HEINRICH BÖLL STIFTUNG
NEW DELHI
India

CSDR

May 2025

Tapping into the Momentum: The EU-India Trade and Technology Council

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Introduction

Ongoing geopolitical shifts and heightened levels of uncertainty are shaping Brussels' and New Delhi's calculations when engaging bilaterally. Although threat perceptions of key poles in the system, i.e. The United States (US), China and Russia, are different when viewed from a security lens, both actors see the benefits of deepening their strategic relationship. The US-China trade rivalry and the current US administration's erratic behaviour has further bolstered their resolve.

The European Union (EU) and India both seek increased stability, autonomy, and resilience in deepening their engagement strategically. Brussels and New Delhi have shown unprecedented political will in pushing forward with the EU-India Strategic Partnership at a crucial time when a renewed Strategic

Key Takeaways

As global power dynamics shift and competition in emerging technologies intensifies, the European Union (EU) and India are seeking strategic partnerships to reduce dependence on dominant actors and shape a more multipolar order. The Trade and Technology Council (TTC) offers a platform to align on key issues related to trade, digital policy, and green tech—but translating intent into impact remains a work in progress.

The EU and India both favour open, rules-based digital governance and strategic autonomy, but differ on how to balance innovation, regulation, and security. For example, the EU emphasizes privacy and individual rights, while India prioritizes accessibility and national security.

Digital public infrastructure presents a unique opportunity for convergence. India's open-source, inclusive digital systems align with the EU's interests in ethical and scalable alternatives to proprietary tech. Leveraging this synergy could help set global standards for trustworthy and democratic digital ecosystems.

Structural and procedural barriers hinder deeper cooperation. Persistent divergent views on international data flows, sustainability regulations, and intellectual property rights limit tangible outcomes. Coordination challenges—within both sides, and between public and private sectors—further hampers progress on TTC goals.

Policy Implications

To make the TTC a driver of meaningful cooperation, both sides must invest in governance reforms that improve coordination, effectiveness, and stakeholder participation. Focusing on areas of clear complementarity—such as digital public goods and trusted artificial intelligence —can generate early wins. International partners should support platforms that amplify voices from researchers, investors, and SMEs (MSMEs) to ensure an inclusive digital transition.

Agenda is due. The high-level visit of the President of the European Commission, Ursula von der Leyen, to New Delhi earlier this year accompanied by the whole College of Commissioners sent a strong signal from Brussels to New Delhi.

The EU and India are currently engaged in bilateral trade negotiations towards signing a Free Trade Agreement (FTA), ideally due to be finalised by the end of year. This remains a much-needed milestone in EU-India relations. The EU-India Trade and Technology Council (TTC) was announced in April 2022 as a mechanism to make this strategic partnership more operational in supporting trade relations, trusted technology development, and a green transition. The only other existing precedent of a TTC is that of the EU-US TTC established in 2021. Many view an FTA as essential for advancing the TTC. It is hard to separate the EU-India TTC from each actor's broader framing of their industrial, economic security, digital and trade policies. The EU-India TTC can further add to each actor's broader Indo-Pacific strategies, including India's Indo-Pacific Oceans Initiative (IPOI) or its Quadrilateral Security Dialogue (QUAD) membership, which also address connectivity, climate change, and tech aspects.

This paper sets out to unpack the EU-India TTC almost three years after its inception, following two official meetings - the latest held in New Delhi in February 2025 - and the signing of a Memorandum of Understanding (MoU) on Semiconductors from November 2023. To begin with, we identify where shared interests exist based on actual outcomes and written policy intentions. We then move on to identify convergences and divergences on interests and expectations around the TTC. At the end, we provide a set of recommendations on structural aspects, and on a sectoral and operational level, to tap into the existing momentum.

