	676314	791756	2.00%	2.29%
	ALL- INDIA	79.36	81.85	149.04	152.57	48.04	49.82	996130212	1036572527	580046494	602340252	416083718	434232275	41.77%	41.89%

Note:Teledensity is calculated for UP(E) & UP(W) jointly due to non availabilty of separate population data for UP(E&W). 1.Includes Jharkhand, 2.Includes Chhattisgarh, 3.Includes North East I&II, 4. includes Chennai, 5.Includes Uttrakhand and 6.Includes A&N Islands. # Rural-urban break up of population for Kolkata, Delhi and Mumbai service areas is not available.

Source: Population Projections for India & States 2001-2026,O/o the Registrar General of India and subscribers' data from BSNL(PSU), MTNL(PSU), AUSPI (Private-Wireline,WLL & GSM) and COAI (Private-GSM).

Table - 2

Number of Telephones as on March and December 31, 2015.

Sl. No.	Service Area	Wireline Phones						Wireless Phones						TOTAL TELEPHONES	
		TOTAL		PSUs' Operators		Private Operators		TOTAL		PSUs		Private Operators			
		March'15	December'15	March'15	December'15	March'15	December'15	March'15	December'15	March'15	December'15	March'15	December'15	March'15	December'15
1	ANDHRA PRADESH	1868746	1767541	1496743	1375839	372003	391702	71948399	74590158	9603423	9570371	62344976	65019787	73817145	76357699
2	ASSAM	167434	162929	165994	161219	1440	1710	17150891	17720151	1261324	1310738	15889567	16409413	17318325	17883080
3	BIHAR[1]	359290	336254	339466	315300	19824	20954	69314897	71815434	2825102	2865333	66489795	68950101	69674187	72151688
4	GUJARAT	1552403	1429998	1322712	1196386	229691	233612	58563862	60485855	3128952	3351894	55434910	57133961	60116265	61915853
5	HARYANA	406231	374581	350362	312553	55869	62028	22006027	22766906	2735565	3038426	19270462	19728480	22412258	23141487
6	HIMACHAL PRADESH	208202	176931	200513	169765	7689	7166	7856087	8646899	1427785	1555468	6428302	7091431	8064289	8823830
7	JAMMU & KASHMIR	149349	131649	149349	131649	0	0	9313252	9641537	1218603	1253428	8094649	8388109	9462601	9773186
8	KARNATAKA	2277942	2272073	1402178	1325557	875764	946516	58046400	61457125	6700685	7101823	51345715	54355302	60324342	63729198
9	KERALA	2587400	2410997	2484458	2302820	102942	108177	31349935	33497329	6511816	7232432	24838119	26264897	33937335	35908326
10	MADHYA PRADESH[2]	1105542	1043480	830015	749297	275527	294183	60602554	64245886	3222240	4086016	57380314	60159870	61708096	65289366
11	MAHARASHTRA	2116519	2000811	1681804	1553843	434715	446968	76942011	81349178	5106905	5437858	71835106	75911320	79058530	83349989
12	NORTH-EAST[3]	127264	125730	127144	125580	120	150	10503550	10756938	1520521	1549479	8983029	9207459	10630814	10882668
13	ORISSA	318227	308548	306675	296128	11552	12420	27869427	27556375	3431258	3877995	24438169	23678380	28187654	27864923
14	PUNJAB	1120237	1075704	761884	683984	358353	391720	30629693	31041903	3028873	3359749	27600820	27682154	31749930	32117607
15	RAJASTHAN	823020	788224	690273	651453	132747	136771	55205832	59070615	3301599	3629237	51904233	55441378	56028852	59858839
16	TAMIL NADU[4]	2759068	2670580	2053191	1938374	705877	732206	80318342	80583947	8661768	8726517	71656574	71857430	83077410	83254527
17	UTTAR PRADESH - [East]	514549	501235	402886	389410	111663	111825	83398874	88614120	7688314	8289581	75710560	80324539	83913423	89115355
18	UTTAR PRADESH - [West][5]	482623	434680	446032	395975	36591	38705	52023903	55327974	3303879	3940943	48720024	51387031	52506526	55762654
19	WEST BENGAL[6]	441379	386240	435695	380507	5684	5733	47073777	47990558	1365481	1689466	45708296	46301092	47515156	48376798
20	KOLKATTA	1003973	916957	765066	678306	238907	238651	22560818	24434012	783321	766149	21777497	23667863	23564791	25350969
21	DELHI	3141390	3156528	1609278	1613063	1532112	1543465	46187597	47881288	2349612	2352400	43837985	45528888	49328987	51037816
22	MUMBAI	3063551	3046815	1942393	1904731	1121158	1142084	30669745	31579854	1199256	1300493	29470489	30279361	33733296	34626669
	ALL- INDIA	26594339	25518485	19964111	18651739	6630228	6866746	969535873	1011054042	80376282	86285796	889159591	924768246	996130212	1036572527

