

India 5G Opportunity

July 19, 2022

As India eyes transition to high-speed 5G telephony, the country is set to witness its largest ever auction of spectrum. The government is auctioning around 72,000 MHz of mobile airwaves – the largest such quantum being sold at one go. This auction incorporates both the unsold spectrum in existing bands and new frequencies - in line with international trends.

Potential use-cases of 5G mobile telephony in India

- ❖ 5G wireless subscribers: The penetration of 5G enabled smartphones in India has been increasing. However, only about 11% of total smartphone shipments in 2021 are 5G enabled. This provides a long headway for growth. India lags other established markets like China (75%), South Korea, Japan, UK (~60% each) and USA (50%). If empirical evidence of 4G penetration is specific and tech adoption in general is observed, India will bridge this gap making rapid strides in the next 2-3 years. (Source: IDC, Gartner research)
- ❖ Fixed wireless broadband: In addition, 5G will open new revenue opportunities, most prominent being the fixed wireless opportunity given India's low home broadband penetration. Indian home broadband penetration remains low at 7% of households. This pales even against other EMs such as Indonesia, Philippines, Brazil etc. (Source: ITU, UN, UBS research)
- ❖ Satellite internet: Another potential area for internet connectivity in India is satellite internet. Companies such as Starlink and OneWeb (Bharti Airtel is a majority investor in this) are already working on establishing their network of low earth satellites to provide these services.
- ❖ Private Enterprise Networks: Interestingly, the Government has also paved the way for getting the Big tech companies such as Google, TCS, Cisco and Ericsson into the 5G business. Their operations shall be confined to their own captive networks for businesses and no interference into the consumer facing space. Enterprises can set up their captive non-public networks by obtaining spectrum directly from the Department of Telecom and establish their own private networks.

Specifics of the auction

- ❖ A total of 72,097.85 MHz of spectrum with a validity period of 20 years will be put to auction. The auction will be held for spectrum in various low (600 MHz, 700 MHz, 800 MHz, 900 MHz, 1800 MHz, 2100 MHz, 2300 MHz), mid (3300 MHz) and high (26 GHz) frequency bands.
- ❖ The auction commences on 26th July with mock sessions to be held on 22nd and 23rd July.
- ❖ The Government aims to collect at least INR 4.3tn (~USD 54bn), going by the reserve price for the spectrums.
- ❖ The participating companies don't have to pay the whole amount upfront but rather divide it into 20 annual installments wherein each installment is required to be paid at the beginning of each year.

- ❖ This follows the recent measures proposed by the Government to provide respite to the cash-strapped Telecom sector, encouraging investments in 5G equipment. The Government had also approved a INR 126bn (~USD 1.62bn) package under its flagship Production Linked Incentive (PLI) program for the telecommunications and network equipment manufacturing industries.

Participants and potential beneficiaries in the auction

- ❖ The four players who have applied to participate in the auctions are:
 - Bharti Airtel
 - Reliance Jio Infocomm
 - Vodafone Idea
 - Adani Data Networks
- ❖ The entry of Adani group, which has been on acquisition spree of infra assets in the country in last few years might pose a risk of a bidding war in the auctions. However, the probability of the same is low. The Group has indicated it is not interested in consumer mobility, rather only private network solutions. Secondly, the Adani Group has made an earnest money deposit (EMD) of only INR 1bn for the auction, indicating its intention to buy only bare minimum spectrum for a private captive network. This compares to INR 140bn and INR 55bn EMD by Reliance Jio Infocomm and Bharti Airtel respectively.
- ❖ Earnest money deposit (EMD) is reflective of the quantity of airwaves a company can bid in the auction. Typically, a telecom company has the ability to bid for up to 7-8 times the EMD amounts submitted by them, although players might keep sufficient headroom for flexibility depending on bidding strategy of competitors.
- ❖ Below are the details of EMD submitted by the various players and estimates of potential total bids based on their respective EMD amounts. Total Bid's are INR 218bn, with Jio contributing 64% of the overall EMD.