The big picture: convergences and divergences

India sees the EU as a vital partner due to its relatively more advanced technological capabilities, economic strength, and commitment to sustainable development. However, the EU must also contend with realities in India: the conundrum of economic development versus sustainability requirements, differing approaches to data governance or digitalisation as a means towards economic prosperity. Notwithstanding, India also has the third-largest tech start-up ecosystem globally, with more than 31,000 start-ups in the past decade, 18% of which are women-led. By January 2024, India boasted 111 unicorns valued at over US$ 350 billion.[1]

The EU has realized the need to shed its complacence and embrace pragmatism when diversifying its strategic partnerships with rising powers. The EU sees India as a fast-growing emerging economy, currently the world's most populated country, and with immense potential as a consumer market. India's gross domestic product (GDP) is poised to touch US$ 7 trillion by 2030-31.[2] In addition, it can offer skilled labour available to work in under-staffed critical sectors such as in information technology (IT), biotechnology or health in Europe. According to the European Investment Bank, the first barrier to investment in tech sectors in Europe

1 Nasscom,"Road to Recovery: Indian Tech Start-up Landscape 2024", April 2025. Available at: https://nasscom.in/knowledge-center/publications/road-recovery-indian-tech-start-landscape-2024#dwn-report.
Ministry of Commerce & Industry, "Nine Years of Startup India: With 1.59 lakh startups, India isnow world's 3rd largest startup ecosystem", 15 January 2025.Available at: https://www.pib.gov.in/PressReleasePage.aspx?PRID=2093125.

2 Mayank Khemka and Sagar Singh, "India: why it will be a USD 7 trillion economy by 2030", Deutsche Bank, 1 March 2023. Available at: https://www.deutschewealth.com/content/dam/deutschewealth/cio-perspectives/cio-special-assets/india-economy-by-2030/cio-special-india-why-it-will-be-usd-7-trillion-economy-by-2030.pdf

is the lack of availability of skilled staff, as opposed to the popular narrative citing overregultion.[3] Moreover, as noted by Ignacio García Bercero, currently Non-Resident Fellow at Bruegel, and previously involved in the early stages of EU-India trade negotiations, Brussels seeks better conditions for European investments in India while New Delhi is keen to integrate in global value chains and increase its employment opportunities.[4] In this framing, European tech capital is seen as complementary to Indian skilled labour.

When it comes to key tech sectors where geo-economic competition is playing out hardest between the US and China, both actors find themselves stuck between a rock and a hard place. The EU and India are very much aware of the need to gain autonomy and develop indigenous capacities in cutting-edge sectors such as quantum computing and communications, as well as in Artificial Intelligence (especially AI hardware), data processing, and green tech. It is surprising that investors located in the US and China have provided almost 50% of funds in the biggest venture capital investments in European deep tech between 2020-22.[5] Deep tech is crucial, strategically-speaking, since they are technologies that are based on significant scientific and engineering breakthroughs, often leading to disruptive innovations, with the potential to solve complex problems.

The EuroStack—a vision for Europe's digital future crafted by an informal group of European experts and industry—aims to establish the continent as a leader in digital sovereignty and in the global digital economy. The strategy seeks to foster innovation, strengthen strategic autonomy, and build inclusive partnerships to overcome Europe's reliance on external technologies.[6] It is also a counter to the charge of over-regulation invoked against Europe mainly by the US. Cristina Caffarra, an independent and voluntary economic expert behind the inception of the EuroStack, highlights that Europe is not faltering in research and development (R&D) or innovation but rather in producing commercially-viable and deployable tech products that provide the EU with its own cloud space and much-needed hard infrastructure.[7]

India has developed a healthy digital ecosystem, where key players in government, industry, and academia have financially and intellectually supported the development of the India Stack. The Indian government has supported the idea of technology as a public utility, having special non-profit companies manage some parts of its Digital Public Infrastructure (DPI) system to catalyse financial inclusion and efficient delivery of citizen services. By 2030, the economic value added from DPIs to India's GDP could reach 2.9-4.2%, at 0.9% in 2022.[8] DPI has enabled the government to increase its tax revenue, as well as citizen digital access to banking, financial and basic social services such as education and health. This well-knitted integration of public policy and the digital industry in developing the India Stack is a model that the EU could learn from

3 Mariniello, Mario (2025) On tech regulation, the European Union should be bolder https://www.bruegel.org/first-glance/tech-regulation-european-union-should-be-bolder

4 García Bercero, Ignacio. Interview. By Amaia Sánchez-Cacicedo. 12 May 2025. Telephone Interview.

5 Francesca Bria, Paul Timmers and Fausto Gernone, "Eurostack: A European Alternative for Digital Sovereignty", Bertelsmann Stiftung, February 2025. Available at: https://www.bertelsmann-stiftung.de/en/publications/publication/did/eurostack-a-european-alternative-for-digital-sovereignty.