Note:1.Includes Jharkhand, 2.Includes Chhattisgarh, 3.Includes North East I&II, 4. includes Chennai, 5.Includes Uttrakhand and 6.Includes A&N Islands.

Source: Population Projections for India & States 2001-2026,O/o the Registrar General of India and subscribers' data from BSNL(PSU), MTNL(PSU), AUSPI (Private-Wireline,WLL & GSM) and COAI (Private-GSM).

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10. ACRONYMS

2G	Second Generation
3G	Third Generations
AIMS	Advance Intelligent monitoring system
ACC	Accounts Calling Card
ADC	Access Deficit Charge
ADSL	Asymmetrical Digital Subscriber Line
AGR	Adjusted Gross Revenue
AI	Artificial Intelligence
ALTTC	Advanced Level Telecom Training Centre
APT	Asia Pacific Telecommunications
ATM	Asynchronous Transfer Mode
ATNs	Action Taken Notes
BBNL	Bharat Broadband Network Limited
BPO	Business Process Outsourcing
BRBRAITT	Bharat Ratna Bhim Rao Ambedkar Institute of Telecom Training
BSNL	Bharat Sanchar Nigam Limited
BTS	Base Transreceiver Station
BTSs	Base Terminal Stations
BWA	Broadband Wireless Access
CAIR	Centre for Artificial Intelligence and Robotics
C&AG	Comptroller and Auditor General
CACT	Component Approval Centre for Telecom
CAD	Computer Aided Design
CAF	Customer Acquisition Form/Customer Application Form
CAG	Comptroller and Auditor General
CCEA	Cabinet Committee on Economic Affairs
CCR	Call Completion Ratio
CCS	Cabinet Committee on Security
CDMA	Code Division Multiple Access
C-DoT	Centre for Development of Telematics

CDR	Call Detail Record
CIDA	Canadian International Development Agency
CLIP	Callers Line Identification Protocol
CMC	Central Monitoring Centre
CMMI	Capability Maturity Model - Integrated
CMPs	Cellular Mobile Phones
CMRTS	Captive Mobile Radio Trunking Service
CMS	Centralized Monitoring System
CMTS	Cellular Mobile Telephone Service
COMAC	Centralised Operation & Maintenance Centre
CPE	Customer Premises Equipment
CPGRAMS	Centralized Public Grievance Redressal And Monitoring System
CSMS	Customer Service Management System
DCC	Development Coordination Committee
DCME	Digital Circuit Multiplication Equipment
DCN	Data Communication Network
DDG	Deputy Director General
DECT	Digital Enhanced Cordless Telephone
DeitY	Department of Electronics and Information Technology
DIAS	Direct Internet Access System
DLC	Digital Loop Carrier
DoE	Department of Expenditure
DoPT	Department of Personnel and Training
DoS	Department of Space
DoT	Department of Telecommunications
DoT	Department of Telecommunciations
DPR	Detailed Project Report
DR	Disaster Recovery
DSPT	Digital Satellite Phone Terminal
DSS	Digital Switching System
DWDM	Dense Wavelength Division Multiplexing
EFC	Expenditure Finance Committee

