Bharat 6G Vision

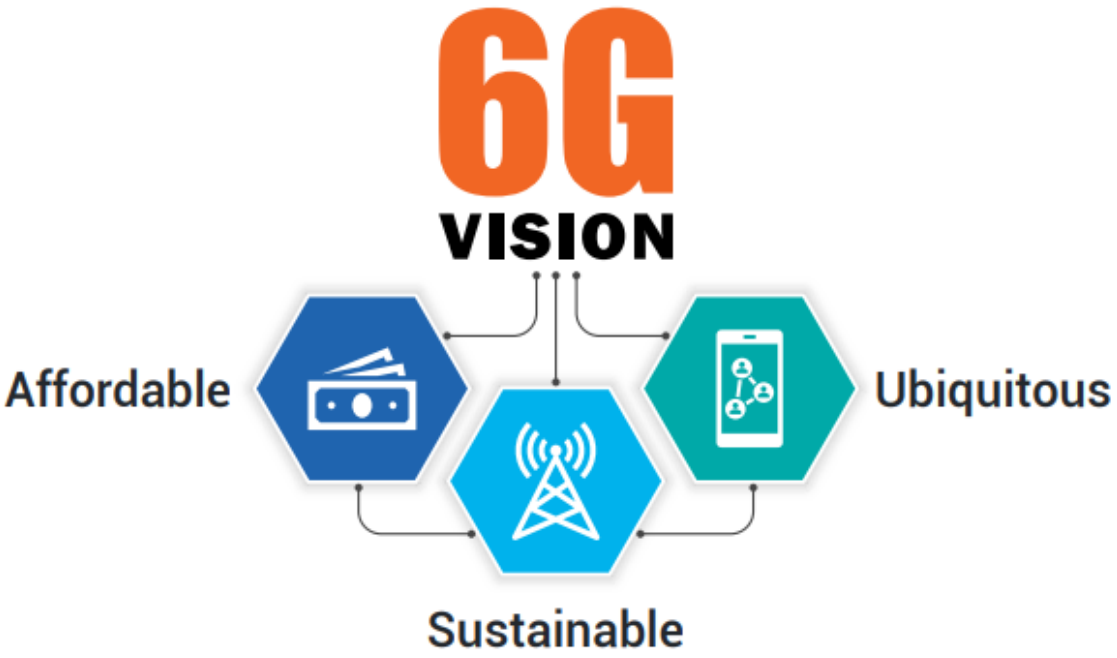
Source:PIB

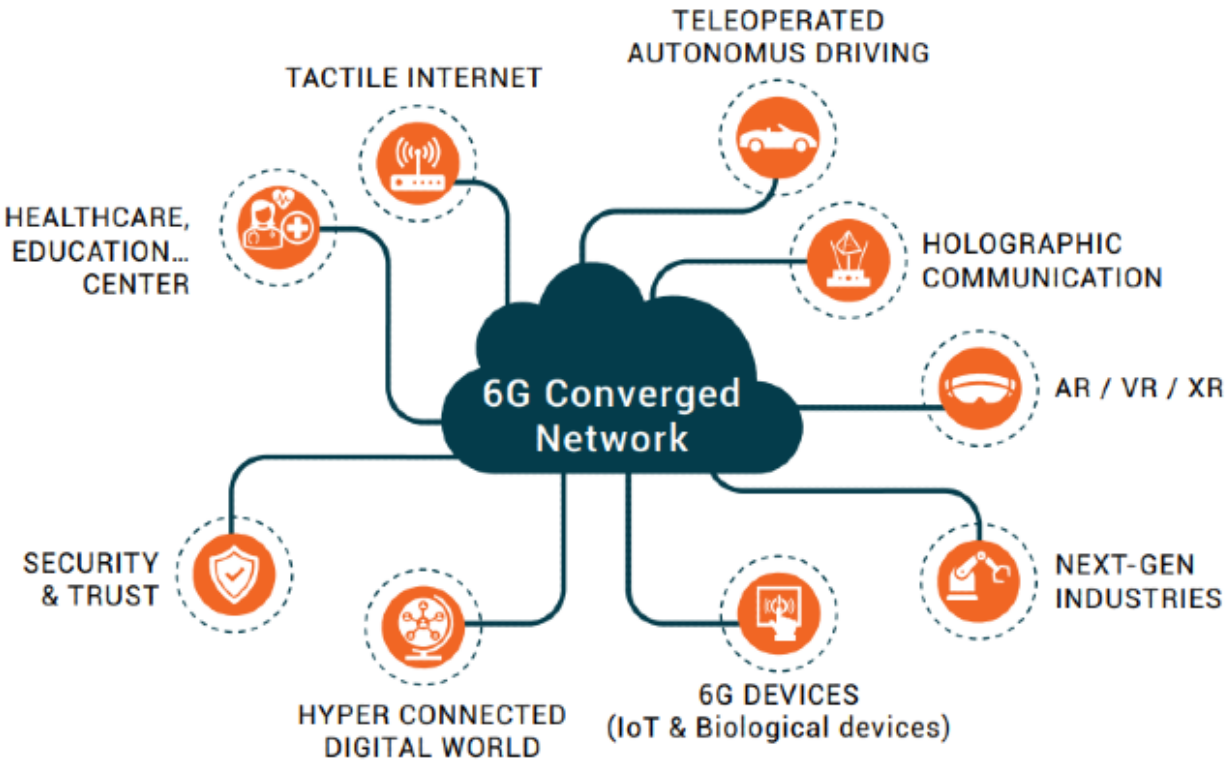
Why in News?

