GOVERNMENT OF INDIA
MINISTRY OF COMMUNICATIONS
DEPARTMENT OF TELECOMMUNICATIONS

LOK SABHA
UNSTARRED QUESTION NO. 794
TO BE ANSWERED ON 7TH FEBRUARY, 2024

5G VERTICAL ENGAGEMENT AND PARTNERSHIP PROGRAMME

794.   SHRI MARGANI BHARAT:

Will the Minister of COMMUNICATIONS be pleased to state:

(a)   the details of the 5G Vertical Engagement and Partnership Programme that intends to build strong collaboration partnerships across 5G Use-case ecosystem stakeholders and the progress made in this regard;

(b)   the details of the other measures being taken to deploy 5G in the country;

(c)   the proposed deadline for the deployment of 5G services in the country; and

(d)   the details of the other such measures that the Government intends to take for successful deployment of 5G in the country?

ANSWER

MINISTER OF STATE FOR COMMUNICATIONS
(SHRI DEVUSINH CHAUHAN)

(a) to (d)   The Government is committed to promoting development and manufacturing of telecom technology and products in India, the details of which are as under:

1. **Indigenous 4G/5G technology**

- In the last few years India has made a huge leap forward towards developing its own telecom stack and in strengthening its solutions especially in the areas of 4G and 5G technologies for the domestic and global market requirements.
- Indigenous 4G/5G telecom stack have been developed and being deployed in Bharat Sanchar Nigam Limited (BSNL) Network.
- The Government is actively fostering partnerships with Indian industry, academia, and startups to spearhead the development of 5G technology within the country.
- Centre for Development of Telematics (C-DoT), an autonomous R&D Centre of DoT, has made progress on the development of Open Radio Access Network (ORAN) compliant 5G equipment, called "BharatRAN". This collaborative effort culminated in the successful development of a prototype 5G Standalone (SA) RAN.
- The Indigenous 5G Test Bed developed through a collaborative effort of eight pioneering institutes of the country and entirely funded by the Government is fully programmable and can be leveraged for Next Phase of Research in 5G Advanced and 6G.
- Indigenously developed 5G systems at IIT Madras have been deployed for testing for 5G use cases at two locations.

2. Indigenous 5G Test Bed

- Government approved a financial grant of Rs. 224 Crore in March 2018 to establish an 'Indigenous 5G Test Bed' in India, recognizing India's specific requirements and aiming to take the lead in 5G deployment.
- The project involved eight collaborating institutes working together on this initiative, including Indian Institute of Technology Madras, Indian Institute of Technology Delhi, Indian Institute of Technology Hyderabad, Indian Institute of Technology Bombay, Indian Institute of Technology Kanpur, Indian Institute of Science Bengaluru, Society for Applied Microwave Electronics Engineering & Research (SAMEER), and Centre of Excellence in Wireless Technology (CEWiT), Chennai.
- The Indigenous 5G test bed was dedicated to the nation by Hon'ble PM on 17th May 2022.
- The Test Bed is available at five different locations across India and is compliant with the global 3GPP standard and the ORAN standard.
- It provides an end-to-end testing facility, enabling R&D teams in Indian academia and industry to validate their products, prototypes, algorithms, and demonstrate various services.

3. 5G labs

- Government has sanctioned 100 5G labs across the country to develop technologies with an outlay of approx. Rs. 100 Cr which are under rollout.
- These labs will focus on creation of user technologies in sectors such as education, agriculture, health, power, urban management, mining, logistics, resource management, tourism, sports, security, e-governance, etc.
- Government has also launched Bharat 5G Portal which will act as a one-stop solution for all quantum, IPR, 5G, and 6G-related works, capturing academic R&D developments, industry standards, OEMs, startups/MSMEs, and subject matter experts. It aims to propel India's 5G capabilities, foster innovation, collaboration, and knowledge-sharing within the telecom sector.

4. Digital Communications Innovation Square (DCIS) Scheme

- For development of indigenous 5G technology and other emerging technologies in communications service sector, DoT is implementing "Digital Communications Innovation Square (DCIS)" Scheme. The scheme is geared towards translation of research into technology (product/process).
- Government has supported more than 96 start-ups/MSMEs till date with Rs. 74.7 Crore as grant-in-aid under this Scheme.

5. Telecom Technology Development Fund (TTDF) Scheme

- Efforts have been undertaken to ensure a cohesive ecosystem for start-ups and MSMEs.
- Towards this end, the Government has launched the Telecom Technology Development Fund (TTDF) Scheme in October 2022, with an annual fund allocation of Rs 500 Crore to fund R&D in rural-specific communication technology applications and form synergies with the industry to develop the telecom ecosystem in India.
- The details of the major projects sanctioned under TTDF are as under:

  - 6G: Tera Hertz (THz) Test bed with Orbital Angular Momentum and Multiplexing.
  - Advance Optical Communications Test Bed.
  - Development of a 100 Gbps hardware based encrypted communication system hub.
  - Gigabit Speed Customer Premise Equipment Radio for Private Networks, Homes and Commercial Buildings.

o Development of NavIC based Indian Standard Time (IST) traceable Primary Reference Time Clock (PRTC) for telecom sector.

6. Deployment of 5G Services in India

5G services were launched in India on 1st October 2022. Within a span of 14 months, more than 4.15 Lakh 5G Base Transceiver Stations (BTS) are providing connectivity across 742 districts in the country. More than 13 Cr subscribers have begun to use 5G services. This is the fastest roll-out of 5G anywhere in the world.

The Government has taken several measures to facilitate faster rollout of 5G networks and to extend the reach of 5G services to all parts of the country, salient among which are as follows:

(i) Series of financial reforms resulting in rationalization of Adjusted Gross Revenue (AGR).

(ii) Assignment of sufficient spectrum for mobile services through open & transparent auction.

(iii) Spectrum sharing, trading, leasing and surrender has been permitted to promote efficient use.

(iv) Simplification of Procedure for SACFA (Standing Advisory Committee on Radio Frequency Allocations) clearance. After implementation of this simplified procedure, average processing time for SACFA Clearance has significantly reduced to just 5 days.

(iv) Right of Way (RoW) Rules, 2016 have been notified under the Indian Telegraph Act, 1885. Pursuant to this, all States/ UTs have notified their RoW policies. This has resulted in streamlining of RoW permissions and expeditious clearance for installation of telecom infrastructure.

(v) Procedure for application and time-bound permission for usage of street furniture for installation of small cells and telegraph line has been specified in Indian Telegraph Right of Way (Amendment) Rules, 2022.

(vi) PM GatiShakti Sanchar portal has been launched to expedite RoW permissions.

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