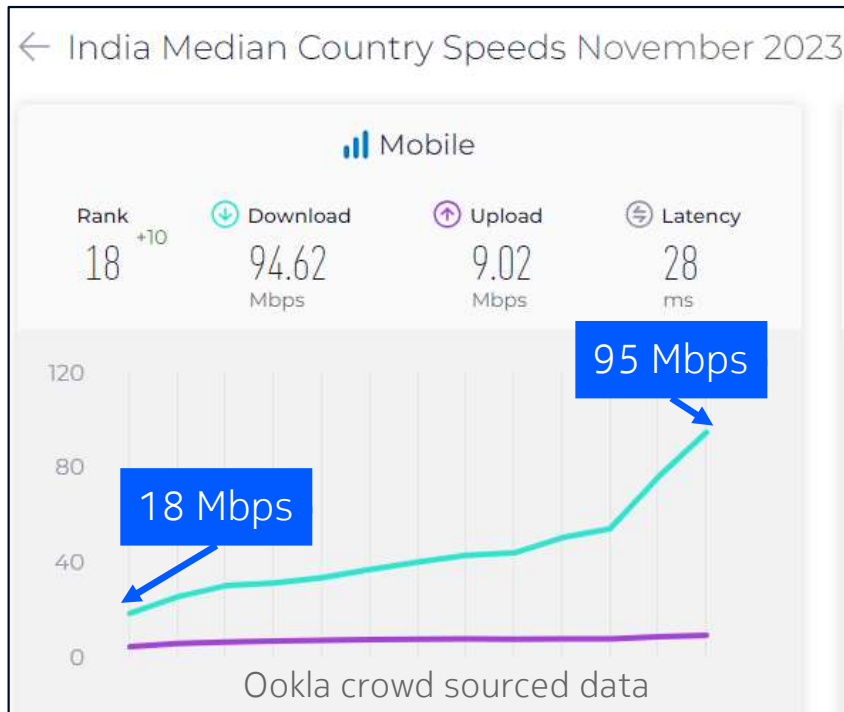


5G-Advanced on the road to 6G

Vikesh Sharma
Head of Technology

The Nokia logo is displayed in white, uppercase letters. It is positioned on the right side of the slide, overlaid on a large, stylized graphic. The graphic consists of a white, angular shape that resembles a stylized 'N' or a series of overlapping planes, set against a background of vibrant, swirling colors including teal, purple, blue, and orange. The overall aesthetic is modern and technological.

