In around the second half of 2022
or early 2023, 5G will be rolled out
in 13 major cities – Ahmedabad, Bengaluru, Chandigarh, Chennai, Delhi,
Gandhinagar, Gurugram, Jamnagar,
Hyderabad, Pune, Lucknow, Mumbai and Kolkata. Guwahati will figure in the next phase

As the name suggests, 5G is the fifth-generation cellular network technology. It is designed to improve network connections by addressing the legacy issues of speed, latency and utility, which the earlier generations and the current generation of mobile networks could not address. 5G is promised to deliver data speed at a rate 100 times faster than 4G networks. Importantly, it is designed to transmit data almost instantly with a network latency of less than 10ms. It will also have an enhanced throughput to handle more simultaneous connections at a time than current-generation networks.

Before we actually witness a 5G launch in India, the government, telecom regulators, service providers and equipment manufacturers need to overcome several hurdles.

Low fiberisation footprint: We need to upgrade fibre connectivity across India, which at present connects only 30% of India’s telecom towers. For an efficient 5G India launch and adoption, this number has to double.

‘Make in India’ hardware challenge: The ban on certain foreign telecom OEMs upon which most of our CSPs depend means the country needs to encourage and boost its local 5G hardware manufacturing at an unprecedented rate if it needs to realize the 5G India dream.

High spectrum pricing: At INR 492 crore per MHz, India’s 5G spectrum pricing is almost 7 times higher than the UK, and several times costlier than the global average. This will be of detriment to India’s cash-strapped telcos. Rationalization of this pricing is needed so that the government generates adequate revenue from the auction without hampering implementation plans for 5G in India.

Choosing the optimal 5G technology standard: The tussle between the homegrown 5Gi standard and the global 3GPP standard needs to be concluded in order to hasten 5G technology implementation. While 5Gi brings obvious benefits, it also increases 5G India launch costs and interoperability issues for telcos –something we can’t afford right now.

Differences in 5G bands: Given the fact that 5G works in 3 spectrum bands (low, mid and high frequency), each one has its own advantages and limitations. While the low bad offers great coverage, its speed is limited to 100 Mbps.

Hence, it can serve commercial needs but not industry needs. The mid-band offers greater speed, but not a great coverage area and signal penetration. Lastly, the high band (mmWave) offers exceptional speeds up to 20 Gbps but is extremely limited in coverage. This band greatly enhances futuristic 5G technology applications like IoT and smart technology but will require considerable infrastructure. For a proper 5G launch in India, the allocation to various bands will have to be tightly balanced.

Courtesy: Shweta M