



 airtel



# **Business Case Study of INDIAN 5G WAR**

By  
Oishik Biswas

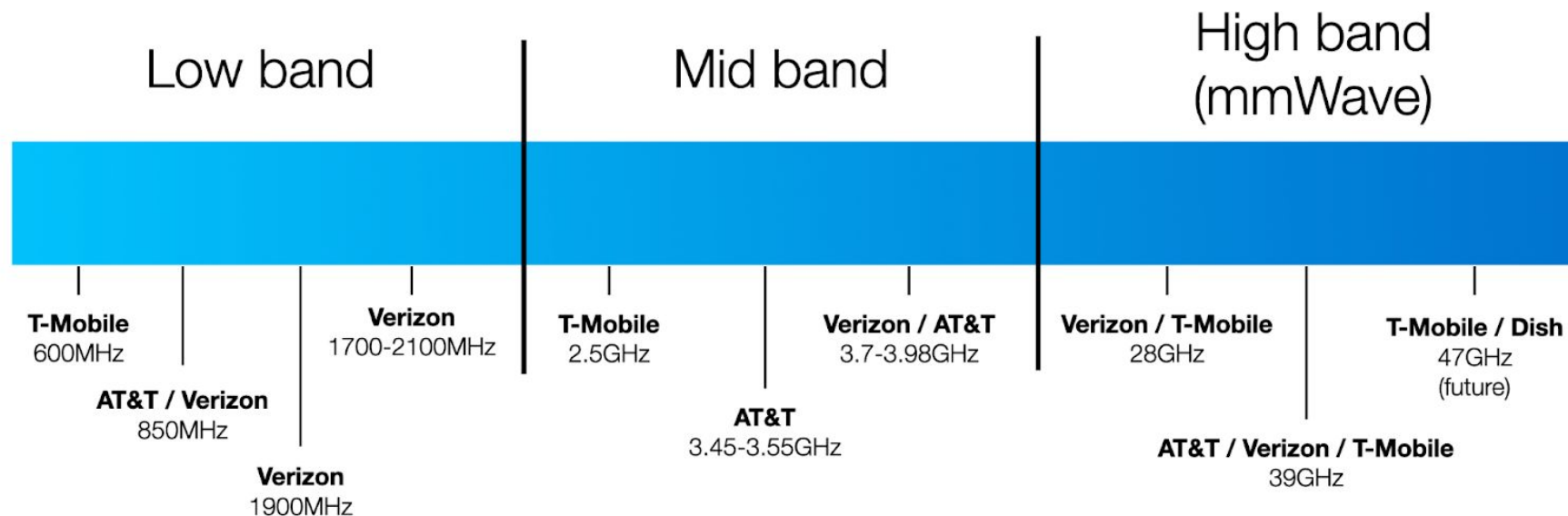
# Indian 5G Transition

- 1st October 2020, Indian Prime Minister Narendra Modi officially announced the rollout of commercial 5G.
- Electromagnetic Spectrum → The range of frequencies of radiation and their respective wavelengths.
- 0.7 GHz - 40 GHz, we have the 5G spectrum.

# 5G Band Types

- Three types of band.
- Low band → Less than 1 GHz (700 MHz, 800 MHz, 900 GHz)
- Mid band → 1 GHz - 6 GHz.
- High band → 24 GHz - 40 GHz.

# 5G Band Types



# Most Demanded 5G Bands

- 700 MHz → Jio → 39270 Crore Rs

Efficient frequencies to high speed internet to rural areas.

Twice efficient 900 MHz, much cheaper than 1800 MHz.

- 3300 - 3600 MHz → Jio, VI, Airtel → 80590 Crore Rs.

Speed 1 GBPS in economical way, best for mass communications.

# Most Demanded 5G Bands

- 26 GHz → Jio, Adani, VI, Airtel → 14709 Crore.





Elite ultra low latency, ultra fast 5G band, promises speed up to 10 GBPS.

- Adanis bought for industrial purposes, not for consumer purposes, applications include ports, logistics, data centers, B2B applications.

