GOVERNMENT OF INDIA
MINISTRY OF COMMUNICATIONS
DEPARTMENT OF TELECOMMUNICATIONS

RAJYA SABHA
UNSTARRED QUESTION NO. 3215
ANSWERED ON 21ST AUGUST, 2025

ROADMAP FOR ROLLOUT OF 6G TECHNOLOGY IN THE COUNTRY

3215 SHRI KARTIKEYA SHARMA:

Will the Minister of Communications be pleased to state:

(a) the roadmap for rollout of 6G technology in the country, the advantages of 6G over 5G and use cases;

(b) whether Government is promoting indigenous R&D, design and manufacturing of key components for 6G technology, if so, the details thereof; and

(c) the details of the schemes /initiatives by Government under which startups / MSME working in the field can get support?

ANSWER

MINISTER OF STATE FOR COMMUNICATIONS AND RURAL DEVELOPMENT
(DR. PEMMASANI CHANDRA SEKHAR)

(a) The ITU-R (International Telecommunication Union Radiocommunication Sector) recommendation M.2160, titled "Framework and overall objectives of the future development of IMT for 2030 and beyond", outlines the vision for 6G or IMT-2030 and roadmap for rollout of 6G Technology by 2030. This recommendation envisions IMT-2030 to provide enhanced capabilities compared to 5G, as well as new capabilities to support the expanded usage scenarios of IMT-2030. Also, Government has released Bharat 6G Vision Document in March 2023 with the objectives to design, develop and deploy 6G network technologies that provide ubiquitous intelligent and secure connectivity for high quality living experience for the world to position India as a global leader in 6G technology by 2030. The advantages of 6G over 5G, among others, includes higher data speeds and reduced latency, integration of communication and sensing capabilities, seamless coverage via terrestrial and non-terrestrial networks, AI-native networks etc.

(b) & (c) The Government has taken following initiative to facilitate the development of 6G technology in the country:

i. Established 100 5G labs at academic institutions across India for capacity building & for building a 6G ready academic and start-up ecosystem in the country.

ii. Telecom Technology Development Fund (TTDF) Scheme was launched on 1st October 2022. The scheme aims to fund Research and Development (R&D) and innovation in telecom technologies including 6G, fostering collaboration between academia, start-ups, MSMEs, research institutes, and industry to enhance the telecom ecosystem in India. A total 104 projects related to 6G technology amounting to Rs. 275.88 Crores have been approved under TTDF scheme till 31.07.2025.

iii. Facilitated setting up of ‘Bharat 6G Alliance’ which is an alliance of domestic industry, academia, national research institutions and standards organisations to develop action plan according to the Bharat 6G Vision. It has signed MoU with leading global 6G alliances to enhance global collaborations for the development of 6G wireless technologies.

iv. As part of the National Mission on Interdisciplinary Cyber-Physical Systems (NM-ICPS), a Technology Innovation Hub (TIH) has been established at the IIITB-Comet Foundation, hosted by the International Institute of Information Technology, Bangalore (IIIT Bangalore). This TIH is dedicated to advancing research and innovation in the technology vertical "Advanced Communication Systems.", currently focusing on cutting-edge technologies such as Reconfigurable Intelligent Surfaces (RIS) and advanced O-RAN Massive MIMO systems, with the objective of enhancing coverage, capacity, and integrated sensing capabilities in future 6G networks.

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