Annexure

June 17, 2024

JOINT FACT SHEET:

India and the United States Continue to Chart an Ambitious Course for the Initiative on Critical and Emerging Technology

Today, Indian National Security Advisor (NSA) Shri Ajit Doval and U.S. National Security Advisor (APNSA) H.E. Mr. Jake Sullivan chaired the second meeting of the India-U.S. initiative on Critical and Emerging Technology (iCET) in New Delhi. Since the launch of iCET in January 2023, India and the United States have made significant strides toward deepening and expanding strategic cooperation across key technology sectors including space, semiconductors, advanced telecommunications, artificial intelligence, quantum, biotechnology, and clean energy. Our work also continues to be anchored in a shared commitment to ensuring that technology is designed, developed and deployed in a manner consistent with our democratic values and respect for universal human rights, as well as a recognition that the future security and prosperity of the Indo-Pacific will hinge on the strength of the India-U.S. partnership.

During the second iCET meeting, NSA Doval and APNSA Sullivan set the vision for the next chapter of our strategic technology partnership. They underscored their commitment to orienting our cooperation around breakthrough achievements in priority critical and emerging technology areas, by focusing our efforts on co-production, co-development, and research and development (R&D) opportunities to ensure we stay at the leading edge of innovation and enhancing coordination with like-minded nations to deliver secure, reliable, and cost-competitive technology solutions for the Indian and American people and our partners around the world. Toward this end, they welcomed the inaugural meeting of the India-U.S.-ROK Trilateral Technology Dialogue held in Seoul in March, as well as ongoing cooperation with Australia and Japan through the Quad.

NSA Doval and APNSA Sullivan underscored the vital importance of adapting our technology protection toolkits and resolved to prevent the leakage of sensitive and dual-use technologies to countries of concern. They also committed to take concrete action in the coming months to address long-standing barriers to bilateral strategic trade, technology, and industrial cooperation, including in the commercial and civil space sector. They noted continued progress under the Strategic Trade Dialogue, which convened last June in Washington, D.C., as well as through an iCET intersessional review meeting held in New Delhi by our Deputy National Security Advisors in December 2023 to support these measures. They emphasized the need for continued efforts, particularly under the Strategic Trade Dialogue, to address outstanding barriers to technology collaboration.

In addition to the iCET meeting, NSA Doval and APNSA Sullivan convened an industry roundtable that brought together CEOs and thought leaders from both countries as India and the United States mobilize private sector investment and partnerships across strategic technology sectors.

The two National Security Advisors resolved to support enhanced collaboration across our governments, industry, and academia, with a particular focus on the following areas.

Bridging our Innovation Ecosystems

* Unlocking a combined $90+ million in U.S. and Indian government funding over the next five years for the India-U.S. Global Challenges Institute that will forge high-impact university and research partnerships between U.S. and Indian institutions in the areas of semiconductor technology and manufacturing; sustainable agriculture and food security; clean energy; healthy equity and pandemic preparedness, and other critical and emerging technologies;

* Announcing the selection of the first tranche of funding awards between the National Science Foundation and the Indian Department of Science and Technology totaling nearly $5 million to support joint India-U.S. research projects in areas such as next generation telecommunications, connected and autonomous vehicles, and machine learning;

* Noting the launch of the inaugural “Innovation Handshake” between the U.S. Department of Commerce and the Indian Ministry of Commerce in November 2023 to address regulatory barriers for startups entering the U.S. and India markets, and celebrating the second Innovation Handshake event in India in March 2024, which featured 14 Indian startups and 12 American industry representatives in clean energy technology sectors;

* Celebrating the U.S. Department of Commerce’s Global Diversity Export Initiative trade mission to Bengaluru, Manipal, Mangaluru, Kochi, and Coimbatore in February 2024 to deepen STEM partnerships between institutions at the leading edge of innovation in technology areas such as AI, quantum, data sciences, space, and financial technologies.

