

5G and the power to usher in a new digital revolution

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One of the most striking aspects of India's telecom revolution was the country leapfrogging to mobile telephony in the early years of this century. Undoubtedly, this is one of India's greatest success stories. Low-cost telephone connectivity empowered individuals and boosted economic growth like never before by lowering cost of communication. It was nothing short of a miracle for the country. Today, we are on the threshold of yet another revolution and possibly a bigger success story.

5G has the potential to transform India by catalyzing a digital revolution that can bring to life the vision of "Digital India".

But first, a quick look at what made for the country's success story in mobile telephony? In a nutshell, India's mobile telephony revolution was a result of clarity of policy, participation from the private sector and a will to make things happen on the part of the government.

For 5G deployment much of the vital factors for success are already in place. The government's National Digital Communications Policy 2018 recognizes the role and importance of 5G in enhancing digital engagements in the country and acknowledges the rewarding takeaways. 5G by supporting e-governance, smart cities, online education, e-health, and smart farming among others can make Digital India a reality at a rapid pace. We only have to look at the examples of countries like South Korea, China, the US and Australia where early investments in 5G are today paying rich dividends. It is estimated by PwC that 5G Technology will add USD 1.3 Trillion to Global GDP by 2030, while total 5G impact in 2030 for India will be USD 42 billion. Further, it is estimated that 5G will create the economic value of USD 1 Trillion by 2035 in India.

Opening the doors to 5G

How will this happen?

As a new and innovative technology, 5G will enable Telecom Service Providers (TSPs) to deploy novel business models to individuals and organizations across verticals including commercial, educational, healthcare, agriculture, finance, and social sectors. 5G, through its inherent strengths, will also enable the growth of new age technologies like IoT, M2M, AI, AR, VR and blockchains besides fixed wireless high-speed broadband networks. New business opportunities arising from online high-definition content consumption is likely to open revenue channels for telecom operators, thereby boosting revenue streams. This is critical as the telecom sector needs to be fundamentally strong given that it is the very backbone of India's digital revolution.

TSPs have already been on the front foot on readying "networks of the future" which will incorporate 5G. Some of the new age technologies mentioned above are already bringing transformative changes for both individuals and enterprises.

5G has the potential to truly transform the lives of India's citizens. Considering the robust benefits, it offers, what is required is government's support in the form of a strong and robust inter-ministerial policy that can provide a pathway for end-to-end 5G realization. It is encouraging that following the recommendations of the inter-ministerial High-Level Forum for 5G India 2020, the government is creating an enabling framework.

Creases to be ironed out

However, 5G deployment is not without challenges. Spectrum price remains high in India; the recent auctions demonstrated that as only 37% of the spectrum has been sold out of total spectrum put for auction. The spectrum available in the 700 MHz and 2500 MHz bands remained unsold. Further, the TRAI recommended reserve Price of Rs.492 Crores for the 3.3.-3.6 GHz band (so called 5G band) is very high compared to other countries such as Italy, UK, Australia, Spain etc. Spectrum prices are significantly high, compared, even when normalized on population and on GDP per Capita basis.

Then again, there is the challenge associated with the availability of spectrum. To solve this, we need a robust policy to effectively and efficiently manage and allocate spectrum. This calls for both short-term and long-term roadmaps for spectrum assignment including guidelines on the quantum and timelines of availability. In addition, interests and investments of TSPs must be protected while ensuring availability of spectrum for cellular technologies, including the upcoming 5G, and backhaul.

As an immediate step, entire band from 3.3 – 3.6 GHz should be made available for 5G. Also, mmwave bands like 26, 28 & 37 GHz should be referred to TRAI to arrive at pricing. This along with early decision on E&V band will facilitate 5G.

To make India 5G ready at the earliest, Government needs to allocate at least the following spectrum per operator., 3.5GHz: at least 100MHz per operator, Mm Wave (26, 28, 37 GHz): at least 400MHz per operator, Sub-GHz (600MHz & 700MHz): at least 2x20MHz per operator, E-Band: at least 2x1GHz per operator and V-Band: at least 1GHz per operator

Resolving Right of Way (RoW) challenges remain yet another concern for the roll out of infrastructure. The industry has always raised a voice for streamlining RoW policy and implementing it uniformly across states. This is because telecom infrastructure forms the backbone and is not necessarily a source of revenue.

Another must have, from a regulatory context, will be the need for the adoption of data protection laws which are appropriate and necessary for the country and for its economy. It would also be a big boost to Indian operators if the government were to accept telecom as a key infrastructure for growth followed by the relaxation of taxes and levies on telecom infrastructure. Currently, TSPs in India pay one of the highest levies in terms of License Fee, Spectrum Usage Charges, GST etc. compared to other countries.

According to recent report by Motilal Oswal Financial Services, investments in key components of 5G network on mid or low-band spectrum with pan-India coverage is estimated to be about **Rs 1.3-2.3 lakh crore**. Hence, it is vital to ensure that the telecom

industry remains financially strong and there is an urgent need to reduce the burden of levies on the sector.

5G, once commercialized, has the potential to revolutionize the country in a manner not seen since the mobile telephony revolution. This will lead to a more digitally inclusive society, one that is powered by faster connectivity and greater digitalization of services. The future is not very far and a future where we have driverless cars, smart irrigation, smart transportation and logistics, smart farming, drone patrolling for road safety, holograms and remote robotic healthcare could be a reality soon. This will undoubtedly rest on a bedrock provided by 5G. As India continues to increase mobile phone subscriptions, we owe our citizens the power of 5G to transform their lives and the country.

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