



# Reaching New Heights

Broadband achievements and the challenges ahead

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The year 2023 marked the first full year since the Covid-19 pandemic was reduced to an endemic state, and it was a landmark year for the broadband sector. The pandemic highlighted the role of high speed broadband to facilitate the digital delivery of goods, services, work, education, health and play. It emphasised not only the need for robust and ubiquitous telecom “pipes” but also the criticality of suitable content and over-the-top (OTT) apps flowing through these pipes. The symbiotic nature of both components is now evident.

The following were some of the key milestones or achievements of the sector during the year:

- **Historic telecom legislation:** The passing of the Telecommunications Act, 2023 by Parliament on December 24, 2023 was a truly epoch-making event, superseding the 138-year-old Indian Telegraph Act and two subsequent acts. This has been a remarkable achievement in structural reforms, bringing clarity to

the sector in terms of the overall digital economy point of view. The act streamlines the complex telecom licensing system and introduces a simple authorisation mechanism. It prioritises user protection and implements ease of doing business measures, making the sector investor friendly. By keeping the all-important OTT-apps and content out of telecom, it has provided tremendous relief to both players and investors. The act has also provided a much-needed morale boost to satcom and other sectors by stipulating administrative allocation of spectrum for them.

- **Bharat 6G Vision Document:** On March 23, 2023, the prime minister introduced the Bharat 6G Vision Document, outlining India’s plan to launch 6G, which is based on the principles of affordability, sustainability and ubiquity. This initiative holds immense significance for the broadband sector and is in line with India’s aim to become a global leader in 6G.

- **Digital Personal Data Protection [DPDP] Bill, 2023:** With the growth of broadband, concerns about personal data protection may arise. The DPDP Bill, passed in August 2023 following extensive consultations, is a major attempt to address these concerns.

- **Towards satellite broadband:** The eagerly awaited Indian Space Policy, 2023, a major liberalisation reform for the satellite sector, is a huge step forward taken by the government. The policy enunciates increased private participation in the space sector in all areas, that is, upstream, midstream and downstream. The Department of Telecommunications has also announced a big reform package for satellite communications. Working in tandem, these measures are expected to introduce modern technologies and reduce costs, facilitating the delivery of satellite broadband in the near future.

- **Right of Way [RoW] Rules amendment:** Ease of securing RoW permis-



sions for laying optic fibre is critical for the growth of high speed broadband and much has been done on this front during 2023.

- **Public 5G services:** The past year has been remarkable with respect to the speedy and extensive roll-out of public 5G services in India. As of August 15, 2023, India has rolled out 324,192 5G base transceiver stations across 700 plus districts in the 35 states and union territories (UTs) across India in a short span of 10 months. Although mobile networks typically struggle to provide consistent or guaranteed bandwidths, 5G still stands as a very useful medium of delivering higher speed broadband.
- **In-building solutions:** In 2022, the Ministry of Housing and Urban Affairs issued an addendum to the Model Building Bye-laws, 2016, on provisions for in-building solutions and common digital communication infrastructure. Since over 70 per cent of data usage takes place inside buildings, this important policy action would facilitate the proliferation of Broadband in India, providing more choices to customers.
- **Local manufacturing:** It is a matter of pride that India has developed its own homegrown end-to-end 4G and 5G stacks. Only four other countries in the world – China, South Korea, Sweden and Finland – have such a stack. Many countries are interested in procuring this from us. During the past year, significant progress has been made in local manufacturing through the production-linked incentive (PLI) scheme. This development is expected to contribute to increased broadband growth due to the availability of domestic 4G/5G stacks.

### Key challenges ahead

While India has made significant progress in the above-mentioned aspects, it is important to note that despite a rapid and extensive 5G roll-out, the adoption of 5G is hardly about 10 per cent. We need to promptly address certain major concerns regarding the growth of affordable broadband. These include:

- **Unlicensed 6 GHz band:** The non-availability of unlicensed 6 GHz, which is



essential for deploying modern Wi-Fi 6E and enhancing the uptake of in-building broadband, poses a big challenge. Unlicensed 6 GHz is also essential to make affordable broadband available to our unconnected rural masses, thereby reducing the digital divide.

- **Digital divide:** There have been challenges in uniform adoption of the digital ecosystem across all sections of society. These include the usage gap, gender gap, rural-urban gap and connectivity gap in schools, educational institutes and primary healthcare centres across the country. As the country moves up the technology ladder, new types of digital divides are emerging. India still has about 250 million 2G users, creating a big divide with 4G users. Now, a fresh divide is emerging, with 130 million (and rising) 5G users. Thus, as India's digital ecosystem grows, greater emphasis is needed on digital inclusion.
- **Affordability of digital devices:** A large number of marginalised sections of society struggle to afford smartphones. To increase penetration and inclusivity, either the cost of smartphones will have to be reduced substantially or the government will need to provide subsidies to such people. Suitable policy interventions are required to address the situation.
- **Affordability of services:** The affordability of data and services is also a critical barrier to access. There is a need for policies that ensure cost-effective access

to digital technologies.

- **Digital skilling:** India's rapid progress up the technology ladder necessitates more programmes and actions to improve digital skilling, especially in the lower segments of the customer pyramid. Without these measures, the adoption of 5G (currently) and 6G (in the near future) may fall short of satisfactory levels.
- **High duties, levies and taxes:** High duties, levies and taxes continue to make up a large component of the service cost to customers and need to be addressed to ensure affordability for the rural population. The digital divide arises from a technology divide such as lower 5G adoption in rural areas compared to urban areas. Therefore, the government could consider special waivers/reductions in duties, levies and taxes applicable in rural areas. However, adequate safeguards will have to be built into such measures to avoid or minimise arbitrage misuse between rural and urban areas.

The broadband sector is witnessing exciting times with many structural reforms under way to keep pace with emerging technologies and new trends. The country is on the path of digital transformation, and is rapidly reaching new heights towards the realisation of the "Digital India" and "Broadband for All" dreams. ▲

**Research inputs by Garima Kapoor**  
(The views expressed in this article are personal.)