

WHAT IS 6G, THE NEXT LEVEL IN COMMUNICATION

Relevant for: Science & Technology | Topic: IT, Internet and Communications

India is already getting set to welcome the newest edition of the wireless communication and networking generation, 6G | Photo Credit: S.R. RAGHUNATHAN

6G development has already started. That will be seen somewhere in the time frame 2024 or 2023-end. That is the direction in which we are going. We will have designed in India telecom software for running the networks, manufactured in India telecom equipment, served in India telecom networks which can go global.” These were the words of Minister for Communication Ashwini Vaishnaw on November 23, 2021

India is already getting set to welcome the newest edition of the wireless communication and networking generation, 6G. Although this technology is in its developmental stages, there are several countries and OEM companies that are placing their bets on it. Several companies such as Xiaomi, Samsung, Nokia, LG, Huawei, Apple have taken several steps to make 6G a reality.

6G is built upon the infrastructure of 5G and it is hoped that it will accomplish more than 5G in terms of adoption, reduction of cost, and better service. While 5G provided less than 1ms latency, 6G provides less than 0.1ms latency. The important areas that will benefit from this technology are the likes of smart devices and self-driving cars. 6G will also be beneficial to the advancement of Artificial Intelligence and Machine Learning.

According to Nokia Labs, 6G will operate on the mid bands (7 – 20 GHz) for places that are crowded, low bands (460 – 694 MHz) for long-distance coverage, and use sub-THz for peak data rates in the short range of up to 100 Gbps.

6G will also used significantly advanced network devices, including MIMO (multiple input, multiple output) antennae. While 4G uses 2x2 MIMO and 4x4MIMO, and 5G uses around 200 antenna elements, 6G may support upto 1024 antenna elements.

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