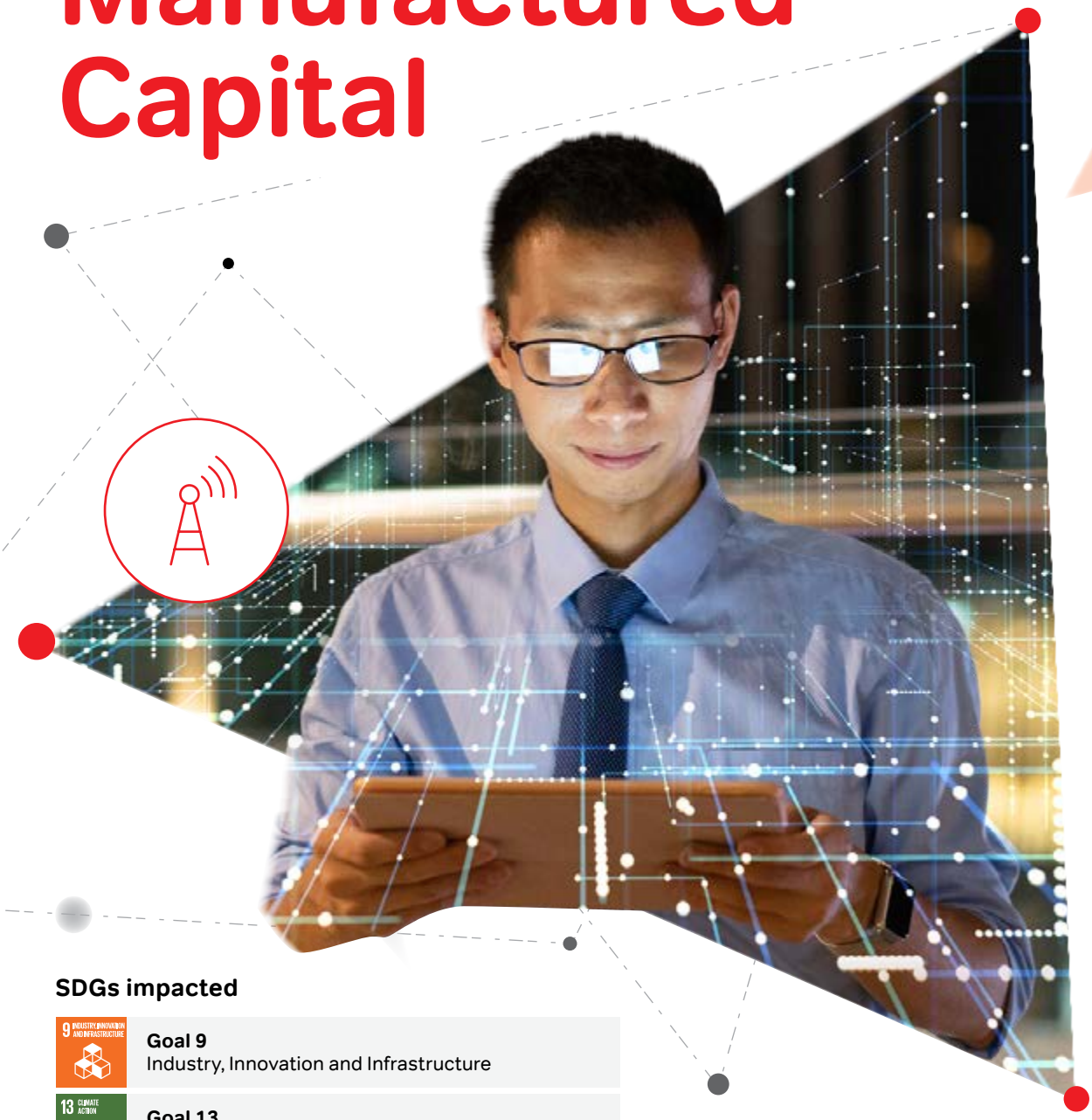
Manufactured Capital



SDGs impacted

Goal 9
Industry, Innovation and Infrastructure

Goal 13
Climate Action

Our ability to delight customers rests on strong network infrastructure. We continue to invest in the latest technologies and innovative solutions, thereby making our network infrastructure future ready and ensuring brilliant customer experience

India is transforming towards becoming a leading digital economy and home to the second-highest number of internet users globally. On the backdrop of this fast-paced growth and with digitisation reshaping our industry landscape, we, at Airtel, have recognised that it is imperative for us to continue to make smart investments to expand our infrastructure and spectrum portfolio to ensure best-in-class experience to our customers.