Participant	EMD submitted (in INR bn)	Estimated total bid (in INR bn)	Total bid in 2021 auction (in INR bn)
Reliance Jio Infocomm	140	1,270	571
Bharti Airtel	55	480	187
Vodafone Idea	22	200	20
Adani Data Networks	1	7	-
Total	218	1957	778

Source: News articles, Estimates bid amounts as per various industry experts

- ❖ With a little over a week for the auction, a much needed clarity awaits the operations of the private network players — which band they will get, the price they will have to pay for the spectrum that will be allocated to them as opposed to auctions and the period over which they will be allowed to hold the spectrum.

Our view

We believe this lays the foundation for India's transition to the next generation of 5G telephony. India will join the world in the global era of internet-of-things, smart factories, remote surgeries, immersive virtual experiences as well as autonomous driving technologies. The 5G transition

and use-cases shall usher in a new era of tech being an integral component of multiple industries.

We continue to remain watchful of the proceedings of the auction, especially the clarifications on the spectrum to be allotted to private organizations for their captive networks. Also, any bidding up of prices for the spectrum needs to be monitored closely as they could affect the capex levels and cash flows for the industry. With 5G rollouts Bharti and Jio could gain market share, however key triggers remain tariff hikes in later part of 2022.

Relevant media articles:

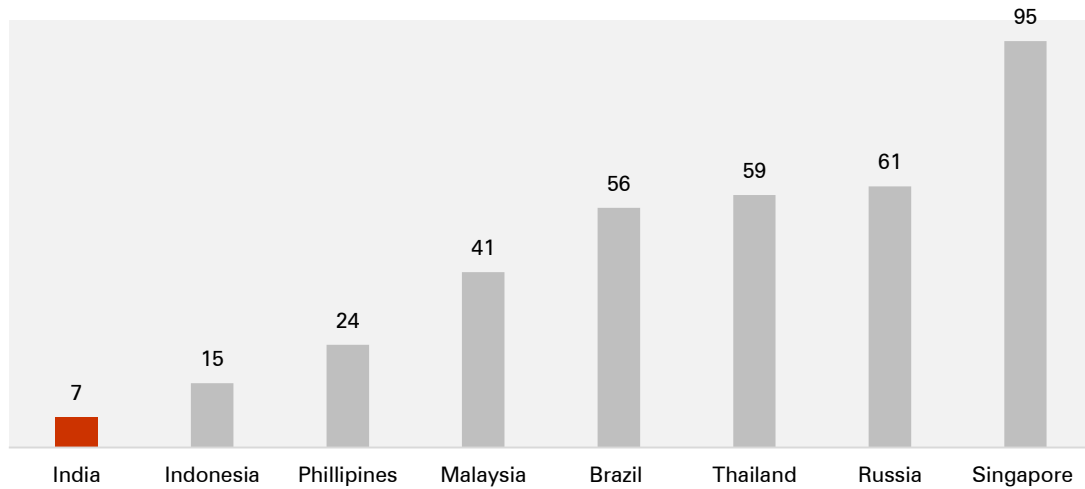
[5G Spectrum Auction: Cabinet gives nod for 5G auctions; 72097.8 MHz spectrum to be put on block by July-end | India Business News - Times of India \(indiatimes.com\)](#)

[India primed for 5G launch, roll out will improve its rankings on mobile speeds: Ookla CEO | Technology News, The Indian Express](#)

[How India Plans To Solve Network Congestion with 5G Launch \(news18.com\)](#)