Reaching New Heights in Civilian and Defense Space Technology Cooperation

* Securing a carrier for the first-ever joint effort between NASA and ISRO astronauts at the International Space Station, which will mark a significant milestone in the India-U.S. space partnership and space exploration;

* Celebrating the conclusion of a Strategic Framework for Human Spaceflight Cooperation to deepen interoperability in space and work toward commencing advanced training for ISRO astronauts at the NASA Johnson Space Center;

* Preparing for the launch of the NASA-ISRO Synthetic Aperture Radar, a jointly developed satellite that will map the entirety of the Earth’s surface twice every 12 days as India and the United States work together to combat climate change and other global challenges;

* Launching a new partnership between the U.S. Space Force and the Indian startups, 114ai and 3rdiTech, including on advancing space situational awareness, data fusion technologies, and infra-red sensor semiconductor manufacturing;

* Welcoming India’s observation of the U.S. Space Command’s Global Sentinel Exercise at Vandenburg Space Force Base in February and its return as a participant in the exercise in 2025;

* Strengthening defense space cooperation through the second Advanced Domains Defense Dialogue held at the Pentagon in May 2024, which featured an India-U.S. space table-top exercise and included bilateral expert exchanges on emerging domains including artificial intelligence.

* Exploring opportunities for India’s participation in the Lunar Gateway Program, as well as joint avenues for collaboration in other space technologies.

Deepening Defense Innovation and Industrial Cooperation

* Welcoming the discussions on India’s planned acquisition of the MQ-9B platforms, the possible co-production of land warfare systems, and progress on other co-production initiatives outlined in the India-U.S. Roadmap for Defense Industrial Cooperation;

* Celebrating the second edition of the India-U.S. Defense Acceleration Ecosystem (INDUS-X) Summit which took place in February this year and during which the two sides announced an INDUS-X Investor Summit that will take place in Silicon Valley in September 2024; the awarding of up to $1.2 million in seed funding to 10 U.S. and Indian companies under Joint IMPACT 1.0 Challenges; the intent to launch two challenges focused on space-based intelligence, surveillance, and reconnaissance (ISR) under IMPACT

2.0; and the launch of an INDUSWERX Testing Consortium steered by industry, academia and non-profit organizations across India and the United States to promote access to testing and certification facilities;

* Deepening cooperation between the U.S. Defense Innovation Unit and India's Innovations for Defense Excellence (iDEX) to accelerate the joint adoption of cutting-edge commercial technologies for military solutions and capability enhancement of both defense ecosystems, including through a Memorandum of Understanding;

* Noting progress in negotiations between GE Aerospace and Hindustan Aeronautics Limited for the co-production of GE F414-INS6 engines to power India's future fighter fleet;

* Expanding defense industrial partnerships, such as the launch of an AI Multi-Doman Situational Awareness product jointly developed by General Atomics and 114ai to support joint all domain command and control.

Pursuing Advanced Telecommunications Opportunities

* Noting the recent finalization of the India-U.S. Open RAN Acceleration Roadmap, ongoing 5G and 6G R&D Task Force collaboration, and continuing efforts between Indian and U.S. industry to work toward large-scale Open RAN deployments in India and the United States;

* Building partnerships to deploy high-quality, cost-effective Open RAN technology at scale, including through a $5 million USAID Edge Fund grant to Qualcomm and Mavenir to test its ORAN stack in India in partnership with Bharti Airtel, with Qualcomm contributing an additional $9.4 million to the project;

* Promoting Open RAN workforce development opportunities in India through USAID's Emerging Technologies in the Indo-Pacific program, an 18-month, $410,000 activity to integrate Open RAN-related educational content into Indian technical training programs and foster collaboration between Indian institutions and the Asia Open RAN Academy in the Philippines;

* Cooperating on secure and trusted telecommunications products and components and product-level security;

* Strengthening cooperation in 6G technologies through working groups that would potentially focus on evolving 6G related technologies like network sensing, intelligent reflecting surface, a human-centric cognition-based wireless access framework, and other priority areas;

* Forging public-private cooperation between vendors and operators of the two countries led by India's Bharat 6G Alliance and the U.S. Next G Alliance for Open RAN field trails and roll-outs in both the countries, with U.S. funding support.