5G has boosted mobile data rates massively in India



#105 Country ranking **#18**

India November 2022

- Average data rate 18 Mbps
- Global country ranking 105



5G rollout during 2023

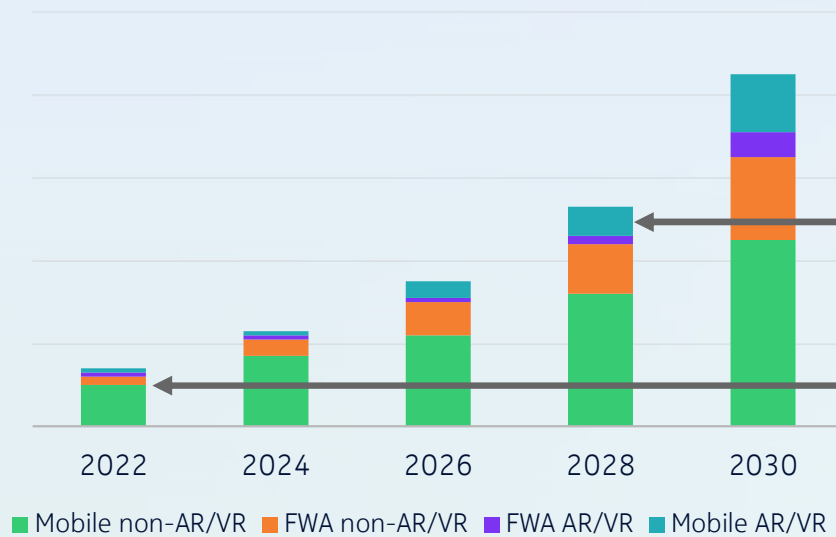
India November 2023

- Average data rate 95 Mbps
- Global country ranking 18

Traffic growth requires new spectrum and 6G technology by 2030

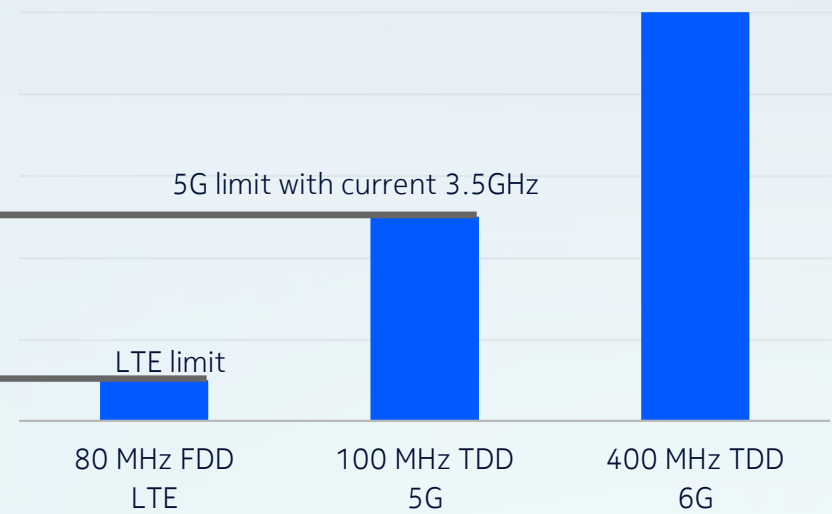
5x Global mobile network traffic by 2030

Global mobile data volume



Estimated global radio capacity

Global capacity



Spectrum development for 5G-Advanced and 6G IMT outcome of WRC23 including agreed studies for WRC-27

