



India's Booming Telecom Sector

This article is based on [“Telecom licensing is about carriage, not content”](#) which was published in Hindu Business Line on 20/12/2022. It talks about the Telecom Sector in India and related challenges.

For Prelims: Telecommunications Industry, Over-the-Top (OTT) regulation, Internet of Things (IoT), Artificial Intelligence (AI), Production-linked incentive (PLI) scheme, Prime Minister Wi-Fi Access Network Interface (PM-WANI), Bharat Net Project, One Nation Full Mobile Number Portability (MNP), Telecom Disputes Settlement and Appellate Tribunal.

For Mains: Drivers for Growth of Telecom Sector in India, Challenges Related to the Telecom Sector, Draft Telecommunication Bill 2022.

The past two decades have been considered as the **golden period for the [telecommunications industry](#)** in India with exponential growth and development in terms of **technology, penetration, as well as policy**.

Currently, India is the **world's second-largest telecommunications market with a subscriber base of 1.16 billion** and has registered strong growth in the last decade. The **liberal and reformist policies of the Government of India** have been instrumental along with strong consumer demand in the rapid growth of the Indian telecom sector.

However, **limited [spectrum availability](#), low broadband penetration, lack of [Over-the-Top \(OTT\) regulation](#)** has limited the scope of telecom that needs to be scrutinized from a **detached point of view and addressed holistically**.

What are the Drivers for Growth of Telecom Sector in India?

- **Robust Demand:** In India, the total subscriber base stood at 1178.41 million in December 2021.
 - Also, India is one of the **biggest consumers of data worldwide**. As per TRAI, average wireless data usage per wireless data subscriber was **11 GB per month in FY20**.
- **Attractive Opportunity:** By 2025, India will need **about 22 million skilled workers in 5G-centric technologies** such as [Internet of Things \(IoT\)](#), [Artificial Intelligence \(AI\)](#), robotics and cloud computing.
- **Policy Support:** The Union Cabinet approved Rs. 12,195 crores **[production-linked incentive \(PLI\) scheme](#)** for telecom & networking products under the **Department of Telecom**.
 - **Also**, to drive the development of **[6G technology](#)**, the **Department of Telecommunications (DoT)** has developed a **sixth generation (6G) innovation group**.
- **Increasing Investments:** In Union Budget **2022-23** the **Department of Telecommunications** was allocated **Rs. 84,587 crores**.

- FDI inflow in the telecom sector stood at **USD 39.02 billion between April 2000-September 2022.**

What are the Recent Government Initiatives Related to the Telecom Sector?

- [Prime Minister Wi-Fi Access Network Interface \(PM-WANI\)](#)
- [Bharat Net Project](#)
- [One Nation Full Mobile Number Portability \(MNP\)](#)
- [Draft Telecommunication Bill 2022](#)

What are the Challenges Related to the Telecom Sector?

- **Right of Way Challenge:** Due to **variable and complex legal procedures across states**, non-uniformity in levies, and approvals from the **Forest Department, Railways, and National Highway Authority**, the [Right of Way](#) has been a contentious issue for the Indian telecoms sector.
 - The delay in this process has affected **several tower and fiber planning and rollout processes** across the country.
- **OTT-Telecom Conflict:** Voice calls and SMS services are provided by **OTT platforms** like WhatsApp and Telegram **using the network infrastructure of telecom providers like Airtel and Jio.**
 - Telecom Service Providers (TSPs) **contend that these features adversely affect their sources of revenue** (voice calls, SMS).
- **Insufficient Fixed-Line Penetration:** The Indian network does not have very much fixed-line coverage, while most developed countries have a high penetration of fixed lines (**telephone lines connected to a nationwide telephone network via metal wires or optical fibers**).
 - There are fewer than **25% of towers in India connected to fiber networks**, compared to more than 70% in developed nations.
 - **5G Networks** require towers to be connected to very high-speed systems. These high speeds cannot be achieved by the [current radio systems](#).
- **Lack of Efficient Disposal of E-waste:** The telecom industry **impacts the environment in multiple ways**, including by generating [e-waste](#).
 - In India, more than 95% of e-waste is illegally disposed of.
- **Lack of Rural Connectivity:** In India, **adequate tele density has been achieved**, but there is a large discrepancy between penetration in **urban (55.42%) and rural (44.58%) areas**.
 - **Getting into semi-rural and rural areas** is challenging for service providers due to the huge initial fixed costs.

What Should be the Way Forward?

- **Digital Infrastructure with Digital Skills:** The creation of digital infrastructure and the development of digital skills must go hand in hand, and internet access and digital literacy are interdependent.
 - To **educate and empower young students and the working population**, especially women, **Digital Foundation Centres** can be established in rural areas.
- **Sector Specific Data Management and Grievance Redressal:** To ensure seamlessness and security of digital communication across India, **sector-specific data management and grievance redressal standards** (including OTT platforms) are needed while keeping citizens' interests at the forefront while also ensuring their autonomy and choice.
 - A more proactive and timely **Dispute Resolution by TDSAT ([Telecom Disputes Settlement and Appellate Tribunal](#))** is the need of the hour.
- **Harnessing Technology, Sharing Capacities:** It is important for telecom operators to harness the **talent pool in the country**, which is bringing about many new innovations in **artificial intelligence, [blockchain technologies](#), etc.**
 - Also, there is a need for **new infrastructure on a shareable basis**, just like telecom service providers share tower costs.

- **Enabling Environment for Exports:** It is important that the **government invests more in R&D** and creates an environment that makes India capable of manufacturing and **exporting hardware components such as mobile phones, CCTV cameras, touch screen monitors,** etc.
- **Linking BharatNet with Bhashini:** BharatNet aims to ensure **highly scalable network infrastructure accessible on a non-discriminatory basis.** On demand, affordable broadband connectivity can be ensured with Bharatnet alongside **integrating e-citizens from different parts of the nation curbing the language barrier through [Bhashini Platform](#)** which is an **artificial intelligence (AI)** led language translation platform.

Drishti Mains Question

Discuss major challenges related to the Telecom Sector in India. Also cite major provisions of the recent draft Telecommunications Bill 2022 as well.

UPSC Civil Services Examination, Previous Year Question (PYQ)

Q. Which of the following is/are the aims/aims of the “Digital India” Plan of the Government of India? (2018)

1. Formation of India’s own Internet companies like China did.
2. Establish a policy framework to encourage overseas multinational corporations that collect Big Data to build their large data centers within our national geographical boundaries.
3. Connect many of our villages to the Internet and bring Wi-Fi to many of our schools, public places and major tourist centers.

Select the correct answer using the code given below:

- (a)** 1 and 2 only
- (b)** 3 only
- (c)** 2 and 3 only
- (d)** 1, 2 and 3

Ans: (b)