



SECTOR IN FOCUS

TECHNOLOGY & CONNECTIVITY

Digital power to the hinterland... BharatNet is key to India's \$1 trillion digital economy vision

BharatNet in a nutshell

- The world's largest rural broadband project that is aimed at 2.5 lakh gram panchayats across India
- GOI's ambitious plan to bring broadband (minimum 10 Mbps) to 361,000 villages across 16 states
- Will provide uniformity of digital services and access across urban and rural India
- Promotes R&D and commercialization of technology and solutions.

How to make it a win-win

- Implementation of Central Right of Way portal integrated with state departments to ensure seamless application and an approval process with standardized policy communication
- Availability of dedicated electricity connection for BharatNet equipment with ownership clearly identified
- Leveraging private sector for operations and maintenance of the network infrastructure to improve performance via SLA-based monitoring
- Onboarding multiple TSPs/ISPs to utilize BharatNet infrastructure on revenue sharing or dark fibre leasing basis to increase competition thereby resulting in improved services for citizens

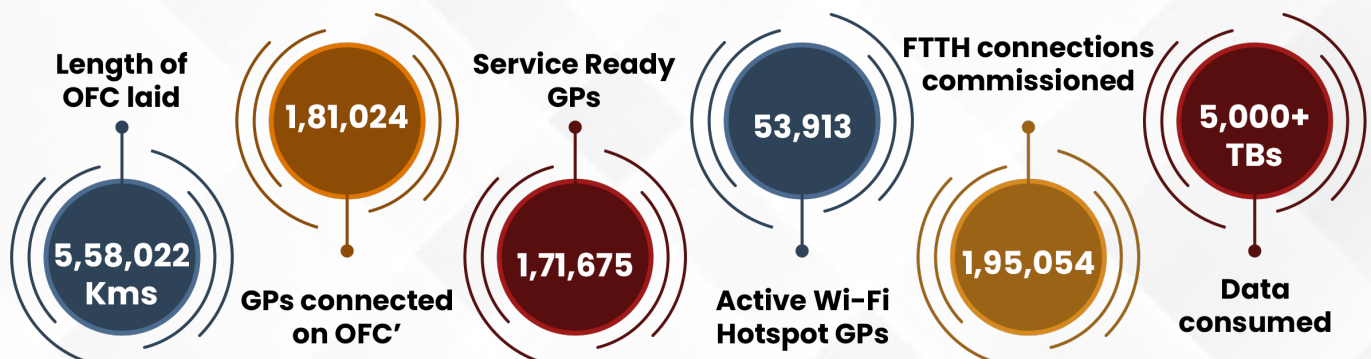
The case for 100% connectivity

- Internet and last-mile connectivity are key to India's vision of becoming a \$1 trillion digital economy.
- A 10% increase in broadband connectivity causes GDP to increase by 1.38%
- The world's second largest telecommunication market will also get a major fillip with 5G: In Q1:FY22, average monthly data usage per user stood at 14.1 GB

Execution challenges

- Delay in RoW permissions – the Centre and states have provided blanket RoW coverage but there are considerable delays by local level departments for providing RoW permissions
- Limited power availability in rural areas to ensure optical fibre infrastructure uptime
- No separate electricity connections for BharatNet equipment, leading to ambiguity on ownership of electricity bills between GPs, Block HQ officials and BharatNet's implementing agency
- Poor infrastructure support in rural areas leading to untimely infrastructure maintenance

BharatNet in Numbers (December 2021)



BharatNet: The great digital leveller and employment generator



Mr. Devroop Dhar
Co-founder & MD

The Bharatnet project, one of the most ambitious projects undertaken by the Government of India, has the potential to bring over 600 million rural population on to the information superhighway by connecting gram panchayat schools, panchayat offices, primary health centres, post offices, etc. and provide improved education, healthcare and governance opportunities along with financial inclusion.

While there is a gap in the literacy rate in rural vs urban India with rural areas standing at approximately 73.5% compared to 87.7% in urban areas, the gap in terms of performance on 'Learning Outcomes' is even wider. This gap further exacerbated during the pandemic induced lockdowns where the learning mode went online and the access to good internet connectivity was limited in the rural areas. To overcome this deficiency, BharatNet is targeting to bring in seamless virtual classroom-based learning opportunities for the rural areas, as envisaged.

Learning outcomes

In the recent budget discussions, the goal has been to provide access to more skilled and trained teachers, along with high quality study material, thus improving the 'Learning Outcomes' for students across all levels. The 'One Class One TV Channel' Programme highlighted in the budget recently proposes 200 channels, in which all states will be able to offer regional language supplementary education for Classes 1-12 which can be made available using IPTV services thereby leveraging on the BharatNet network infrastructure.

Healthcare infrastructure

In addition to literacy levels, BharatNet has the potential to help improve the state of healthcare infrastructure across the country. Presently, even though the majority (65%) of India's population lives in rural areas, they have only 25% of Indian doctors available to offer their services. The density of medical practitioners in the rural areas currently stands at 0.65 doctors per thousand people and 0.55 hospital beds per thousand people. With access to high-speed internet services, the primary and secondary healthcare centres can be transformed into high-tech virtual clinics. These clinics equipped with basic healthcare infrastructure will provide tele-conferencing facilities to help gain access to world class doctors and qualified medical practitioners. These virtual clinics can be maintained by on-ground staff trained in basic healthcare procedures such as measuring blood pressure, blood sugar levels, administering vaccinations and injections, recoding the ECG etc. along with providing necessary pharmaceutical support.

