Strategic Upgrading: Emerging Trends in United States-India Cyberspace Cooperation

Bian Sai

Summary

Against the backdrop of growing global recognition of the strategic value of cyberspace and emerging technologies, cyberspace has increasingly become a central domain for deepening cooperation within the United States (US)-India Comprehensive Global Strategic Partnership. Through both bilateral and multilateral dialogues and consultations, the US and India have focused their cooperation on key areas such as cybersecurity infrastructure, technological innovation and the digital economy – demonstrating a notable trend towards the deepening of agenda items, the expansion of cooperation mechanisms and the enhancement of joint capacities. Looking ahead, as the international community's demand for cybersecurity and digital economic development continues to grow, the US and India are poised to explore even broader prospects for collaboration in emerging technological fields such as 5G and artificial intelligence.

In a 2024 report on the United States (US)-China strategic competition published by the Centre for Strategic and International Studies, Ryan Hass, Director of the John L Thornton China Center at the Brookings Institution, argued that the world is entering a period of profound and distinctive turbulence. He compared the current era to previous historical turning points, such as the Napoleonic period, the Second World War and the end of the Cold War. According to Hass, geopolitical tectonic plates are shifting due to the redistribution and diffusion of power, while the ongoing industrial revolutions in areas such as artificial intelligence, biotechnology and clean energy are compounding the consequences of these shifts.[1] Against this backdrop, and in light of the rising strategic significance of cyberspace and the deepening of the US-India strategic partnership, bilateral cooperation in cyberspace has significantly intensified. Through both bilateral and multilateral dialogues and consultations, the two countries have concentrated their efforts on cybersecurity infrastructure, technological innovation and the digital economy. These efforts reflect new trends in the deepening of agendas, expansion of cooperation mechanisms, and enhancement of joint capabilities.

During the January 2024 US-India Strategic Partnership Forum, the Forum's President and Chief Executive Officer, Mukesh Aghi, emphasised that "as the most important strategic partners of the 21st century, the United States and India must achieve deep coordination in cyberspace, outer space, defence, and technology."[2] In February of the same year, the two

---

1   Ryan Hass, 'Renewing American Leadership Requires More than Countering China', in Jude Blanchette and Lily McElwee, eds., *Defining Success*: *Does the United States Need an "End State" for Its China Policy?* (Washington DC, CSIS, October 2024), p. 35.

2   'There is a tremendous opportunity now for India for a trade agreement with US': USISPF CEO Mukesh Aghi, *Business Today*, 7 November 2024, https://www.businesstoday.in/latest/economy/story/there-is-a-

sides launched their first Cybersecurity Initiative to strengthen their ties in the cyber domain, operationalise collaboration and enhance joint capabilities in addressing cyber threats.[3] The joint statement by India and the US, issued after Indian Prime Minister Narendra Modi's visit to the US in June 2023, also reaffirmed the critical role of technology in consolidating the strategic partnership, explicitly identifying cyberspace as a core element of the 'Future Technology Partnership and Strategic Convergence'.[4] With global demand for cybersecurity and digital economic development on the rise, the US and India are poised to unlock broader prospects for cooperation in emerging technological domains such as 5G and artificial intelligence (AI).[5]

Cyber Security Cooperation

As the logical starting point of the US-India strategic partnership, cybersecurity has undoubtedly been prioritised in their bilateral cooperation agenda. In 2024, during the establishment of a US-India Cybersecurity Centre of Excellence in Pune, Mike Hankey, the US Consul General in Mumbai, remarked, "Cyber issues are a priority in the US-India bilateral relationship. The challenge both countries face is how to minimise cybersecurity threats while ensuring that the digital revolution contributes to global prosperity and stability."[6]

The joint statement from India and the United States (2023) articulated a shared strategic vision for cyberspace cooperation: the construction of an "open, safe, inclusive, secure, trusted, and interoperable Internet". The statement underscored the necessity of addressing vulnerabilities and threats in cyberspace, and committed both parties to collaborative efforts through dialogues, joint meetings, training programmes, and the sharing of best practices to counter cyber threats. In fact, the roots of US-India cybersecurity engagement can be traced back to the post-9/11 period when both sides initiated dialogues and cooperation in the cyber domain. Over time, this cooperation has evolved from ad hoc engagements to more structured and institutionalised channels, including regular forums for cyber dialogue and the development of professional cooperation mechanisms.[7]

In 2014, India established the National Cyber Coordination Centre. Subsequently, the US Cybersecurity and Infrastructure Security Agency and India's National Critical Information

tremendous-opportunity-now-for-india-for-a-trade-agreement-with-us-usispf-ceo-mukesh-aghi-452889-2024-11-07.