6 Ibid.

7 Caffarra, Cristina. Interview. By Amaia Sánchez-Cacicedo. 8 May 2025. Telephone Interview.

8 Nasscom, "India's Digital Public Infrastructure: Accelerating India's Digital Inclusion", February 2024. Available at: https://nasscom.in/knowledge-center/publications/nasscom-arthur-d-little-indias-digital-public-infrastructure.

when looking to develop EuroStack. India's approach to digital governance offers lessons that the Europeans can adapt with a view to containing the charge of over-regulation. This would further assist in achieving higher levels of interoperability and innovation between both partners.

Against this big picture, what are India's and the EU's ***shared interests***?

The Joint Statement on the second meeting of the EU-India TTC highlights the following shared interests within the three existing working groups[9]:

(i) as part of the working group on *Strategic Technologies, Digital Governance, and Digital Connectivity*, the strengthening of semiconductor ecosystems, trustworthy and sustainable AI, high-performance computing, 6G and DPI;

(ii) *in terms of clean and green technologies*, joint research and innovation with a focus on trusted partnerships and industry linkages, including in the recycling of batteries for electric vehicles (EVs), marine plastic pollution, and in the development of more efficient technologies to produce hydrogen from biogenic waste;

(iii) *on trade, investment and resilient value chains*, both actors seek to strengthen their respective economic security and increase their supply chain resilience by reducing their bilateral barriers to trade. Joint progress achieved in the value chains of agri-food, active pharmaceutical ingredients and solar energy, offshore wind and green hydrogen sectors is highlighted. These interests are complementary to ongoing negotiations on an FTA, an Investment Protection Agreement (IPA) and a Geographical Indications Agreement (GIA).

This division between working groups is artificial, nonetheless, and does not reflect existing convergences and divergences between India's and the EU's interests, which are cross-cutting.

Convergences

Europe can benefit from India's experience with large-scale digital ecosystems built on decentralized protocols while India can leverage Europe's expertise in privacy enhancing technologies and data governance. This opens the door to joint innovation in areas such as fintech, health tech, and interoperable digital services that combine India's scalability with Europe's regulatory strengths, fostering interoperable and privacy-centric solutions.[10]

Both the EU and India are aware that their total reliance on foreign semiconductors and computational infrastructure hinders their development of an AI ecosystem. The existing MoU on Semiconductors from 2023 signed as part of the EU-India TTC framework is contributing to boosting the semiconductor supply chains, leveraging complementary strengths, facilitating talent exchanges and fostering semiconductor skills among students and young professionals.[11] A Boston Consulting Group report states that 19% of all chip designers globally are Indians while 7% of design

9 European Commission, "Joint statement on the second meeting of the EU-India Trade and Technology Council", 28 February 2025. Available at: https://ec.europa.eu/commission/presscorner/detail/ro/statement_25_643.

10 Bria, Timmers and Gernone, "Eurostack", 2025.

11 European Commission, "Leaders' Statement following the visit of President of the European Commission Ursula von der Leyen and College of Commissioners to India, 27-28 February 2025", 28 February 2025. Available at: https://ec.europa.eu/commission/presscorner/detail/mt/statement_25_647

facilities are located in India.[12]

In terms of migration and mobility agreements with regards to skilled labour, Pierre Bitard, an economics and digital innovation specialist at the French National Association for Research and Technology (ANRT), notes how India is the 'world's digital manufacture' considering that world-renowned Indian Institutes of Technology (IITs) 'produce' more than 1.5 million engineers on a yearly basis. Bitard further highlights the global prominence of Indian IT companies combined with the prevalence of CEOs of Indian origin among the largest IT multinational companies.[13] The EU just announced its 'Choose Europe for Science' programme—a EUR 500 million initiative to be implemented between 2025-27 to attract non-EU nationals to support EU research programmes, which Indian researchers could also profit from.[14] Both of these variables combined can certainly pave the way towards a smoother integration of Indian talent in science, technology, engineering and mathematics (STEM) education and training in Europe.