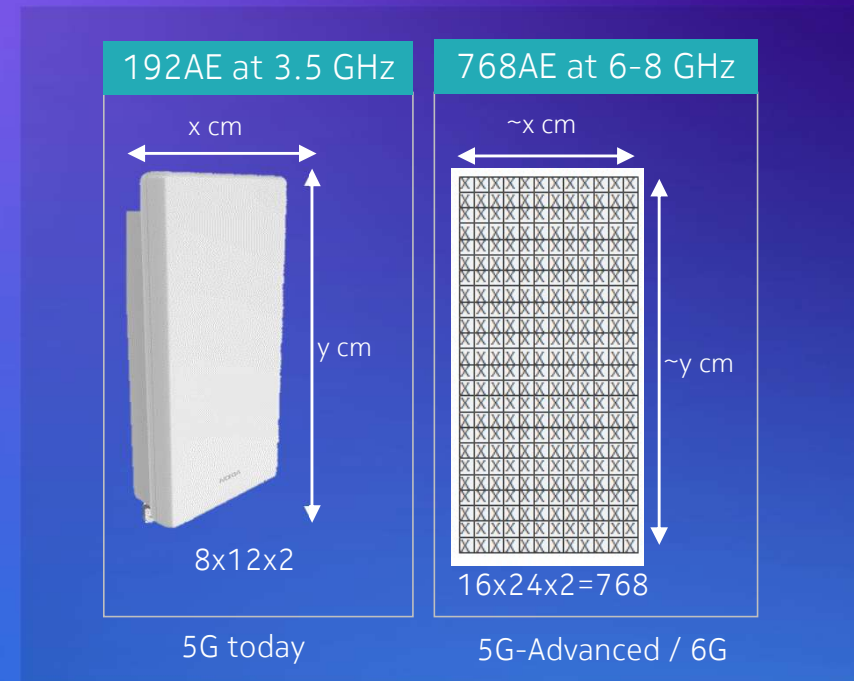


n104 will allow an early deployment of a harmonised 6G capable radio environment

6GHz will reap the real benefits of mMIMO Radio Technology

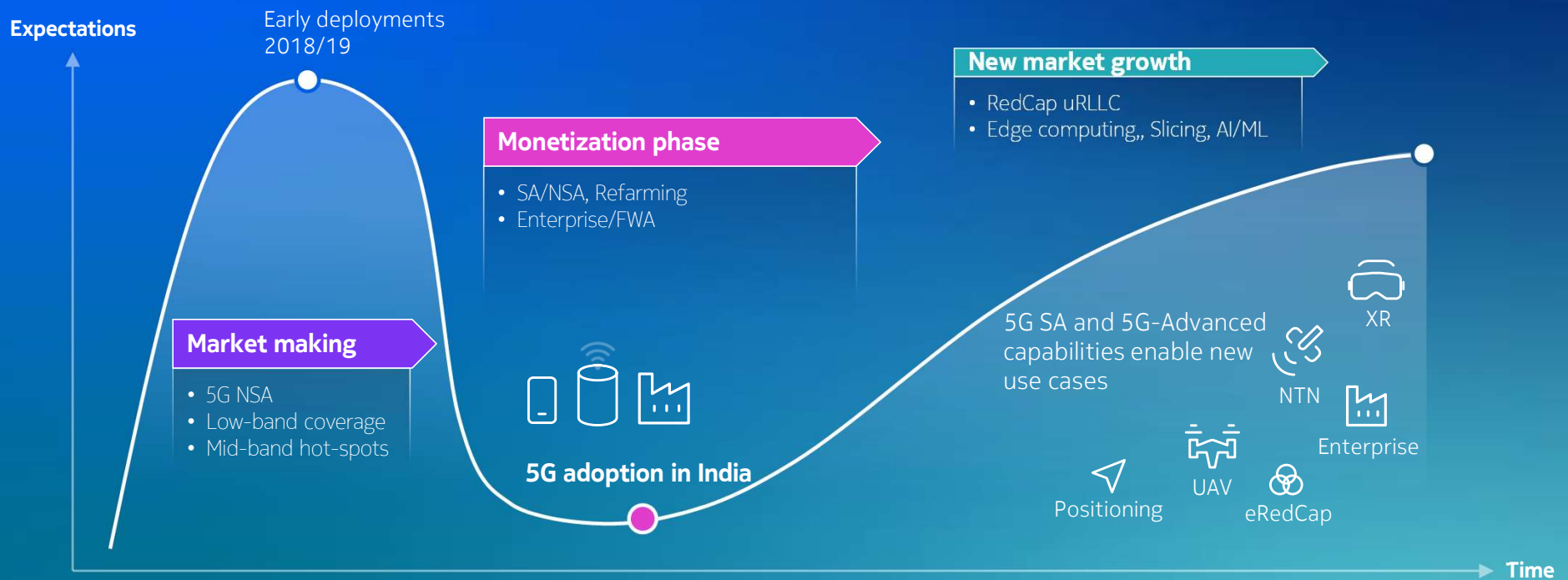
Extreme scalable mMIMO

- More AEs in the same space
- 5-6 dBi better coverage
- More AEs → more TRXs
- Advanced beamforming Algorithms



Each “G” follows the S curve

5G was the quickest



Source: Gartner Hype Cycle/CNS

5G-Advanced will boost 5G experience, operability and use cases



MN 5G-Advanced Strategic pillars

Experience	Efficiency	Use cases
 XR traffic, latency and mobility	 AI/ML Enhancements	 IoT Optimized RedCap
 Uplink performance boost	 RAN Energy Efficiency	 Uncrewed Aerial Vehicle
		 Non-Terrestrial Networks

XR is a journey that has already begun

3GPP Release 18 brings the full potential to XR

Performance

Uplink enhancements
XR application aware scheduling

Latency

Edge computing
Advanced scheduling algorithms enable by AI/ML



Connectivity

Mobility and cell management
(reduction of interruption time)

Device Power savings
(adaptive DRX)

5G-Advanced facts to remember

1

New monetization opportunities

Use cases beyond eMBB

2

Backward Compatibility

Backward compatibility to 5G.

3

Timing

Standardization: mid 2024
Market introduction: 2025

4

Path to 6G

Baseline for 6G networks

NOKIA