3   US Consulate Pursues Cybersecurity Center of Excellence in Pune, US Embassy in India, US Embassy in India, https://in.usembassy.gov/u-s-consulate-pursues-cybersecurity-center-of-excellence-in-pune/.

4   'Joint Statement from India and the United States', The White House, 8 September 2023, https://www.whitehouse.gov/briefing-room/statements-releases/2023/09/08/joint-statement-from-india-and-the-united-states/.

5   Bidisha Biswas, Jessica Seddon, 'New Frontiers in U.S.-India Security Collaboration', Center for Strategic and International Studies, 11 February 2021. https://www.csis.org/blogs/adapt-advance-refreshed-agenda-us-india-relations/new-frontiers-us-india-security.

6   US Mission India, US Consulate Pursues Cybersecurity Center of Excellence in Pune, US Embassy in India, 27 February 2024, https://in.usembassy.gov/u-s-consulate-pursues-cybersecurity-center-of-excellence-in-pune/.

7   Joint US-India focus on cyber scams is a chance to curb a global fraud epidemic, Global Initiative, 21 April 2025, https://globalinitiative.net/analysis/joint-us-india-focus-on-cyber-scams-is-a-chance-to-curb-a-global-fraud-epidemic/.

Infrastructure Protection Centre (NCIIPC) signed a cooperation agreement focusing on strengthening cybersecurity. India also adopted the Cybersecurity Framework Guidelines, developed by the US National Institute of Standards and Technology, in its own critical infrastructure protection practices.[8] In February 2024, the US Consulate in India, in partnership with the Maratha Chamber of Commerce and Industry, launched the inaugural US-India Cybersecurity Initiative. This initiative proposed assembling top cybersecurity experts from both countries, as well as globally, to develop cutting-edge solutions and generate employment opportunities in the digital space. Moreover, the two countries have taken joint steps to enhance their capabilities in detecting and responding to cyberattacks. Notable initiatives include the development of the NCIIPC and the establishment of institutions such as the *Cyber Swachhta Kendra*, a botnet cleaning and malware analysis centre. As cybersecurity becomes an increasingly vital component of national security, it is likewise emerging as a central pillar of the broader US-India comprehensive strategic partnership.

Cyber Technology Cooperation

Under the framework of the Comprehensive Global Strategic Partnership, the US and India have strengthened cooperation in cyber technologies. In both the joint statements of 2023 and 2025, the two countries repeatedly emphasised the strategic importance of emerging technologies, such as 5G, AI, quantum computing and the Internet of Things, in deepening their bilateral cooperation. The statements stressed that cooperation should serve as a driver for innovation and facilitate enhanced digital connectivity.[9] Bilateral initiatives such as the US-India Artificial Intelligence Initiative, launched during a bilateral technology forum, aim to promote joint research and development in AI, energy, manufacturing and cybersecurity, particularly with respect to privacy protection. Furthermore, the two countries have intensified strategic dialogue in 'Tech+' areas, especially regarding the cultivation of technical talent. According to the joint statement, the US National Science Foundation and India's Department of Science and Technology will co-fund 35 projects on emerging technologies to support collaborative research and innovation. Joint research initiatives will span areas including computer and information science, cyber-physical systems and secure and trustworthy cyberspace. A new implementation agreement has also been signed to facilitate the execution of these projects.[10]

In addition, the Association of American Universities (AAU) has established a Task Force on Expanding US-India University Partnerships, dedicated to exploring collaboration with Indian institutions and improving higher education, workforce development, scientific research,

---

8   Rohit Mahajan, Gaurav Shukla and Santosh Jinugu, 'Reimagining OT cybersecurity strategy' Deloitte, May 2022, p.11. https://www2.deloitte.com/content/dam/Deloitte/in/Documents/risk/in-ra-reimagining-OT-cybersecurity-strategy-noexp.pdf.

9   'Experts React: The September 2021 White House QUAD Meeting', Atlantic Council South Asia Center, 22 September 2021, https://www.atlanticcouncil.org/uncategorized/experts-react-the-september-2021-white-house-quad-meeting.