Highlights for FY 2021-22

20,676
New mobile network towers installed

145,353
New mobile broadband base stations added

12
Large data centres

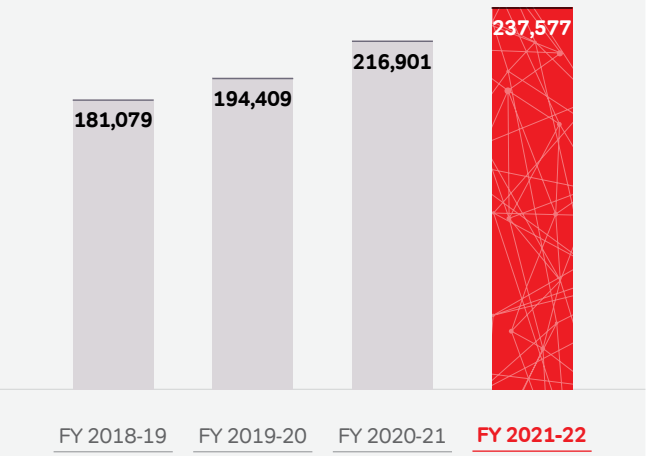
120+
Edge data centres

7,943 Bn MBs
Data traffic (Homes services)

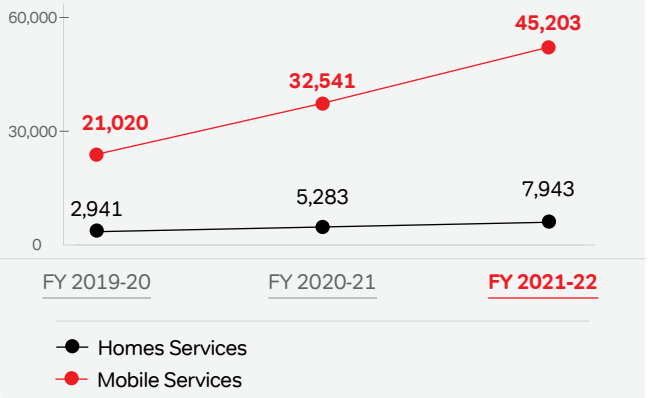
45,203 Bn MBs
Data traffic (Mobile services)

4,732 Bn
Minutes on network (Gross)

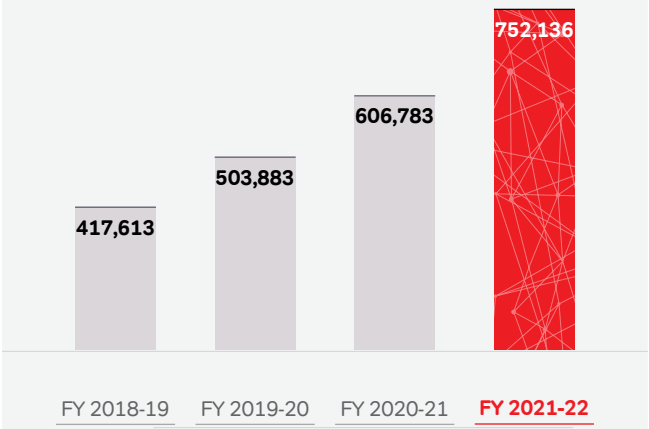
Total Mobile Network Towers (Nos.)



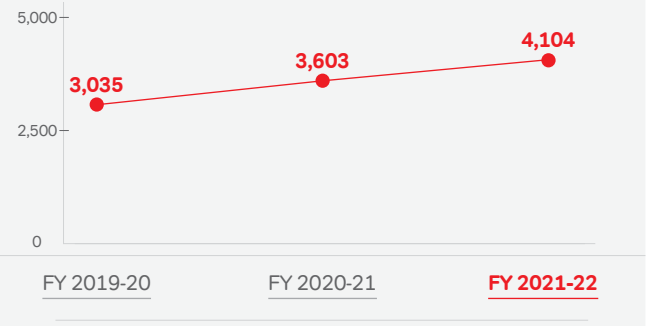
Data Traffic (Bn MBs)



Total Mobile Broadband Base Stations (Nos.)



