F. No. 7-2/2024-Policy
Government of India
Ministry of Communications
Department of Telecommunicatons
(Policy Section)
*****

Sanchar Bhawan, 20-Ashoka Road,
New Delhi, dated 24th July, 2025

CIRCULAR

Subject: Circulation of Draft National Telecom Policy (NTP), 2025 for Public Consultation.

The undersigned is directed to circulate (attached) the Draft National Telecom Policy (NTP), 2025 for public Consultation.

2. It is requested to provide the comments/suggestions/feedback, if any, on the draft NTP-2025 within 21 days from the date of issue of this circular. The comments/suggestions/feedback may be sent by email to "uspolicy.hq-dot@gov.in" with the subject line "Consultation on Draft NTP 2025".

3. This issues with the approval of the competent authority.

(Alam Singh Negi)
Under Secretary to the Government of India
Ph. No. 011-2303-6774

National Telecom Policy 2025

सत्यमेव जयते

Department of Telecommunications

Ministry of Communications

Government of India

Preamble

National Telecom Policy 2025

The **National Telecom Policy 2025 (NTP-25)** is India's vision for its digital future, reaffirming the country's strategic commitment to telecommunications as a foundational pillar for economic development, social empowerment, and technological innovation. In an era defined by rapid digital convergence, NTP-25 sets the direction for a resilient, secure, inclusive, and sustainable telecom ecosystem that meets the aspirations of a digitally empowered society and globally competitive economy.

Building upon the achievements of the **National Digital Communications Policy 2018**, this Policy responds to the emerging opportunities and challenges presented by next-generation technologies such as **5G/6G, Artificial Intelligence (AI), Internet of Things (IoT), Quantum Communications, Satellite Network, and Blockchain**. These innovations are reshaping global value chains, and India is uniquely positioned to leverage them to bridge the digital divide, foster inclusive growth, and establish itself as a **global digital powerhouse**.

At its core, the Policy is anchored in six strategic missions:

1. **Universal and Meaningful Connectivity**
2. **Fostering Innovation**
3. **Promoting Domestic Manufacturing**
4. **Ensuring Secure and Trusted Network**
5. **Enhancing Ease of Living and Doing Business**
6. **Advancing Sustainable Development**

These missions are supported by clearly defined **goals for 2030** and **targeted strategies**, which collectively aim to:

- Deliver **affordable, high-quality connectivity** to every citizen and institution
- Build India's capabilities as a **hub for innovation and R&D** in telecom technologies
- Drive **self-reliant manufacturing and exports** of telecom equipment
- Establish robust frameworks for **cybersecurity, trust, and national resilience**

- Create a **regulatory environment** that simplifies processes and reduces compliance burdens
- Ensure **climate resilience** through energy efficiency, e-waste management, and green infrastructure

The Policy would enable an agile, future-ready regulatory and policy ecosystem that promotes collaboration between government, industry, academia, startups, and international standard forums. With this Policy, India aims to emerge not only as a leading consumer of digital technologies, but also as a trusted global provider of telecom products, services, and solutions. NTP-25 would position India to become the manufacturer of choice of telecom products for the world. It outlines a comprehensive roadmap for investment in research, upskilling of the workforce, infrastructure modernization, and effective spectrum management to support in a sustainable manner for emerging use cases across smart cities, industry 4.0, rural broadband, emergency response, and digital governance.

In sum, the NTP-25 sets a bold and inclusive trajectory for the next decade—empowering every Indian with meaningful connectivity, driving innovation-led growth, reinforcing digital sovereignty, and securing India's place in the global digital economy.

Objectives

India stands at a pivotal moment in its digital transformation journey, with the telecommunications sector serving as a foundational pillar for economic growth, social empowerment, and technological advancement. The emergence of cutting-edge technologies such as 5G, Artificial Intelligence (AI), the Internet of Things (IoT), and quantum computing presents an unprecedented opportunity to bridge the digital divide and realize the vision of a digitally empowered nation. The **NTP-25** seeks to build on the progress made under the **National Digital Communications Policy 2018**, while proactively addressing the evolving challenges and harnessing the emerging opportunities of the coming five years.