10   Joint Statement from the United States and India, The White House, 22 June 2023, https://www.whitehouse.gov/briefing-room/statements-releases/2023/06/22/joint-statement-from-the-united-states-and-india/.

and technological innovation.[11] Previously, the AAU had also established alliances with premier Indian institutions such as the Indian Institutes of Technology, Indian Institutes of Science Education and Research and Indian Institutes of Information Technology, aimed at promoting joint research in STEM (Science, Technology, Engineering and Mathematics) disciplines. Through the sharing of information resources, coordination of research agendas, and mutual support for academic research, both countries have significantly increased funding for cyberspace cooperation, thereby advancing their strategic partnership in cyber technologies.

Cyber Trade Cooperation

E-commerce and digital trade, as key drivers of the digital economy, have emerged as critical areas of US-India cyber strategic connectivity. In 2021, the two sides held a dialogue on 'Strengthening Commercial Cooperation, Including E-Commerce', which aimed to address the challenges faced by major US and Indian internet companies in the e-commerce sector and explore ways to facilitate cross-border digital trade between the two countries.

Under the renewed push for a 'Comprehensive Global Strategic Partnership' during the Donald Trump 2.0 administration and the Modi government, US-India cooperation in cyber-economic and trade domains has become increasingly close. With the support of the Indian government, Micron Technology announced in 2023 its plan to invest US$825 million (S$1.114 billion) in India to build a new semiconductor assembly and testing facility.[12] In the joint statement, both sides expressed their intent to explore the establishment of a US-India Global Digital Development Partnership. This initiative aims to foster inclusive digital economic growth, competitive markets, and protection of individual rights, such as data privacy, security, and intellectual property, through the development and deployment of "digital public infrastructure".

The growing collaboration between the US and India in bilateral security dialogues, information sharing, joint training, and capacity building has significantly strengthened and expanded their cooperation in the cyber domain. As US Ambassador to India Eric Garcetti remarked, "The US-India partnership will address the Indo-Pacific region's most pressing challenges – from healthcare and maritime domain awareness to cybersecurity."[13] Through bilateral and multilateral dialogues and consultations, the two countries have increasingly focused on issues such as cybersecurity infrastructure, technological innovation, and the digital economy, reflecting the evolving dynamics of issue deepening, mechanism expansion, and capacity enhancement in cyber cooperation.

First, deepening of cyberspace cooperation agendas through cross-sectoral integration. Currently, the US-India cyber cooperation framework covers a wide range of critical issues, including artificial intelligence, internet governance, communication technologies and 5G

---

[11] 'Task Force Report on Expanding U.S.-India Partnerships', The Association of American Universities, 26 January 2024, https://www.aau.edu/sites/default/files/AAU-Files/Key-Issues/International-Partnerships/India%20Task%20Force%20Final%20Report_FINAL_2.pdf.

[12] 堀田隆文、花田亮辅：《美国企业积极投资印度》，FT（日经）中文网，https://cn.nikkei.com/politicsaeconomy/investtrade/52781-2023-06-28-05-00-45.html.

[13] 《美国驻印大使谈美印关系新篇章："本世纪决定性伙伴关系》 https://www.rfi.fr/cn/.

network security. The interplay between cyberspace and emerging technologies has given rise to what can be termed 'Cyber+' cooperation, spanning areas such as defence, space and manufacturing. In fact, the integration of 'cyber + defence' in US-India cooperation dates back to the early 21st century, with the establishment of regular dialogues through the Information and Communication Technology Working Group and joint participation in Indo-Pacific cyber governance initiatives such as the Blue Dot Network and the Build Back Better World initiative. As the scope of cooperation continues to expand, both sides have institutionalised regular dialogues to ensure the effective implementation of collaborative projects. For instance, India's Ministry of Electronics and Information Technology has maintained close technical collaboration and information exchange with the US on various communication technology issues, particularly in areas such as 5G, Electronic System Design and Manufacturing India's Unified Payments Interface and digital trade.[14]

In January 2023, US National Security Advisor Jake Sullivan and Indian National Security Advisor Ajit Doval held a high-level meeting in Washington, marking the inaugural formal session of the US-India Initiative on Critical and Emerging Technology. Following the meeting, a joint statement outlined six key areas of cooperation: innovation ecosystems (such as Artificial Intelligence and quantum technologies), defence industrial cooperation and technologies, the development of resilient semiconductor supply chains, space cooperation, and the cultivation.[15]