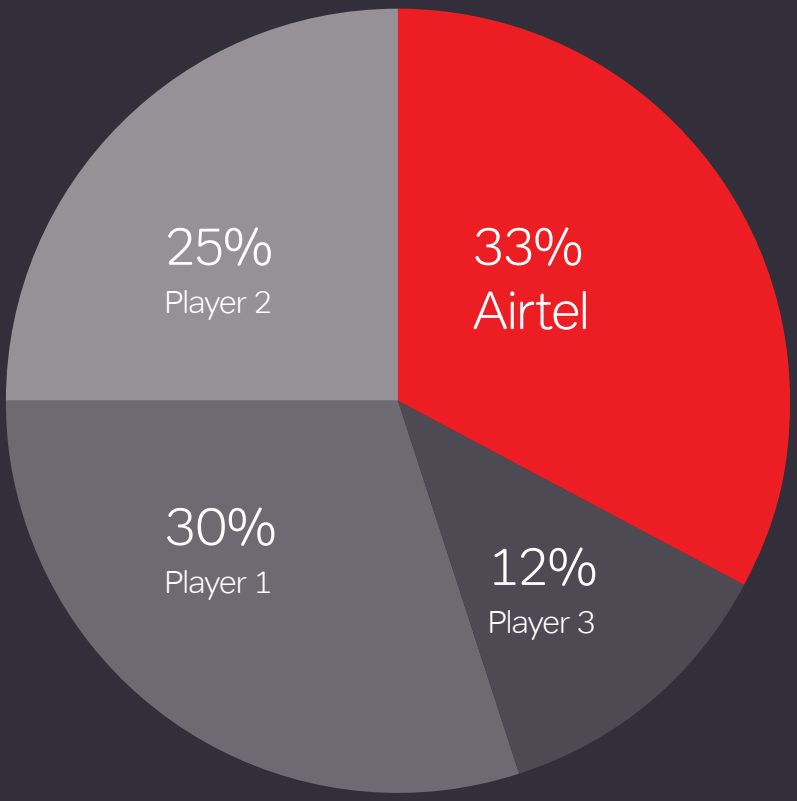
Minutes on Network (Mobile Services) (Bn Mins)



Strong spectrum portfolio to embrace next-generation technologies

Over the years, Airtel has built an unmatched and strong spectrum footprint and has consistently strengthened spectrum holdings in order to deliver an exceptional customer experience. With maximum share of liberalised spectrum, strong mid-range spectrum and Sub-GHz spectrum pan-India, Airtel is well positioned to serve the needs of India's fast growing digital economy.