The NTP-25 aims to accomplish following strategic objectives in Telecom Sector by 2030:

1. **Universal and Meaningful Connectivity for all;**
2. **Double the contribution of the sector to India's GDP;**
3. **Achieve an annual investment of ₹1,00,000 crore**
4. **Double the export of telecom products and services;**
5. **Double the number of telecommunications startups;**
6. **Double the sectoral R&D spending on emerging telecom technologies;**
7. **Create 1 million new jobs**
8. **Upskill/reskill 1 million workers to meet the future demand;**
9. **Strengthen the security by adopting quantum resistant cryptography;**
10. **Reduce carbon footprint by 30%.**

Vision:

Transform India into a telecom product nation that is driven by innovation and that universally connects its citizens meaningfully, securely and sustainably.

Mission:

The NTP-25 comprises of six strategic missions to achieve its objectives:

1. **Universal and Meaningful Connectivity**

   Achieve universal, meaningful and affordable connectivity by *expanding telecommunications network*, *improving quality of telecommunication services*, and *embracing the convergence of technologies and business models*.

2. **Innovation**

   Accelerate innovation by *promoting pioneering research*, *enabling telecom startups*, and *fostering strong collaboration between industry, academia, and government*, thereby positioning India as a global leader.

3. **Domestic Manufacturing**

   Accelerate economic growth and job creation by *building skilled workforce*, *investments in telecom manufacturing*, and *supporting design and value addition*, to position India as a global hub for telecom equipment manufacturing.

4. **Secure and trusted Telecom Network**

   Build a secure and trusted telecom ecosystem by *enhancing the security measures*, *promoting cyber hygiene*, and *improving the safety and trustworthiness*.

5. **Ease of Living and Ease of Doing Business**

   Empower citizens and businesses by *simplifying access to telecommunication services*, *fostering an inclusive digital ecosystem*, and *creating an enabling business environment*.

6. **Sustainable Telecom**

   To lead the transition to a sustainable future by *promoting green telecom technologies, sustainability and circular economy*, and *increasing reliance on renewable energy sources*, thereby reducing carbon footprints for a cleaner and greener environment.

Mission 1: Universal and Meaningful Connectivity

Goals for 2030

a. Cover 100% population by 4G and 90% by 5G;
b. Accessibility of devices for all;
c. Increase fiberization of Towers from 46% to 80%;
d. Achieve fiberization of all Gram Panchayats (GPs)under BharatNet with an uptime of over 98%;
e. Enable fiber connectivity to all government institutions at the village level;
f. Enable proliferation of fixed line broadband network to 10 Cr households in the country;
g. Establish a flexible and supportive regulatory framework for satellite services to enhance **c**onnectivity for un-served or underserved areas;
h. Expand telecommunications network by promoting use of Non-Terrestrial Network (NTN) including satellite communication systems;
i. Improve quality of telecommunications network in outdoor and indoor areas;
j. Formulate stringent QoS parameters for network availability (wireless/wireline), Broadband (wireline) service and customer services, focusing on Quality of Experience (QoE) and utilizing crowd-sourced data;
k. Establish a time-bound, transparent, and standardized framework for QoS testing;
l. Achieve top 20 ranking in the ICT Development Index;
m. Deploy 1 million public Wi-Fi hotspots;
n. Complement resilience of National Long Distance (NLD) telecommunication via use of submarine cable.

Strategies

1. Expanding Telecommunication Network

1.1. Devise Digital Bharat Nidhi (DBN) schemes to expand mobile network in underserved rural, remote, and urban areas;
1.2. Introduce incentive schemes for proliferation of fixed line broadband;
1.3. Facilitate high-speed radio links for last-mile broadband connectivity;
1.4. Achieve broadband coverage in all inhabited areas using combination of suitable technologies;
1.5. Align National Broadband Mission (NBM) to address deployment challenges;
1.6. Leverage BharatNet to fiberize towers and connect public institutions;
1.7. Utilize Optical Ground Wire (OPGW) from the power sector for remote/hilly regions;
1.8. Map telecom assets on PM GatiShakti NMP and develop GIS-based planning tools;
1.9. Enhance CBuD App for underground infrastructure coordination;

1.10. Enable light-touch authorization for submarine cable infrastructure for domestic connectivity;
1.11. Promote hybrid access through Mobile, FWA, FTTH, Satellite, Wi-Fi, HAPS, etc.;
1.12. Explore feasibility of community Wi-Fi network;
1.13. Promote public Wi-Fi in tourist/public areas and ensure affordable tariffs for Public Data Offices (PDOs) under PM-WANI.

