



ICET - INTERNATIONAL RELATIONS AND GS II MAINS

Q. The Initiative on Critical and Emerging Technologies (iCET) represents a significant step toward strengthening the India-U.S. partnership in critical and emerging technologies. Examine the prospects offered by the iCET to both the nations. (15 marks, 250 words)

News: *The innate limitations in executing iCET*

What's in the news?

- Despite the seemingly successful talks between National Security Adviser Ajit Doval and his U.S. counterpart Jake Sullivan to make progress on the bilateral Initiative on Critical and Emerging Technologies (iCET), structural challenges endure in its execution.

Initiative on Critical and Emerging Technologies (iCET):

- The Initiative on Critical and Emerging Technologies (iCET) was **launched by India and the US to expand the India-US partnership for critical and emerging technologies** – that will drive global growth, bolster both countries' economic competitiveness, and protect shared national security interests.
- The initiative is being **run by the National Security Councils of both countries.**
- The idea was first mooted on the margins of the Tokyo summit of the Quad last year.

Six Cooperation Areas:

- Developing common standards in AI.
- Developing a roadmap to accelerate defence technological cooperation and an 'innovation bridge' to connect defence startups. Supporting the development of a semiconductor ecosystem.
- Strengthening cooperation on human spaceflight.
- Advancing cooperation on development in 5G and 6G, and
- Adopting OpenRAN network technology in India.

Significance of iCET:

1. Catalyse Technology Cooperation:

- The iCET could become a "game changer" in catalysing Indo-US technology cooperation by persuading the US to lift existing export control restrictions, and encouraging the private sector of both countries to cooperate in sensitive sectors.

2. Mutual Commitment:

- The most important outcome would be to remove the mistrust and to demonstrate a mutual commitment to investing in advanced technologies, such as quantum computing, AI and space, as well as the critical field of semiconductor design and manufacture.



3. Expansion of Technological Partnership:

- It could lend a new strategic depth and breadth to the expanding engagement between India and the United States.

4. Increased Areas of Collaboration:

- The iCET involves collaboration in a range of areas including quantum computing, semiconductors, 5G and 6G wireless infrastructure, and civilian space projects such as lunar exploration.

5. Direct Supervision of the PM office:

- The iCET process will be monitored and driven from the PMO in Delhi and the White House in Washington. It will hopefully bring greater coherence to this round of India-US technological engagement.

6. Interconnected Approach:

- iCET will forge closer linkages between the government, academia and industry of the two countries. The objective is to provide cutting-edge technologies to the rest of the world which are affordable.
- The initiative is also seen as an alignment of strategic, commercial and scientific approaches in the field of technology.

Key Developments Achieved:

1. Quantum Coordination Mechanism:

- Implementation of the Quantum Coordination Mechanism to facilitate cooperation in quantum technologies.

2. Public-Private Dialogue (PDD) on Telecommunication:

- Launch of a PDD focused on collaboration in OpenRAN, 5G, and 6G technologies.

3. AI and Space Exchanges:

- Important exchanges between India and the US on artificial intelligence and space cooperation.

4. Semiconductor Supply Chain:

- Signing of an MoU on establishing a semiconductor supply chain, paving the way for further collaboration in this critical sector.

5. Defense Cooperation:

- Advancements in defense cooperation, including the near-conclusion of a mega jet engine deal and the launch of the India-US Defense Acceleration Ecosystem (INDUS-X).

6. Strategic Trade Dialogue:

- Establishment of a Strategic Trade Dialogue to address regulatory barriers and review export control norms for strategic technology and trade collaborations.



Limitations:

1. Autonomy of U.S. Defense Companies:

- Local industry officials and military analysts emphasize that the primary impediments lie in the autonomy of U.S. defense companies regarding technology transfer.
- These technologies have been developed at immense cost at Washington's behest, and many companies zealously guard their Intellectual Property Rights (IPR) over them.
- U.S. defense vendors are answerable to their shareholders, whose motivations are largely commercially driven. Consequently, the quantum of technology they are willing to transfer may be limited.

2. Strict Export Control Laws:

- The U.S. has stringent export control laws related to military technologies.
- The defense industrial complex in the U.S. is cautious about sharing critical military technologies via joint ventures, even if such collaboration aligns with Washington's strategic interests.
- Balancing national security concerns with collaborative ventures is essential.

3. Technology Transfer:

- While progress has been made in technology transfer, challenges remain. U.S. defense companies guard their intellectual property rights (IPR), impacting the extent of technology transfer.

4. Industry Motivations:

- U.S. defense vendors prioritize commercial interests. Their willingness to transfer technology depends on shareholder motivations.

Way Forward:

- The iCET represents a significant step toward strengthening the India-U.S. partnership in critical and emerging technologies. By addressing challenges and leveraging opportunities, both nations can drive innovation, enhance security, and shape a technologically resilient future.
- While the iCET aims to enhance India-U.S. defense collaboration through technology transfer, bureaucratic complexities and limited technology sharing pose significant challenges. Addressing these limitations will be crucial for realizing the full potential of this strategic initiative.