Combining Capabilities in Biotechnology and Biomanufacturing

* Celebrating the launch of a Track 1.5 Biopharmaceutical Supply Chain Consortium – the "Bio-5" on June 5 with key industry and government stakeholders from the United States, India, the ROK, Japan, and the European Commission to enhance resilience in supply chains for active pharmaceutical ingredients, key starting materials, and foster high-impact R&D collaboration.

* Noting the establishment of the first-ever National Science Foundation and Department of Biotechnology joint funding opportunity, through which the two organizations will support collaborative research proposals to promote biotechnology innovation and advance the bioeconomy;

* Developing a joint Strategic Framework for building biopharmaceutical supply chain optimization to strengthen global supply chains and reduce dependencies on single-source suppliers, in support of Bio-5, led by the Department of Health and Human Services and the Department of State on the U.S. side, and

the Departments of Biotechnology, Pharmaceuticals and the Ministry of Health and Family Welfare on the Indian side;

* Welcoming the launch of a “Bio-X” initiative that would promote biotechnology cooperation by leveraging the synergies between domestic programs and enhancing the competitiveness of the biotechnology industries in both countries, including in areas such as molecular communication and the Internet of Bio-Nano Things.

Securing Semiconductor Supply Chains

* Launching a new strategic semiconductor partnership between General Atomics and 3rdiTech to co-develop semiconductor design and manufacturing for precision-guided ammunition and other national security-focused electronics platforms;

* Celebrating the conclusion of a joint Semiconductor Readiness Assessment through a partnership between the U.S. Semiconductor Industry Association and the India Electronics Semiconductor Association, which identifies near-term industry opportunities and facilitates longer-term strategic development of complementary semiconductor ecosystems;

* Expanding engagement with Indian and U.S. investors in the semiconductor industry in India, to continue building India’s robust semiconductor and information communication technology ecosystem.

Building a Clean Energy and a Critical Minerals Partnership for the 21st Century

* Promoting India’s vital role in the Mineral Security Partnership, including through co-investing in a lithium resource project in South America and a rare earths deposit in Africa, to responsibly and sustainably diversify critical mineral supply chains;

* Establishing an India-U.S. Advanced Materials R&D Forum on the margins of the India-U.S. Joint Committee Meeting on Science and Technology to expand collaboration between American and Indian universities, national laboratories, and private sector researchers;

* Deepening industrial and commercial coordination for critical mineral supply chains under the India-U.S. Commercial Dialogue between the U.S. Department of Commerce and the Indian Ministry of Commerce and Industry, with private sector input from the India-U.S. CEO Forum.

* Committing to quickly conclude a bilateral Critical Minerals Memorandum of Understanding between the U.S. Department of Commerce and the Indian Ministry of Commerce and Industry and the Ministry of Mines, and driving additional areas of cooperation in critical mineral supply chains such as for graphite, gallium, and germanium

* Exploring opportunities for collaboration in the critical minerals sector like bilateral collaboration in technologies for Neodymium-iron-boron metal, alloy and magnet making, collaboration with Department of Energy entities;

* Advancing Indian collaboration with U.S. organizations and companies for carrying out research studies for beneficiation of critical minerals, including lithium, titanium, gallium, and vanadium;

* Building a collaborative program between the Geological Survey of India and the U.S. Geological Survey on exploration, characterization and evaluation of rare earth elements and critical mineral deposits.

Pursuing Quantum, Artificial Intelligence, and High-Performance Computing Collaboration

* Initiating new cooperation in quantum science and technology, including through launching a workshop

on post-quantum cryptography at the University of California, Los Angeles and facilitating visits of Indian technical experts from academia and the private sector to visit U.S. national laboratories and quantum institutions;

* Expanding cooperation in quantum communication, post quantum migration and security, and Digital Twins;

* Celebrating longstanding cooperation by the State Department-supported India-U.S. Science and Technology Endowment Fund and its forthcoming announcement of winners of the “Quantum Technologies and AI for Transforming Lives” competition, fostering joint R&D to generate public good through the commercialization of technology;

* Welcoming the Indian Centre for Development of Advanced Computing’s membership in the U.S. Accelerated Data Analytics and Computing Institute, a multilateral information exchange mechanism, as the Biden-Harris Administration continues to work with the U.S. Congress to lower barriers to U.S. exports to India for high-performance computing and source code.