2. Promoting Advanced Technologies and Satellite Integration

2.1. Facilitate transition to Network Virtualization and Software-Defined Network (SDN);
2.2. Encourage scalable, programmable architectures for massive IoT;
2.3. Support edge computing and cloud integration for AR/VR, smart factories, autonomous vehicles;
2.4. Prioritize release of spectrum for IMT, mmWave, and sub-THz for 6G;
2.5. Align NTN policy with Indian Space Policy 2023 to enhance satellite communications;
2.6. Enable Ground Station as a Service (GSaaS) from India;
2.7. Set up SATCOM Use Case Labs for socio-economic applications;
2.8. Promote sharing of SatCom network for affordable, ubiquitous access;
2.9. Strengthen India's international engagement (e.g. ITU) to secure orbital slots and ensure spectrum sustainability.

3. Improving quality of telecommunication services

3.1. Review QoS benchmarks emphasizing Quality of Experience (QoE) and real user data;
3.2. Harmonize QoS standards with global benchmarks for indoor and outdoor services;
3.3. Redefine minimum acceptable signal strength and broadband speed;
3.4. Roll out Digital Communication Readiness Index (DCRI) in a time-bound manner;
3.5. Integrate telecom towers in NDMA disaster recovery protocols;
3.6. Promote transparency of telecom coverage and signal strength;
3.7. Encourage low-latency communications for industrial applications.

4. Embracing the convergence of technologies and business models

4.1. Ensure telecom/broadband services cost less than 2% of monthly GNI per capita;
4.2. Incentivize small ISPs for last-mile broadband delivery;
4.3. Facilitate convergence of NTN and terrestrial network for seamless access;
4.4. Enable convergence of services such as TV and e-Governance over telecom infrastructure;
4.5. Promote infrastructure sharing among TSPs and utility sectors;
4.6. Encourage common ducting in smart cities and linear infrastructure projects.

Mission 2: Innovation

Goals for 2030

a. Position India among the top 10 global hubs for innovation and research in emerging technologies such as 5G/6G, AI, IoT, Quantum Communications, etc.;
b. Create an innovation centric section 8 company;
c. Attain 10% global share in 6G-related IPRs;
d. Enhance India's contribution and participation in global technology standards and intellectual property (IP) and SEP creation to position the country as a global leader;
e. Co-create specific use case of Digital Twin in collaboration with different Ministries/Departments;
f. Make spectrum available for R&D with minimal compliance requirements and in alignment with global best practices and standards;
g. Transform C-DOT into a Telecom R&D institution of excellence to foster innovation in next-generation telecommunication technologies;
h. Handhold 500 tech startups and MSMEs specializing in emerging technologies in the telecommunications sector;
i. Promote collaborations with global and regional standards development organizations, as well as industry forums, to develop standards as per regional and local market requirements;
j. Establish 10 centers of excellence for R&D and commercialization of emerging telecom technologies;
k. Promote spirit of “Vishwabandhu” by deploying advanced indigenous telecom technology to at least 10 countries.

Strategies

1. Promote Cutting-edge Research

1.1. Fund R&D projects in emerging technologies, including AI, quantum security, quantum communications, blockchain, AR/VR and 5G/6G;
1.2. Streamline the R&D ecosystem including funding, testing, certification, pilot / Proof of Concept (PoC) facilitation, commercialization and market access;
1.3. Promote R&D in indigenous Telecom Chipset Development to accelerate the design of chipsets for telecom equipment;
1.4. Collaborate with industry to establish a section 8 company focused on promoting innovation;
1.5. Promote setting up of regulatory sandboxes;
1.6. Allow experimentation in Terahertz (THz) bands taking into account both current and future requirements for emerging technologies;
1.7. Introduce experimental authorization for telecommunication network and services;
1.8. Identify assignment-exempt spectrum bands for proliferation of machine-to-machine (M2M) communication;

1.9. Open greenfield bands for emerging technologies such as IOT, M2M, V2X, D2M etc.;
1.10. Accelerate public R&D investment by improving the utilization of Digital Bharat Nidhi (DBN);
1.11. Launch a Technology Readiness Level funding program;
1.12. Explore the establishment of a Sovereign Patent Fund with an objective of creating Standard Essential Patent (SEP) pool for widely used Telecom Technologies;
1.13. Support the development of Standard Essential Patents (SEPs) in emerging technologies by incentivizing domestic R&D efforts;
1.14. Explore the feasibility of accepting IPRs as collateral by financial institutions to support innovation financing;
1.15. Augment C-DoT's resources through projectized proposals.