Second, the expansion of cooperation mechanisms in cyberspace under the involvement of diverse stakeholders. Under the Trump administration's promotion of the 'Indo-Pacific Strategy', the US and India anchored their cooperation in bilateral relations while leveraging the Quadrilateral Security Dialogue (Quad) as an incubator for deeper engagement. This has led to the strengthening of shared strategic interests and partnerships in cyberspace. In terms of institutional design, US-India cyber cooperation mechanisms exhibit a bilateral foundation supplemented by active multilateral engagement. At the bilateral level, under the broader framework of their strategic partnership, the two countries have engaged in dialogue and collaboration through institutionalised mechanisms such as the US-India Cyber Dialogue, the US-India Science and Technology Forum and the US-India Information and Communication Technology Working Group. The frequency of these dialogues has steadily increased over the years. [16]

At the multilateral level, the two countries have jointly promoted the development of international norms and standards in cyberspace through platforms such as the United Nations, the G20 and the Quad, while also enhancing their discursive power in global cyber governance. Notably, the US-India Cyber Security Forum was established in 2001 and, having initially convened biennially in 2002, 2004 and 2006, now holds annual meetings, as

14 Bilateral Cooperation, "Ministry of Electronics & Information Technology", *Government of India*, 1 May 2024, https://www.meity.gov.in/content/country-wise-status.

15 United States and India Elevate Strategic Partnership with the initiative on Critical and Emerging Technology (iCET), The White House, 31 January 2023, https://www.whitehouse.gov/briefing-room/statements-releases/2023/01/31/fact-sheet-united-states-and-india-elevate-strategic-partnership-with-the-initiative-on-critical-and-emerging-technology-icet/.

16 Nayantara Ranganathan, "Cybersecurity and bilateral ties of India and the United States: A very brief history", *Internet Democracy,* 30 September 2015, https://internetdemocracy.in/reports/cybersecurity-and-india-us-bilateral-ties-a-very-brief-history.

seen in 2017, 2018, 2019 and 2020. This increased frequency reflects the growing priority both nations assign to cyber issues.

Third, enhancement of operational capacities in cyberspace through multi-domain interaction. According to the unclassified summary of the US' 2023 Cyber Strategy, a new emphasis is placed on "building cyber capacity with allies and partners". The strategy notes that "in some cases, the Department of Defense will achieve this goal by enhancing partner capabilities, expanding access to cyber infrastructure, and developing cyber workforces through combined training and exercises." [17]

A milestone in US-India law enforcement cooperation came in September 2016, when the two countries jointly proposed enhancing bilateral cooperation on law enforcement and cybercrime issues and agreed to establish relevant operational task forces. This initiative has become a hallmark of their cyber law enforcement collaboration. Through the US-India Cyber Security Joint Working Group, both sides have strengthened information sharing via joint training programs, capacity-building efforts, and cooperative efforts against cybercrime. Currently, under the mature framework of bilateral working groups – covering health, counterterrorism, trade, education, cybersecurity, narcotics control and more – dozens of dialogues have been held in recent years, contributing to the resolution of a wide range of bilateral issues.

Conclusion

The US maintains a dominant position in the governance of cyberspace. India, meanwhile, is both a target of US engagement through its technological edge and a potential competitor in cyberspace vis-à-vis China. In recent years, India has actively cultivated its own cyber governance capabilities. However, due to its relative technological gap, India continues to seek preferential access to US cyber resources in exchange for alignment, thereby enhancing its domestic governance capacity. As long as structural contradictions between China and the US persist, and the foundation of shared interests between the US and India remains intact, the deepening trend of US-India cooperation in cyberspace is unlikely to be significantly disrupted. Nevertheless, it is important to underscore that further deepening of this cooperation faces a range of serious challenges. Constraints stemming from differences in strategic preferences, governance norms, governance capacity and inter-agency coordination may still require considerable time and political effort to be effectively addressed.

. . . .

Ms Bian Sai is an Academic Visitor at the Institute of South Asian Studies (ISAS), an autonomous research institute at the National University of Singapore (NUS). She can be contacted at isav34@partner.nus.edu.sg. The author bears full responsibility for the facts cited and opinions expressed in this paper.

---

[17] C Todd Lopez, 'DOD's Cyber Strategy Emphasizes Building Partner Capacity', US Department of Defense, 12 September 2023, https://www.defense.gov/News/News-Stories/Article/Article/3523840/dods-cyber-strategy-emphasizes-building-partner-capacity/.