The EU and India share the goals of achieving net zero emissions by 2050 and 2070, respectively. Both actors seek to increase joint research and innovation (R&I) to produce innovative products for market uptake. This further opens the door for collaboration between EU and Indian incubators, small and medium enterprises (SMEs), and start-ups towards building human resource capability and capacity in clean and green tech.

Both actors realize the impending need to ramp up their AI ecosystems against a quasi-bipolar dominance by the US and China. The EU has launched the InvestAI Initiative followed by AI Continent based on building large-scale AI computing infrastructure, increasing access to high-quality data, promoting AI in strategic sectors and strengthening skills in AI.[15] India too is looking to make AI accessible and affordable, as well as ensuring its ethical use, much in line with Europe's approach. EU and Indian leaders have already agreed on enhancing cooperation on large language models and harnessing the potential of AI through joint projects for ethical and responsible AI.[16] Joint collaboration in High-performance Computing (HPC) applications is also on the table.[17]

Divergences

There are still clear differences in governance frameworks between the EU and India when it comes to data privacy and digital governance. Europe perceives India's approach to DPI as dependent on biometric IDs, which is seen as problematic for privacy reasons, as well as on foreign cloud infrastructure. Europeans are adamant about having solid privacy and security safeguards in their DPI, while remaining efficient, transparent and interoperable. Much like India through Aadhaar, the EU is developing the European Digital Identity Wallet (EUDI Wallet) with the complexity of all

12 Raj Varadarajan et al., "Emerging Resilience in the Semiconductor Supply Chain", Boston Consulting Group, 8 May 2024. Available at: https://www.bcg.com/publications/2024/emerging-resilience-in-semiconductor-supply-chain.

13 Bitard, Pierre. Interview. By Amaia Sánchez-Cacicedo. 5 May 2025. Interview by e-mail.

14 European Commission, "Choose Europe: Advance your research career in the EU", Available at: https://commission.europa.eu/topics/research-and-innovation/choose-europe_en.

15 European Commission, "Shaping Europe's leadership in artificial intelligence with the AI continent action plan". Available at: https://commission.europa.eu/topics/eu-competitiveness/ai-continent_en

16 Amaia Sánchez-Cacicedo, "How to Leverage the EU–India Partnership on Critical and Emerging Technologies?, Institut Montaigne, 4 April 2025. Available at: https://www.institutmontaigne.org/en/expressions/how-leverage-eu-india-partnership-critical-and-emerging-technologies.

17 European Commission, "Joint statement on the second meeting of the EU-India Trade and Technology Council", 2025.

27 Member States having to issue or certify one EUDI Wallet by 2027.[18]

The implications for the Indian industry of having to implement the EU's sustainability regulations, such as Carbon-Border Adjustment Mechanism (CBAM) and the Regulation on Deforestation-free products (EUDR), remain another point of contention. India views CBAM as unfair. Both sides have held in-depth bilateral discussions on the challenges arising from trade and decarbonization, having also engaged with relevant stakeholders. The most affected sector are Indian SMEs, which will require additional attention from both actors, particularly for companies linked to the TTC's focus areas.

An additional caveat in know-how and tech transfer between the EU and India is India's Intellectual Property (IP) regulations which are not perceived as strong enough or adequately enforced from a European stand-point. This is a caveat for the EU's intent to establish both security and privacy safeguards in its technological development as well as linked to trade in digital goods. As noted by Ignacio García Bercero, Europe continues to seek increased market access and improvements in non-tariff barriers linked to Indian regulations and quality control orders.[19] From India's perspective, it wishes to protect its development space, especially in health, agriculture, and digital inclusion, while cooperating on high-value innovation, enforcement, and standards that serve mutual strategic interests.