Spectrum share



Maximum share of liberalised spectrum

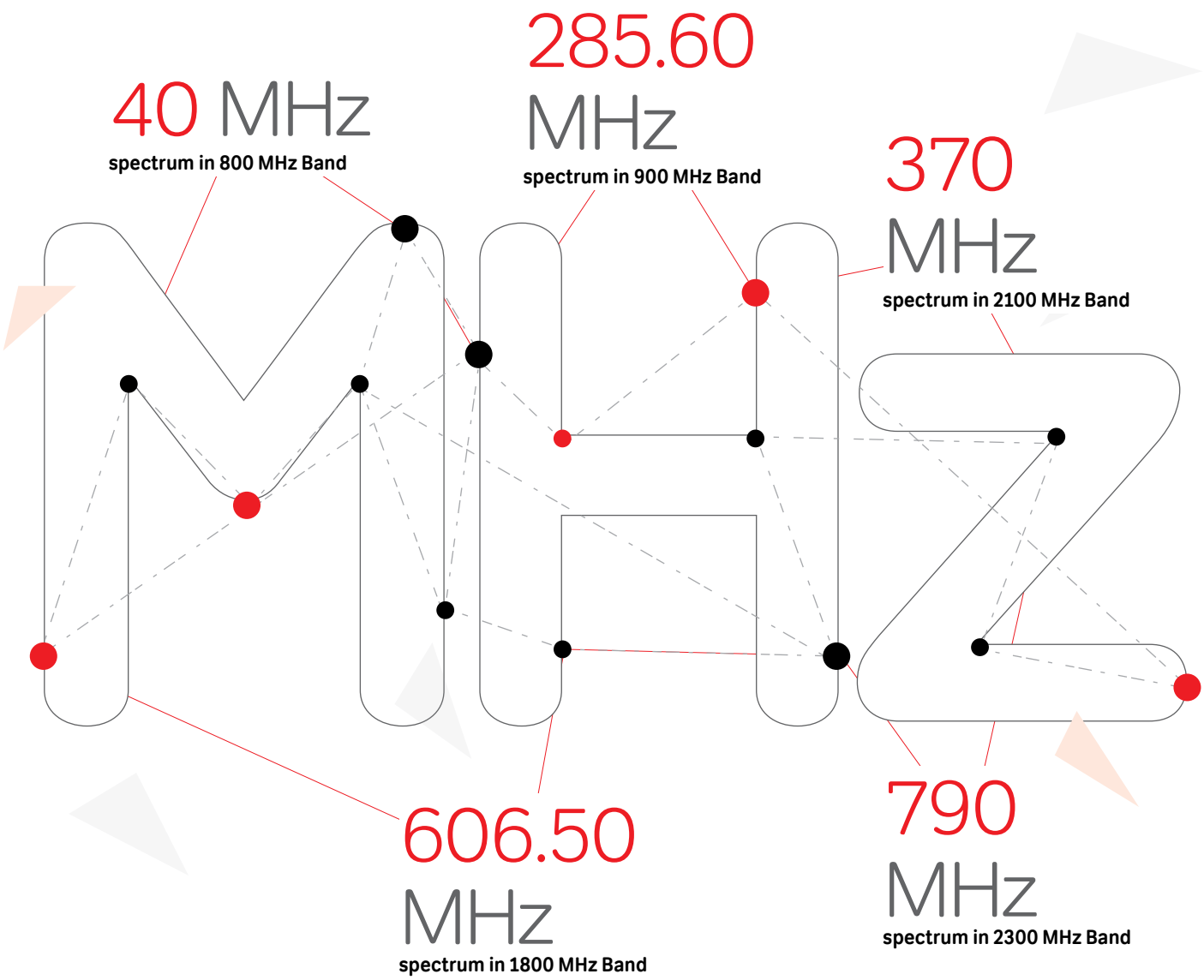
Healthy mid-band range spectrum

Sub Ghz spectrum pan-India

Low-band (5-10 Mhz)	Mid-band (15-25 Mhz)*	High-band (30-40 Mhz)

*Except for Kolkata (10 Mhz)

Airtel's Spectrum snapshot (Unpaired)



Airtel now has Sub-Ghz spectrum pan-India to enable deeper indoor penetration and cover a larger population footprint than ever before. Spectrum addition in 1800, 2100 and 2300 bands will help address capacity needs due to ever-increasing data consumption, resulting in much improved experience.

During FY 2021-22, Airtel made fresh deployments and upgraded infrastructure to provide superior networks across India, in the states of Andhra Pradesh, Telangana, West Bengal, Assam, Jammu and Kashmir, Ladakh, Himachal Pradesh, Haryana, Gujarat, Kerala, Tamil Nadu and Karnataka. This aggressive investment towards new spectrum and network upgrades have ensured access to high-speed data services for our customers, with advance network tools delivering wider coverage along highways and rail routes as well as increase footprint in villages. We have also re-farmed our spectrum from legacy technologies like 2G and 3G to 4G to enhance coverage and capacity. In last 2 years, more than 33,000 sites have been converted to 4G with 3G shut down across 8 circles.

Network transformation through automation

Airtel deploys the latest automation, machine learning and artificial intelligence technologies for its network infrastructure. This results in superior customer experience through:

- Prevention of network degradation
- Proactive and preventive decisions using the big-data driven insights
- Reduction of overall service disruption time with faster identification and rectification
- Reduction of the customer frustration and complaints; and
- Faster resolution of network issues

Airtel designed and developed an AI-ML-driven, closed-loop, self-healing platform called Airtel SON (A-SON) to detect, analyse and correct network anomalies/degradations with high sensitivity. The system also does pre-post analysis and restores the network settings to normal values. With future-ready architecture, the platform is currently live across India and is addressing the critical business use-cases.