2. Enable Telecom Start-ups

2.1. Provide funding and mentorship from government/industry to telecom startups across growth stages, focusing on product development and market access;
2.2. Introduce innovative financing models like Funds of Funds, Blended Finance etc., to expand funding opportunities for the pool of Telecom Startups in India;
2.3. Organize annual events/competitions with government supported rewards and grants for winners, to encourage startups and innovators to develop cutting-edge telecom solutions.

3. Foster Collaboration between Industry, Academia, and Government

3.1. Establish Tech Incubation Hubs in collaboration with academic institutions and industry to promote cross-sector collaboration and accelerate technological innovations;
3.2. Facilitate research collaborations between educational institutions and private enterprises to develop applications using AI, IoT, blockchain etc;
3.3. Encourage collaboration in R&D by supporting G2G, G2B and B2B engagements in standards development and patenting;
3.4. Encourage international academic exchanges and global joint research projects;
3.5. Collaborate actively with DPIIT / Office of the Controller General of Designs and Trademarks to enhance the capacity of Telecom specific Patent Examiners;
3.6. Create Telecom Data Regulatory Sandbox to enable effective utilization of anonymized telecom data for public benefit;
3.7. Develop a framework for accepting IPRs as collateral by financial institutions to support innovation financing.

4. Advance Standards and Global Leadership

4.1. Advance development of telecom technologies through open, transparent and consensus driven processes in global Standards Development Organizations (SDOs) like 3GPP, encouraging participation from industry and academia to drive innovation and interoperability;

4.2. Strengthen Standard Development Organisations (SDOs) to develop more standards and encourage/fund participation in international standards development forums of those effectively contributing to development of relevant technology and standards especially MSMEs, Startups, Academia and public sector R&D organizations;

4.3. Explore the inclusion of standards development activities carried out in government recognized Standards Development Organisations (SDOs) under CSR funding;

4.4. Launch 6G Research and Innovation PhD Program in collaboration with Bharat 6G Alliance.

Mission 3: Domestic Manufacturing

Goals for 2030

a. Increase domestic telecom manufacturing output by 150%, with emphasis on localization and design-led manufacturing;
b. Achieve 50% import substitution through telecom products designed, developed, and manufactured in India;
c. Establish a Telecom Manufacturing Zone (TMZ) with integrated infrastructure for enabling telecom and network equipment design and manufacturing ecosystem;
d. Facilitate the establishment of end-to-end supply chain for manufacturing of telecom and network products in India;
e. Establish 30 advanced research labs across top academic institutions;
f. Establish an Indian Institute of Telecom Technology (IIT2) to develop industry-ready talent pool and drive cutting-edge research;
g. Strengthen the Telecom Sectoral Skill Council (TSSC) to enhance telecom workforce readiness;
h. Fund Research fellowships and training/skilling activities in the Telecom sector;
i. Generate 1 million new jobs (direct and indirect) in telecom sector.

Strategies

1. Build Skilled Workforce

1.1. Develop industry-aligned courses on subjects such as telecom engineering, electronics design, AI, cybersecurity, 5G/6G, IoT, and quantum communication;
1.2. Implement and institutionalize apprenticeship and internship programs in telecom sector in line with PM's Internship Scheme;
1.3. Sponsor partnership programs between industry and academia (including DoT training institutes) to bridge skill gaps in high tech telecom technology areas;
1.4. Strengthen the Telecom Sectoral Skill Council (TSSC) for skilling activities at regional level in collaboration with state governments and other stakeholders;
1.5. Leverage 5G/6G use case labs for providing trainings in advance mobile technologies;
1.6. Engage DoT field units in promoting telecom skilling initiatives.