ELCINA	Electronic Industries Association of India
EMF	Electro Magnetic Field
EMS	Element Management system
EMTS	Express Money Transfer Service
FAS	Fibre Access System
FDMA	Frequency Division Multiple Access
FMCP	Fixed Mobile Converged Platform
FRS	Fault Repair Service
FFLS	Fibre Fault Localization System
GP	Gram Panchayt
G-PON	Gigabit Pasture Optical Network
GPSS	Gateway Packet Switching System
GRs	Generic Requirements
GMPCS	Global Mobile Personal Communication by Satellite
G-PON	Gigabit Pasture Optical Network
GPSS	Gateway Packet Switching System
GRs	Generic Requirements
HAG	Higher Administrative Grade
HECS	High Erlang Capacity Switch
HSDL	High bit rate Digital Subscriberline
I&B	Information and Broadcasting
IAPs	Innovation Action Plans
IEM	Independent External Monitor
IFRB	International Frequency Regulation Board
ILA	In-line Amplifier
ILD	International Long Distance
ILL	Internet Leased Line
IMEI	International mobile equipment identity
IMRB	Indian Marketing Research Bureau
IMS	IP Multi-media System
IN	Intelligent Network
INSAT	Indian National Satellite

IP and P	Industrial Policy and Promotion
IP-I	Infrastructure Provider-I
IPLC	International Private Leased Circuit
IPR	Intellectual Property Right
Ipv6	Internet Protocol Version 6
IRs	Interface Requirements
ISDN	Intigrated Services Digital Network
ISP	Internet Service Provider
ITI Ltd	Indian Telephone Industries Limited
ITU	International Telecommunications Union
ITU-D	International Telecommunication Union-Development Sector
ITU-R	International Telecommunication Union- Radiocommunication Sector
ITU-T	International Telecommunication Union-Telecom Sector
IUC	Interconnection Usage Charge
IVRS	Interactive Voice Response System
I&B	Information and Broadcasting
IAPs	Innovation Action Plans
IFRB	International Frequency Regulation Board
ILL	Internet Leased Line
IMEI	International mobile equipment identity
IMRB	Indian Marketing Research Bureau
KPO	Knowledge Process Outsourcing
Lab	Laboratory
LD	Liquidity Damages
LEA	Law Enforcement Agency
LMDS	Local Multi-Point Distribution System
LOI	Letter of Intent
LSA	Licensed Service Area
LSA	Licensed Service Area
LTE-A	Long Term Evolution- Advance
LWE	Left Wing Extremism
M2M	Machine to Machine

MAX-NG	MAX – Next Generation
MCIBS	Microprocessor Controlled Intelligent Building Systems
MCPC	Multi Channel Per Carrier
MHA	Ministry of Home Affiars
MLLN	Managed Leased Line Network
MMS	Multimedia Messaging Service
MNP	Mobile Number Portability
MNRE	Ministry of New and Renewable Energy
MoF	Ministry of Finance
MoU	Memorandum of understanding
MPLS	Multi Protocol Label Switching
MSC	Mobile Switching Centre
MSME	Ministry of Micro Small and Medium Enterprises
MSS	Mobile Satellite System
MTL	Millennium Telecom Limited
MTNL	Mahanagar Telephone Nigam Limited
MUX	Multiplexer
NDA	Non-Disclosure Agreement
NFS	Network for Spectrum
NGN	Next Generation Networks
NGN-IN	IN in NGN
NHAI	National Highway Authority of India
NIB	National Internet Backbone
NICF	National Institute of Communication Finance
NLD	National Long Distance
NLDS	National Long Distance Service
NMS	Network Management System
NOC	Network Operation Centre
NOFN	National Optical Fiber Network
NPLC	National Private Leased Circuit
NSSO	National Sample Survey Organization
NTIPRIT	National Telecommunications Institute for Policy Research, Innovation and Training