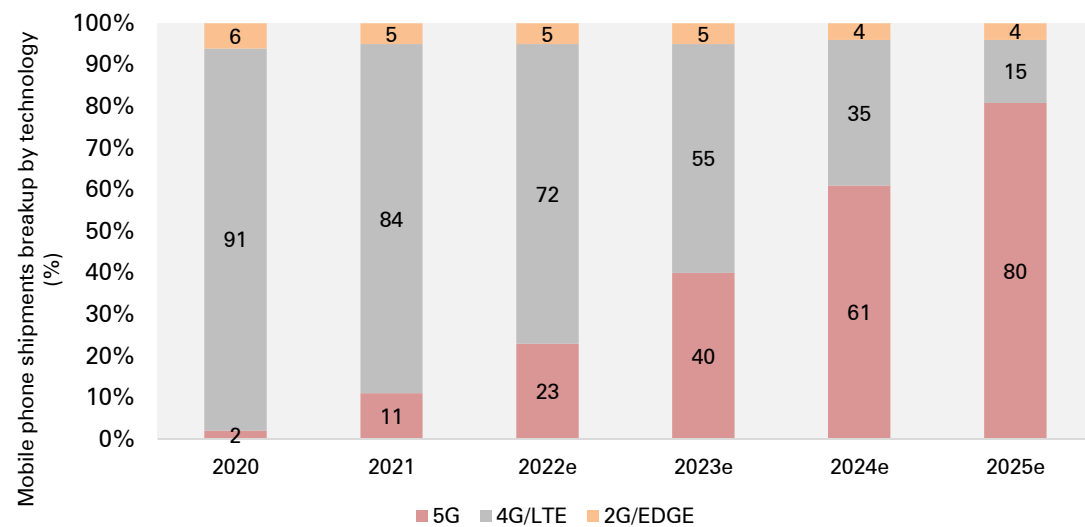
[5G spectrum: Jio tops with Rs 14,000 crore deposit - Times of India \(indiatimes.com\)](#)

Fixed broadband penetration (% of households)



Source: ITU, UN, UBS research

Mobile phone shipments growth in India



Source: Gartner research

Disclosures:

This article is for information purposes only and is not an offer to sell or a solicitation to buy any security or a recommendation or advice. The information that is used here is believed to be from reliable sources and is publicly available, including information developed in-house. These views alone are not sufficient and shouldn't be used for the development or implementation of an investment strategy. It should not be construed as investment advice to any party. All opinions and estimates included constitute our view as of this date and are subject to change without notice. While utmost care has been exercised while preparing the article, the sender does not warrant the completeness or accuracy of the information and disclaims all liabilities, losses and damages arising out of the use of this information. The recipient of this article should rely on their investigations and take their own professional advice.

In the preparation of the material contained in this document, the AMC has used information that is publicly available, including information developed in-house. Some of the material used in the document may have been obtained from members/persons other than the Fund and/or its affiliates and which may have been made available to the Fund and/or to its affiliates. Information gathered and material used in this document is believed to be from reliable sources. The Fund however does not warrant the accuracy, reasonableness and/or completeness of any information. For data reference to any third party in this material no such party will assume any liability for the same. All recipients of this material should before dealing and or transacting in any of the products referred to in this material make their own investigation, seek appropriate professional advice and carefully read the offer document. We have included statements/opinions/recommendations in this document, which contain words, or phrases such as "will", "expect", "should", "believe" and similar expressions or variations of such expressions that are "forward looking statements". Actual results may differ materially from those suggested by the forward looking statements due to risk or uncertainties associated with our expectations with respect to, but not limited to, exposure to market risks, general economic and political conditions in India and other countries globally, which have an impact on our services and / or investments, the monetary and interest policies of India, inflation, deflation, unanticipated turbulence in interest rates, foreign exchange rates, equity prices or other rates or prices, the performance of the financial markets in India and globally, changes in domestic and foreign laws, regulations and taxes and changes in competition in the industry.

The AMC (including its affiliates), the Fund and any of its officers, directors, personnel and employees, shall not be liable for any loss, damage of any nature, including but not limited to direct, indirect, punitive, special, exemplary, consequential, as also any loss of profit in any way arising from the use of this material in any manner.