2. Encouraging Investments in Telecom Manufacturing

2.1. Provide targeted CAPEX/OPEX support to boost domestic telecom manufacturing;
2.2. Incentivize Telecom and networking Software Development;
2.3. Incentivize telecom operators to use indigenously designed and manufactured equipment;
2.4. Promote "Made in India" telecom products globally through brand building activities, with a focus on innovation and quality assurance;
2.5. Encourage investments in partner countries leveraging Line of Credit;
2.6. Enhance export competitiveness of Indian telecom products by streamlining regulations;
2.7. Simplify and rationalize telecom equipment certification processes;

2.8. Strengthen ranking framework for labs accredited by TEC.

3. Support Design and Value Addition

3.1. Introduce support mechanisms for design-led manufacturing and enhancing domestic value addition;
3.2. Make available spectrum for Captive Non-Public Network (CNPNs) and private 5G for industrial use cases;
3.3. Incentivize strengthening of testing and certification lab ecosystem;
3.4. Facilitate Testing and Certification of Indian telecom products for foreign markets;
3.5. Explore Mutual Recognition Agreements for conformity assessment and testing;
3.6. Harmonize Indian testing requirements with the global requirements;

Mission 4: Secure and Trusted Network

Goals for 2030

a. Enhance security measures for GoI and state institutions;
b. Enhance security measures for telecom service operators;
c. Establish National Telecom SafeNet to protect national telecom network;
d. Establish a biometric based identification for all telecom users to ensure privacy and protection;
e. Achieve 50% reduction in response time in mitigating telecom cybersecurity incidents;
f. Monitor effectively the border areas for cross-border spillage;
g. Conduct telecom cybersecurity audits of telecom network to ensure resilience against emerging new age cyber threats;
h. Monitor effectively satellite communications to ensure cybersecurity, data integrity, and protection against unauthorized access or interference;
i. Enable trusted hardware/software supply chains.

Strategies

1. Enhancement of Security Measures

1.1. Incentivize early development of security measures for future threats;
1.2. Roll-out of quantum secured products;
1.3. Develop telecom infrastructure that are secure against both quantum and classical computers, and can interoperate with existing communications protocols and telecom network;
1.4. Support cryptographic agility and a quantum-safe upgrade path for telecommunications network;
1.5. Prepare for quantum communications and Quantum-Safe Cryptography (QSC) to secure telecom data;
1.6. Promote end-point security for telecom network device by deployment of indigenous endpoint detection & response solution;
1.7. Promote 100% IPv6 adoption for proliferation of internet-connected devices;
1.8. Enforce cybersecurity frameworks based on adoption of AI/ML technologies such as AI Incident Reporting used in telecom services and network;
1.9. Develop AI-specific telecom security standards to address risks from adversarial AI, model drift, and automated threat propagation;
1.10. Define policy and regulatory framework for blocking rogue IPs/URLs/Applications and its implementation in TSP/ISP network;
1.11. Strengthen national capability in telecom-specific cybersecurity threat intelligence, response, and recovery;

1.12. Finalize the blueprint of National Telecom SafeNet with close collaboration with MHA, TSPs and LEAs and expedite sanction of project and its funding;
1.13. Establish a mechanism to oversee and verify connected telecommunication equipment as trusted products with valid Certificates of Conformity.

2. Promotion of Cyber Hygiene

2.1. Develop human resource and infrastructure for implementation of Telecom Cyber Security Rules, 2024 and Critical Telecommunications Infrastructure Rules, 2024;
2.2. Evolve a comprehensive Cybersecurity Skills Framework, in consultation with stakeholders, to define critical competencies for roles such as Security Administrators, Security Analysts, and Penetration Testers;
2.3. Strengthen Telecom CSIRT for cyber security incident reporting & mitigation including CTI monitoring;
2.4. Examine and promote implementation of minimum cybersecurity controls for all telecom operators, based on global standards;
2.5. Host annual events/competitions for robust testing of telecommunication network and create awareness for best practices.