BharatNet: Enables telecom service providers to accelerate 5G rollout...

The third area where Bharatnet infrastructure would play a key role is around providing citizen centric government services in rural and remote areas. Both State and Central governments have launched their e-governance portals that enable access to citizen centric services to everyone, but the key challenge observed during implementation is that one is not able to provide a seamless, no-hassle experience due to inadequate connectivity and limited back-end internet infrastructure at the rural levels. In this scenario, BharatNet project supported by API based integration of systems across various government departments would surely enable seamless service delivery of e-governance services from state and central governments.

PPP model

One of the highlights of the BharatNet project is that it leverages the strength of PPP model in awarding of contracts for laying optical fibre in all villages, inclusive of remote areas, which is likely to happen in 2022-23. This year's budget also emphasises 100% connectivity to all Gram Panchayats by 2025 which indicates that all 2.5 lakh Gram Panchayats would be accessing the BharatNet network for providing the services in education, healthcare, G2C / B2C areas, etc.

Jobs

As one of the focus areas of the BharatNet project would be the creation of employment, we believe that jobs would be created in the areas of Infrastructure management, Networking, Operations & Maintenance, Citizen Delivery Services, Education, Healthcare Sectors, etc., and this backbone would also provide entrepreneurial opportunities for educationalists, health experts, B2C delivery channels, etc. One of the use cases of BharatNet infrastructure shall also enable the TSPs to accelerate the rollout of 5G services in the rural and remote areas of the country.

Expert Take



Mr. Anil Kumar Jain,
CEO, NIXI

With an objective of providing high speed broadband connectivity to all gram panchayats in India, once implemented, BharatNet would act as a digital backbone for providing numerous services in the areas of education, healthcare, service delivery etc. to rural India. This infrastructure will ensure that everyone in Bharat would be able to have an inclusive access to the internet technology. The outreach will help generate employment avenues and we will see a lot happening in AI, IoT, Blockchain, Big data space in years to come.

NIXI is prepared and excited to be part of this transformational journey that country will witness. NIXI shall endeavour to strengthen Internet Infrastructure like domains, route zone, security tools for protection of data. Concept of universal acceptance with content in mother tongue will further enable the non-English speaking population to participate and make maximum use of the internet technology offerings.

India's connectivity and broadband ecosystem: A snapshot

30 digital themes have been identified by Gol to transform India and pave the way for its \$1 trillion digital economy dream. Bharatnet is a key enabler in achieving this dream with the right kind of participation from Corporate India and support from the policy ecosystem.

Policy & Regulatory Framework

Drone Shakti scheme: The Drone Shakti scheme and Rs 120 crore PLI scheme for drone and drone components will help increase domestic manufacturing and create employment. A supplier ecosystem for the industry will be created in India.

The Indian IT rules 2021: These rules make it necessary for intermediaries to track the originator of a message. They are applicable to social media sites, messenger apps, news portals, and platforms like Netflix and Amazon Prime Video. The big question: Does it give the state a backdoor into knowing who you talk to?

India is on course to achieve 100% 4G coverage to further economic development. Funded by the Universal Service Obligation Fund, 4G rollout has begun in 7,287 uncovered villages of 44 Aspirational Districts across Andhra Pradesh, Chhattisgarh, Jharkhand, Maharashtra & Odisha at an implementation cost of Rs 6,466 crore.

National Tele-Mental Health Program will be launched for better access to quality mental health counselling and care services. This will include a network of 23 tele-mental health centres of excellence, with NIMHANS being the nodal centre and International Institute of Information Technology-Bangalore (IIIT-B) providing technology support.

Other Major News

5G is coming: To enable roll out of 5G mobile services, spectrum auctions are to be piloted in 2022 to facilitate rollout of 5G mobile service. A scheme for design-led manufacturing will be introduced to build a robust ecosystem for 5G as part of the Production Linked Incentive (PLI) Scheme.

Telecom majors are gearing up:

Reliance Jio recently collaborated with Smartphone maker OPPO to conduct a 5G standalone and non-standalone network trial. The test was conducted on trial spectrum in the 3.3-3.6 Ghz frequency range.

Jio forays into satellite broadband:

Jio Platforms recently announced a joint venture with Luxembourg-based SES to provide SES's satellite data and connectivity services in India and help to further accelerate the growth of multigigabit broadband.

Privacy, data breach searches up more than 20% in 2021: Google

Searches related to privacy and data breaches on Google grew by more than 20 per cent in 2021, across places as diverse as Australia, Hong Kong, India, Indonesia and Singapore.

Contributors



Devroop Dhar
Co-founder & M.D



Suraj Soman
Vice President



Ayush Kachru
Manager



Sahil Monga
Manager



Tushar Singhal
Assistant Manager



Adith Charlie
Vice President



Ayushi Gupta
Consultant



Juhi Talwar
Consultant



Ankush Sharma
Consultant



Yash Saksena
Consultant

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