# Brands for the Auction of Spectrum

BusinessToday.In

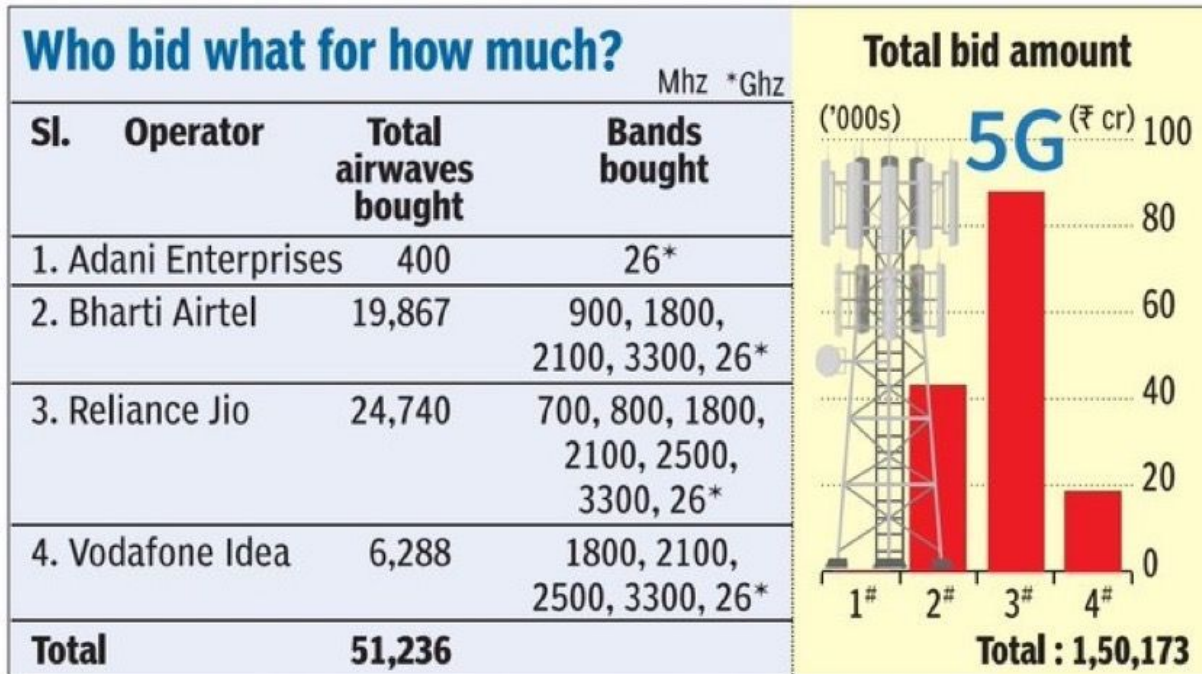
## AUCTION OF SPECTRUM (2022): LIST OF PRE-QUALIFIED BIDDERS

Name of Bidder	Application fees (₹)	EMD amount (₹ cr)	Net worth (₹ cr)	Paid-up capital (₹ cr)	Eligibility points (EPs) allocated
 Adani Data Networks Ltd.	1,00,000	100	4,979.01	250	1,650
 Reliance Jio Infocomm Ltd.	1,00,000	14,000	1,97,790	1,54,125	1,59,830
 Vodafone Idea Ltd.	1,00,000	2,200	(-) 80,918	32,119	29,370
 Bharti Airtel Ltd.	1,00,000	5,500	75,886.80	2,795	66,330

Source: Department of Telecom



# Auction Value



# Numbers correspond to the names of the operators on the left

# Superpowers of 5G

- Application of Internet of Things.

Communication is very very powerful if you start building upon data.

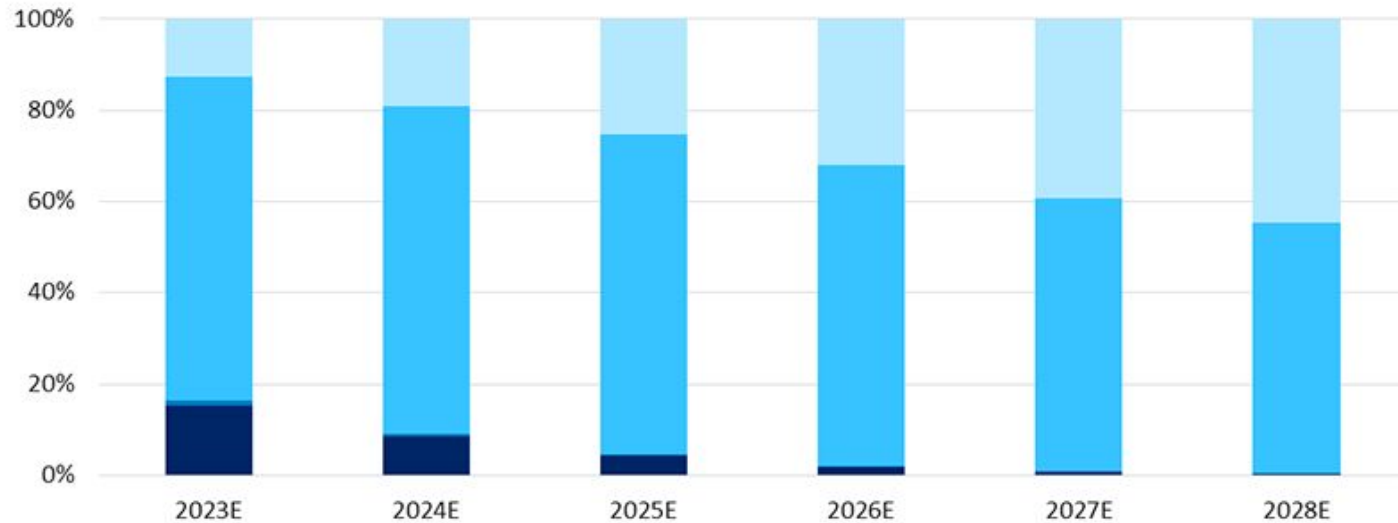
Without human intervention, the devices will coordinate with each other and save lives with 5G.

- Low latency, 4G has 100 ms response delay, 5G has only 1 ms response delay.
- Have high density of connections, 5G can connect 10 times more devices than 4G.

# Indian 5G Revolution

**India: Mobile Subscriptions by Technology Generation (%), 2023-2028**

■ 2G ■ 3G ■ 4G ■ 5G



Note: E: Estimated

# Indian 5G Revolution