NTP	National Telecom Policy
NTP	New Telecom Policy
NYSF	New York Stock Exchange
OAM	Operation and administrative Module
OFC	Optical Fiber Cable
OFC	Optical Fiber Cable
OLT	Optical Line Termination
OLTE	Optical Line Terminating Equipment
OSP	Other Service Provider
OTN	Optical Transport Network
PAC	Public Accounts Committee
PCB	Printed Circuit Board6Pm
PCR	Priority Call Routing
PG	Public Grievance
PIA	Photo Identity Address
PMA	Preferential Market Access
PMRTS	Public Mobile Radio Trunk Service
POI	Point of Interconnection
PoS	Point of Sale
POT	Plain Old Telephone
PRS	Premium Rate Service
PSTN	Public Switching Telecom Network
PCI	Prime Custodian Interface
PON	Passive Optical network
QOS	Quality of Service
QTS	Quality of Telephone Service
R and D	Research and Development
RABMN	Remote Area Business Message Network
RAN	Radio Access Network
RMC	Regional Monitoring Centre
RoW	Right of Way
RTTC	Regional Telecom Training Centre

ROADM	Re-configurable Optical Add / Drop Multiplexer
RRM	Radio Resource Management
SaaS	Software as a Service
SACFA	Standing Advisory Committee on Radio Frequency Allocation
SAG	Senior Administrative Grade
SAR	Specific Absorption Ratio
SAS	System of Accounting Separation
SBM	Signal Base Module
SDCA	Short Distance Charging Area
SDCN	Secure and dedicated communication network
SDH	Synchronous Digital Hierarchy
SIM	Subscriber Identity Module
SIM	Subscribers Identification Module
SSA	Secondary Switching Area
STM	Synchronous Transport Module
STRC	Service Test Result Certificate
SOP	System Operating Procedure
TAX	TAX Automatic Exchange
TFS	Toll Free Services
ToT	Transfer of Technology
TBR	Terabit Router
TCOE	Telecom Centre of Excellence
TCP	Transmission Connection Protocol
TDM	Time Division Multiplex
TDMA	Time Division Multiple Access
TDSAT	Telecom Dispute Settlement Appellate Tribunal
TERM	Telecom Enforcement, Resource and Monitoring
ToT	Transfer of Technology
TRAI	Telecom Regulatory Authority of India
TSP	Telecom Service Provider
TSP	Tribal Sub Plan
TSPs	Telecom Service Providers

TTL	Telecom Testing Laboratory
TTO	Telecommunications Tariff Order
UASL	Unified Access Service License
UHF	Ultra High Frequency
UL	Unified License
UMS	Unified Messaging Service
USF	Universal Service Fund
USL	Unified Service Levy
USO	Universal Service Obligation
USOF	Universal Service Obligation Fund
UTL	United Telecom Limited
UTs	Union Territories
VCC	Virtual Calling Cord
VLR	Visitor Location Register
VMS	Voice Mail Service
VOIP	Voice-over-IP
VPN	Virtual Private Network
VPT	Village Public Telephone
VRLA	Value Regulated Lead Acid
VSAT	Very Small Aperture Terminal
VTM	Vigilance Telecom Monitoring
WDAN	Wavelength-based Distribution and Aggregation Network System
WLL	Wireless in Local Loop
WPC	Wireless Planning & Coordination
WPHS	Web Page Hosting Service
WSHS	Web Server Hosting Service
WiPS	Wireless Phone Secure