3. Ensure Safety and Trustworthiness of Telecommunications Network

3.1. Enhance monitoring mechanisms to ensure that only standardized, security-certified, and trusted telecom equipment are used in critical infrastructure;
3.2. Develop AI and other technology-based tools for detection and prevention of cyber frauds using the telecom ecosystem;
3.3. Define a framework for telecom security audit & empanelment of agencies thereof;
3.4. Establish the SATCOM Monitoring Facility (SMF) to monitor Indian and foreign satellites and improve mitigation of satellite carrier interference;
3.5. Increase monitoring of radio frequency and establish Wireless Monitoring Stations along the border areas to reduce cross-border spillage;
3.6. Put in place adequate and effective regulatory framework to prevent misuse of Telecom Identifiers (including IMEIs);
3.7. Put in place adequate and effective regulatory framework and systems to detect and prevent unsolicited commercial communication (UCC)/ spam;
3.8. Conduct analysis of telecom and networking equipment deployed in TSP network to demarcate and segregate equipment from non-trusted sources;
3.9. To continuously engage with relevant stakeholders like TSPs/ISPs, law enforcement agencies, financial sector entities to prevent misuse of telecom resources for cybercrime;
3.10. To introduce Mobile Number validation Service for providing a secure telecom space to other services sector entities like banking, insurance, social media, e-governance etc. for prevention of misuse of telecom resources for cyber frauds;

3.11. Citizen empowerment and engagement through portal, app and tools offered through 'One Stop Solution' to prevent misuse of telecom resources for cybercrime and financial frauds;

3.12. Promote community outreach and public awareness campaigns on safety and trustworthiness of telecom network and services;

3.13. Engage with global partners to develop shared strategies, best practices, and cross-border frameworks to tackle international spam, fraud and phishing, reinforcing India’s role as a trusted digital nation;

3.14. Formulate mandatory business continuity and disaster recovery frameworks for telecom network to ensure resilience during physical or cyber disruptions;

3.15. Ensure secure integration of emerging technologies (quantum, edge AI, IoT, MEC, NTN) into the trusted network framework;

3.16. Establish Centre for Excellence (COE) for promoting and enhancing use of Artificial Intelligence in Telecom Cyber Security.

Mission 5: Ease of Living and Doing Business

Goals for 2030

a. Reduce average time for grievance redressal by 50%;
b. Enable centralized registration and aggregation of demand for fixed line broadband in rural areas across the nation;
c. Scale up Samriddh Gram initiative showcasing enhanced telecom services in one village per block;
d. Implement Telecommunications Act, 2023 following Digital by Design;
e. Onboard all major stakeholders of Telecommunication (Right of Way) Rules, 2024 on RoW portal;
f. Ensure implementation of composite electricity billing system for TSPs/ISPs/ISPs;
g. Reduce compliance burden for retail and enterprise business;
h. Reduce the time for granting authorization and assignment of spectrum by 50%;
i. Enhance the utilization of spare capacity of optical fiber backhaul by 40%;
j. Identify non-optimal utilization of spectrum and re-farm for re-assignment to telecommunication services basis need.

Strategies

1. Simplify Access to Telecommunication Services

1.1. Implement in-building solutions and encourage adoption of rating of buildings w.r.t telecommunication connectivity by town planner/municipal bodies (Tier 1 and Tier 2);
1.2. Study and devise special packages for minimum usage as per ICT Development Index 2024 for ensuring affordability for lower economic strata of the society;
1.3. Work in collaboration with MHA to establish a resilient Public Protection and Disaster Relief (PPDR) network;
1.4. Adopt intelligent, integrated and data-driven infrastructure planning through initiatives like Digital Twin in various sectors;
1.5. Explore the possibility of segregation and rationalization of compliances for retail and enterprise businesses.

2. Fostering an inclusive digital ecosystem

2.1. Streamline grievance redressal process through unified portal and use of AI, Chatbots etc.;
2.2. Promote unified information system for all telecom services in vernacular languages;
2.3. Enhance awareness to address the concerns of citizens related to EMF radiation of telecommunications towers;
2.4. Create a single window support system for resolving issues pertaining to telecommunications sector;

2.5. Organize capacity-building programs for Central Ministries, States and public institutions like Districts, Schools, Colleges etc. on 5G and BharatNet use cases;
2.6. Encourage pilot projects related to use cases of 5G and BharatNet network;
2.7. Scale up the successful pilot projects at pan-India level including Samriddh Gram.

