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India- US Initiative on critical and emerging technologies (ICET)

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Why is in news? Recently, the U.S. and India inaugurated their initiative on critical and emerging technologies (ICET). The promise of this initiative, if fulfilled, could have a transformative impact on India-U.S. relations.

Background of cooperation

Since the 1950s, the U.S. has played a significant role in India's development efforts and quest for technological capability. A major driver of the process was the Cold War which persuaded the U.S. to provide sweeping assistance in a range of areas to India.

While the Soviet Union emerged as a major player in areas like steel, heavy electricals, petroleum and mining, the U.S. focused on modernising engineering and management education, science and technology (S&T), and agriculture.

Among the more consequential areas of cooperation was in nuclear energy where the U.S. helped build India's first reactors for research and power. An entire generation of Indian nuclear scientists were trained in the U.S., including some who subsequently helped in making nuclear weapons.

But this cooperation was abruptly ended after India's first nuclear test in 1974. The same could be said, though in a somewhat different manner, for India's space programme

The massive aid provided by the U.S. to modernise Indian education, especially engineering and management, should have led to a growing industrial sector, but the Indian economy stalled in the 1960s and India ended up with a system where IIT and IIM graduates ended up benefiting the U.S. economy.

The one area in which India did get lasting and important benefits was agriculture where American S&T helped trigger the Green Revolution and end an era of food shortages.

The Bangladesh War of 1971 and the 1974 nuclear tests led to a three-decade estrangement and a draconian American technology denial regime whose prime target was India, all in the name of non-proliferation.

There was a brief respite when, following the Soviet invasion of Afghanistan, the Gandhi-Reagan Science and Technology Initiative led to the 1984 India-U.S. MoU on sensitive technologies, commodities and information.

This was the outcome of a new American willingness to promote Indian S&T and the arms industry.

In 1987, the U.S. agreed to assist India's Light Combat Aircraft (Tejas) programme and allowed the sale of front line GE 404 engine to India. However, broader cooperation stalled because the U.S. was unwilling to let go of its non-proliferation agenda.

After the Soviet collapse, the U.S. pushed for the unconditional extension of the non-proliferation treaty and began to arm-twist countries to sign a Comprehensive Nuclear Test Ban Treaty. At this stage, India realised that there was

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no option but to come out as a declared nuclear weapons power.

There was another round of sanctions after the 1998 nuclear tests, but by this time the U.S. had begun to get a measure of the challenge it was facing from China.

It now decided to play the India card, but to do this, there was need to spit out the nuclear proliferation pill stuck in our joint throats. This is what was done with the India-U.S. nuclear deal of 2008, which is the basis of our current engagement with the U.S.

But despite India's growing proximity to the U.S. since then, there has not been significant movement in actual deliverables by way of technology development and co-production. The much-touted Defence Technology and Trade Initiative has little to show for it.

About ICET

The iCET was first mentioned in a readout following a meeting between Indian Prime Minister Narendra Modi and U.S. President Joe Biden in Tokyo in May 2022.

It is a unique initiative led by the Indian National Security Council Secretariat (NSCS) and the U.S. National Security Council (NSC) and is a product of informal discussions between and within the two organizations.

It is a process that will need quick pivots, constant industry outreach, ideation, intra governmental management, and even harmonization.

The aim is to “expand partnership” in critical and emerging technologies.

It is supposed to serve as a coordination bridge to catalyze existing efforts at technology cooperation while stimulating a renewed sense of purpose for the same.

Under ICET, the two sides have identified six focus areas of co-development and co-production: strengthening innovation ecosystems, defence innovation and technology cooperation, resilient semiconductor supply chains, space, STEM talent, and next generation telecom.

ICET includes specific suggestions on technology cooperation in three domains: quantum technologies, semiconductors, and commercial space

Major categories for cooperation under iCET

iCET advisory council:

While the NSC and the NSCS are best placed to house the iCET, introducing an advisory council or a steering committee will be crucial to support this process.

This council should include a mix of industry representatives, technologists, philanthropists, academics, and think tankers from both countries.

The iCET council ought to meet, virtually, every month. Moreover, it should serve as a lightning rod and connector that officials from both countries can reach out to.

(2) Regular high-level meetings:

Every year, the iCET should host one high-level meeting at the level of the national security adviser (NSA) and one at the level of the deputy national security adviser.

These meetings ought to be outcome-oriented, with a clear sense of achievable action points.

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(3) Managing expectations:

Policymakers working on the iCET should earmark four to five critical areas of cooperation that will drive the administrative effort supporting the iCET.

Ringfencing these efforts from a longer list of areas of cooperation will be crucial.

(4) Monitoring mechanism:

A system should be designed from the outset, within the NSC and the NSCS, to make sure that impact is being recorded at every level.

An impact officer at the level of deputy secretary or director in the NSCS and at the level of director in the NSC should be incorporated into monitoring the structure for the iCET.

(5) Friends of iCET track 1.5 dialogues:

Think tanks and industry councils with a focus on technology research and outreach in both countries can play a crucial role in catalyzing ideas and searching for solutions.

They should be used to initiate an annual Friends of iCET track 1.5 dialogue in both the United States and India.

Conclusion

The iCET is one of the most innovative administrative exercises initiated between the United States and India. It is filled with promise. There is every opportunity to deliver measurable outcomes, supercharge existing efforts, and co-create new technologies and administrative architectures that regulate the same. To this end, the recent NSA-level dialogue is also significant. There is a hope that both India and the United States will be able to clarify priority areas of cooperation. Equally, it is crucial to pay as much attention to the administrative structure that shapes, informs, and populates the iCET—both from within and outside of government.