A-SON

(Self Optimising Network) awarded the Innovative Mobile Service and Application honour at the prestigious GTI Awards 2022

Additionally, digital platforms comprising automated tools (Ribbon, Glimpse, Groundhog and Vision tools etc.) have been launched for remote monitoring and faster resolution of network issues. These platforms automatically identify chronic network sites and enable aggressive actions during the ducting period, thereby minimising the network degradation.

Network mobility complaints handling platform (NCH) launched in mid-2020 has now been rolled out on pan-India basis. As a result of automated tools, the complaint resolution rate has increased to ~95% while complaint re-open rate has reduced to ~10%.

Such measures are resulting in enhanced network resilience and reduced network interruption, with 0.005044 Average Network Interruption Frequency and 0.000014 Average Network Interruption Duration in the reporting year.

Data centres: Accelerating digital transformation

Nxtra Data Limited, a subsidiary of Airtel, offers Secure, Scalable and Reliable data centre services to leading Indian and global enterprises, hyperscalers, OTTs, fintechs, SMEs and Government. With one of the largest interconnected digital platform comprising 12 large and over 120 edge data centers, we enable customers to create converged ICT digital services. Rebranded as 'Nxtra by Airtel', we reassure our customers about our centricity and obsession to serve.

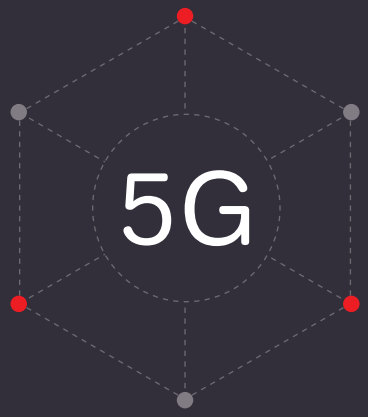
The year marked highest capacity creation for Nxtra till date (44MW+) and recorded 100% uptime. Nxtra will invest ₹5,000 crores by 2025 to increase its capacity by 3 times to over 400 MW. This includes hyperscale data centre parks in key metro cities, including Mumbai, Pune, Kolkata, Bangalore, Hyderabad and Noida.

Ready for 5G

Airtel is spearheading 5G in India and has conducted demonstration of test cases on a live commercial network, rural 5G trial, cloud gaming experience trial and 700 MHz band 5G trials. We have accelerated our digital transformation programs and upgraded transport capacities to offer end-to-end best-in-class 5G experience. In FY 2021-22, extensive 5G trials were conducted in various cities and learnings acquired are considered for 5G site and product planning.

Airtel has entered into strategic partnerships with Intel, TCS and Tech Mahindra etc. for building 'Make in India' 5G solutions, developing and marketing 5G use cases across Indian and global markets and accelerate the 5G development in India.

Refer page 23 of this Integrated Report for details on such 5G trials, innovative use cases for India and strategic partnerships with the leading organisations.



During FY 2021-22, Airtel, for the second time, hosted the India edition of O-RAN ALLIANCE Global PlugFest 2021, demonstrating the growing maturity of O-RAN 5G ecosystem, at Airtel's state-of-the-art Network Experience Centre in Manesar (Gurugram), India.

Enhancing digital inclusivity in difficult terrains and data-starved regions

Car Nicobar, a remote tribal island of Andaman and Nicobar Islands, has limited accessibility. Ships are the only means of transport, with 1-2 ships traversing in a month, and one needs to seek special passes to enter into this island. During April 2021, at the time of peak of COVID-19 pandemic, Airtel launched the first 4G network on this island with 2 sites, with one site serving Airforce Base and another, Car Nicobar Headquarters.

~10,000
People covered
(Other than tourist inflow & Indian Air Force)

In line with Government of India's proposal to implement a Comprehensive Telecom Development Plan for the North-Eastern region, Airtel continued providing 4G services in identified uncovered villages and along national highways in Assam and other regions.

The program has enabled local communities to access digital services like HD quality video streaming, superfast downloads and high-speed internet browsing.

1,519
Total towers installed

~ 1 Mn
Total customers benefitted

₹7,500 Mn+
Total spend on infrastructure development