3. Create Enabling Business Environment

3.1. Develop end-to-end online solution for all compliance reporting, encouraging self-declarations wherever possible;
3.2. Collaborate with states and UTs and Ministry of Power through NBM institutional framework to implement composite billing system for all TSPs/ISPs/IPs;
3.3. Promote use of RegTech and code-based modalities;
3.4. Explore the possibility of deemed approval beyond prescribed time limits for different regulatory and licensing/authorization activities within the department;
3.5. Promote active and passive infrastructure sharing and implement regulatory framework for the same;
3.6. Conduct study on Regulatory Impact Assessment for improvement of regulatory environment and practices;
3.7. Develop Framework to enable and encourage spectrum sharing, leasing, trading and secondary usage Ensure adequate availability and efficient utilisation of spectrum through refarming;
3.8. Undertake spectrum audit of Central, State Government and PSUs on regular basis;
3.9. Delegate the frequency assignment activity to the regional level to enhance accessibility and expedite spectrum allocation for wireless users;
3.10. Ensure adequate availability and efficient utilization of spectrum through refarming;
3.11. Develop a dynamic National Spectrum Roadmap updated every two years, aligned with ITU-R WRC cycles and industry needs.

Mission 6: Sustainable Development

Goals for 2030

a. Reduce the carbon footprint from the telecom service sector by 30%;
b. Facilitate the development and adoption of energy-efficient network by Telecom industry;
c. Adopt and implement the “Green Energy Open Access” framework;
d. Promote transition of the telecom industry to renewable energy sources;
e. Achieve renewable energy adoption for 30% of telecom towers;
f. Facilitate telecom companies in the implementation of comprehensive e-waste management framework;
g. Develop sustainability standards in the telecom sector;
h. Integrate the Telecom Sector with Indian Carbon Market;
i. Facilitate the development of telecom infrastructure that is resilient to climate change and fosters long-term environmental sustainability.

Strategies

1. Promote Green Telecom Technologies

1.1. Encourage the use of AI-enabled management system to optimize energy consumption;
1.2. Facilitate the implementation of “Green Energy Open Access” framework by collaboration with States and UTs for enhancing the use of green/renewable energy in the telecom sector;
1.3. Facilitate continuous reduction in carbon footprint from the telecom sector by educating and incentivizing suppliers and customers, as well increasing the product lifecycles of telecom equipment.

2. Promote Sustainability and Circular Economy Model

2.1. Encourage and incentivize the design of products and services, conforming to Circular Economy principles and efficient green energy technologies;
2.2. Facilitate product stewardship programs that ensure responsibility for the entire product life cycle, including end-of-life disposal, through collaboration among governments, businesses, and consumers;
2.3. Develop National Standards for promoting circularity for telecommunications sector, aligned with the internationally recognized standards;
2.4. Introduce e-waste recycling mandates for telecom manufacturing companies, encouraging manufacturers to adopt Circular Economy models by reusing and recycling telecom equipment;
2.5. Promote R&D in areas of sustainability and Circular Economy in Telecom Sector;
2.6. Incentivize telecom products conforming to circularity in public procurement;
2.7. Incentivize telecom products conforming to circularity through suitable enabling modifications in the existing DoT Schemes and new schemes;

2.8. Develop courses on Circular Economy in Telecom, in association with AICTE and other academic/ industry experts, for engineering colleges, polytechnics, ITIs, etc.;
2.9. Promote the use of refurbished products that have similar level of warranty support from vendors;
2.10. Coordinate with Department of Consumer Affairs for on boarding of Telecom Equipment on the Right to Repair Portal;
2.11. Formulate rating framework for telecom infrastructure resilient to climate change and incentivize its adoption;
2.12. Establish a Centre of Excellence (CoE) on "Sustainability in Telecom Sector";
2.13. Collaborate/facilitate relevant ministries/departments for a resilient Public Protection and Disaster Relief (PPDR) network with harmonized spectrum plans, AI-powered predictive analytics, and IoT-enabled systems for resource mobilization.

3. Increase Reliance on Renewable Energy Sources

3.1. Promote energy efficiency at component, equipment/system and network/service level through energy consumption rating and classification of energy passport;
3.2. Promote the use of renewable energy sources for powering telecom network;
3.3. Ensure capacity building in educational institutions.