India reaffirmed its commitment to lead the global race in 6G technology during the **'Bharat 6G 2025' International Conference,** highlighting 6G as a civilisation-scale opportunity with transformative potential, aligning with **Bharat 6G Vision.**

What is Bharat 6G Vision?

- **About:** Launched in 2023, the Bharat 6G Vision is based on the principles of affordability, sustainability, and ubiquity. It aims to position India as a global leader in **sixth-generation (6G) telecommunications technology by 2030.**
- **Significance:** It builds upon India's strong **5G** foundation with over **4.35 lakh 5G base stations deployed by 2024.**
    - It aims to transform not just communication, but the entire digital ecosystem with future-proof, secure, and green networks (energy-efficient networking technologies).
- **Features of the Vision:**
    - **Timeline:** It is a 9-year phased mission from 2022 to 2031, targeting major milestones such as **R&D breakthroughs, field trials, and contributions to international 6G standards.**
    - **Infrastructure:** Establishment of two advanced testbeds, **the 6G Terahertz (THz) Testbed** and the **Advanced Optical Communication Testbed** to drive research and innovation domestically.
        - Sanctioned 100 5G labs at academic institutions in FY 2023-24, across India for capacity building & for building a 6G ready academic and start-up ecosystem in the country.
    - **Bharat 6G Alliance:** It is a national platform bringing together academia, startups, research institutions, industries, and policymakers to drive the development and deployment of 6G technologies.
- **ITU 2030 Alignment:** India's 6G vision is aligned with the **International Telecommunication Union's (ITU) International Mobile Technology (IMT) 2030 framework,** contributing to global capabilities like ubiquitous connectivity, interoperability, and sustainability.



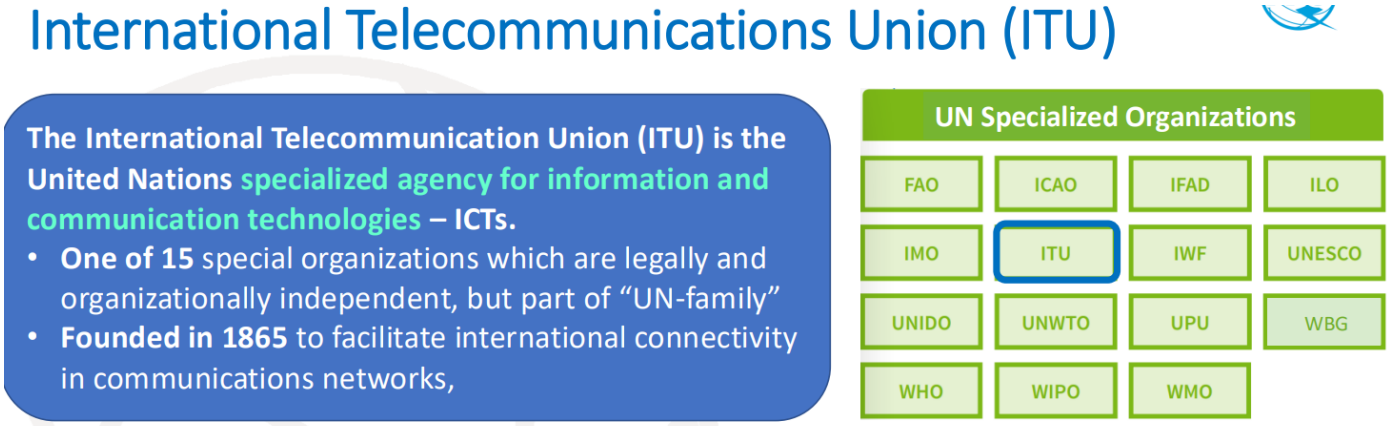


What is 6G Technology?

- **About:** 6G refers to the sixth generation of **wireless communication technology**, the successor to 5G.
    - It aims to build upon 5G's advancements, offering even faster data speeds (potentially reaching 1 Terabits per second) and lower latency (down to 100

microseconds).
    - 6G is expected to enable new applications and transform how we live and work by enabling hyper-connectivity, immersive experiences, and intelligent automation.
- **IMT 2030:** The 6G Technology has been named **'IMT 2030'** by ITU, the specialised agency for **Information and Communication Technologies of the United Nations.**
    - The ITU 6G Framework has been formulated with collaborative efforts of member countries of UNs in which India has played the front-runner role from the very beginning.

Note:



UPSC Civil Services Examination, Previous Year Question (PYQ)

Q. Which of the following is/are the aims/aims of the "Digital India" Plan of the Government of India? (2018)

1. Formation of India's own Internet companies like China did.
2. Establish a policy framework to encourage overseas multinational corporations that collect Big Data to build their large data centers within our national geographical boundaries.
3. Connect many of our villages to the Internet and bring Wi-Fi to many of our schools, public places and major tourist centers.

Select the correct answer using the code given below:

(a) 1 and 2 only
(b) 3 only
(c) 2 and 3 only
(d) 1, 2 and 3

Ans: (b)