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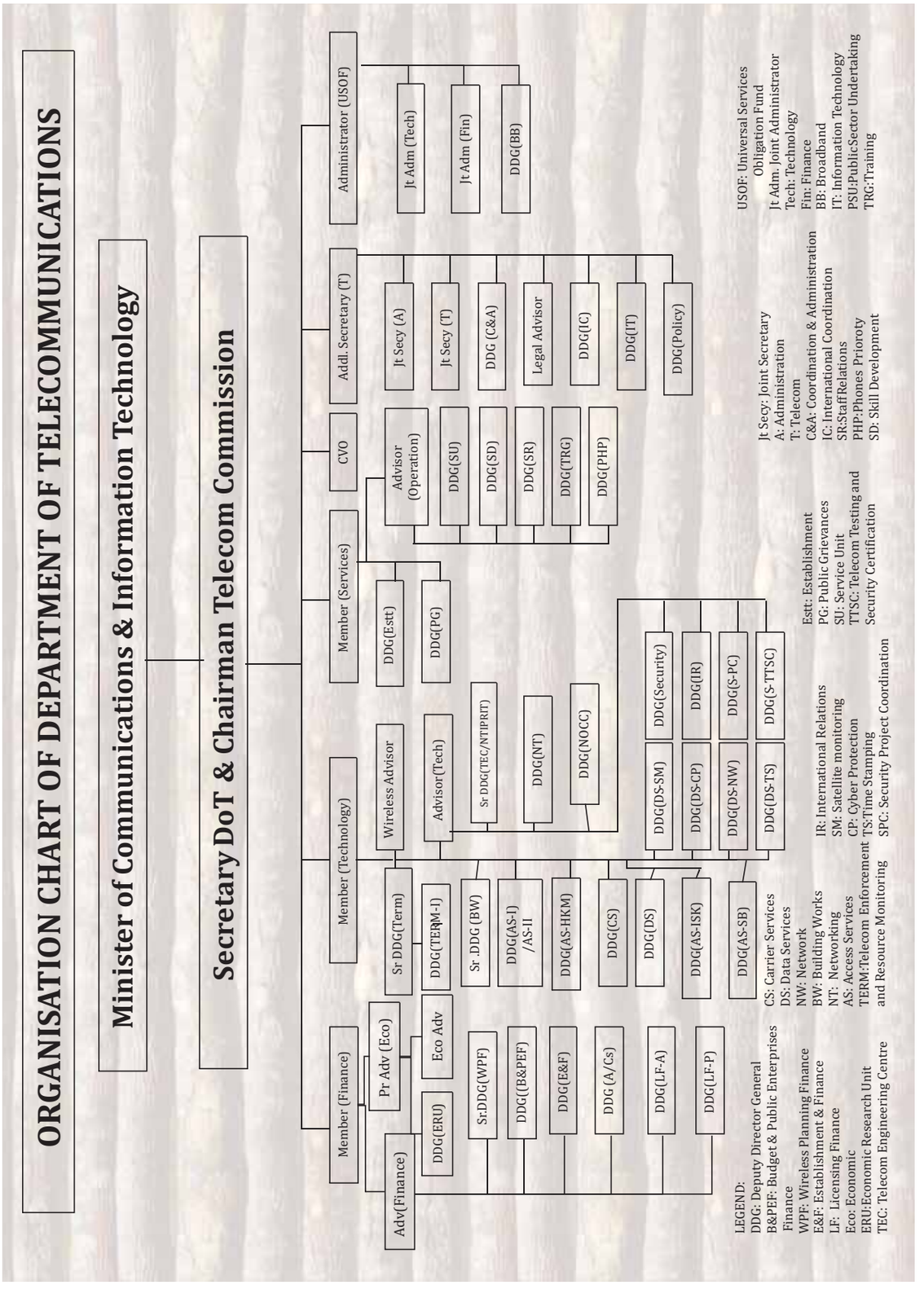
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LEGEND:
DDG: Deputy Director General
B&PEF: Budget & Public Enterprises Finance
WPF: Wireless Planning Finance
E&F: Establishment & Finance
LF: Licensing Finance
Eco: Economic
ERU:Economic Research Unit
TEC: Telecom Engineering Centre
CS: Carrier Services
DS: Data Services
NW: Network
BW: Building Works
NT: Networking
AS: Access Services
TERM:Telecom Enforcement and Resource Monitoring
IR: International Relations
SM: Satellite monitoring
CP: Cyber Protection
TS:Time Stamping
SPC: Security Project Coordination
Estt: Establishment
PG: Public Grievances
SU: Service Unit
TTSC: Telecom Testing and Security Certification
Jt Secy: Joint Secretary
A: Administration
T: Telecom
C&A: Coordination & Administration
IC: International Coordination
SR:StaffRelations
PHP:Phones Prioroty
SD: Skill Development
USOF: Universal Services Obligation Fund
Jt Adm. Joint Administrator
Tech: Technology
Fin: Finance
BB: Broadband
IT: Information Technology
PSU:PublicSector Undertaking
TRG:Training

सत्यमेव जयते

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