There is fear of potential third-country interference when EU tech-transfers happen in critical technologies, with the risk of this ending up in countries such as Russia or Iran, for example. The issuing of export controls, trade policy restrictions and state subsidies have thus become part and parcel of the global technology scene.[20]

Recommendations

We have put together a set of nine recommendations that address: (i) ***structural aspects***—including those linked to regulation and interoperability;—(ii) ***sectoral aspects***; (iii) ***operational aspects***.

Structural aspects

1. *To promote stronger mobility and migration arrangements at EU level*. With a view to attracting Indian highly-skilled labour into European industry and academic institutions, the adequate recognition of certificates and legal pathways have to be established and fast-tracked. Mechanisms like the EU Blue Card or the new 'cascade' visa regime for Indians frequently travelling to the Schengen space must complement existing schemes at EU member state level. Labour market complementarities should be exploited. As Europe develops its own EuroStack, Indian professionals, armed with experience and skills, are well placed to help bridge the demand-supply gap in the European labour market. In other words, this is a ready example of a 'win-win' policy.

2. *To create joint ecosystems that bring government, industry, academia, and innovators together.* New Delhi would like to see the private sector better integrated from the start into the IT and green tech sectors ecosystems, as is the case

18 Bria, Timmers and Gernone, "Eurostack", 2025.

19 García Bercero, Ignacio. Interview.

20 Dûchatel, Mathieu., "CHIPDIPLO project seeks to strengthen European semiconductor industry", interview by Phil Alsop, SILICON SEMICONDUCTOR, 5 May 2025. Available at: https://siliconsemiconductor.net/video/632/CHIPDIPLO_project_seeks_to_strengthen_European_semiconductor_industry.

in India. Similarly, Indian and European investors and researchers should be involved in joint collaborations from the very beginning, which would facilitate creating links between the European Innovation Hubs Network (EIHN) and India's leading IITs, for example. The EU and India could consider putting together 'research triangles' with support from Member States for the given initiatives. The EU's Next Generation Internet (NGI) was successful in mobilizing investment in technology thanks to European Commission funding and to independent entities operationalizing the projects. In the case of the US-India Initiative on Critical and Emerging Technology (iCET), the engagement of the whole ecosystem on both sides became key to the success of the INDUS-X platform (now expanded into INDUS Innovation as part of the Transforming Relationship Utilizing Strategic Technology (TRUST) initiative).[21]

3. *To ensure increased interoperability through better alignment in standards setting and regulatory frameworks.* Efforts to better align the EU and India's regulatory regimes and standards-setting linked to promoting privacy, security, anti-trust, and consumer protection, such as in the IT and telecoms sectors, must be sought. Stronger alignment in data privacy, international data flows and with regards to intellectual property concerns is needed. The EU and India can explore mechanisms for enhanced inter-agency collaboration, potentially through the establishment of dedicated cross-sectoral task forces or the adoption of shared regulatory sandboxes that allow for experimentation and the identification of best practices across domains.

4. *To take adequate confidence-building measures against the risk of tech transfer leakage.* The risk of tech transfer leakage and the need for export controls remain serious concerns for the EU, particularly linked to strategic technologies which could end up in the wrong hands; China and Russia are of utmost concern. Security considerations remain an underlying theme based on the potential dual-use of some of critical technologies. India should engage with third-party risk, by offering bilateral compliance frameworks, joint cybersecurity protocols, and tech origin tracking.

Sectoral aspects

5. *To tap into the existing collaboration in the semiconductors sector between India and certain Member States to leverage it at EU level.* The case of the Dutch government and India's Ministry of Electronics and Information Technology joint project on semiconductors based on talent exchanges, as well as developing joint research and development is a case in point. This strategic partnership holds promise for addressing talent shortages, fostering innovation and creating mutual economic benefits. The EU is leading in R&D while India is looking to develop both its skilled manpower and hardware in this area. Opportunities in tech transfer and EU-funded market solutions in the Indian semiconductor market can also be explored through the creation of solid ecosystems.

6. *To foster joint AI capabilities.* The deepening of cooperation between the European AI Office and the India AI Mission is a welcome start. Similarly to the case of semiconductors, an ecosystem of innovation and information exchange can be created to develop trustworthy AI.

7. *To foster joint collaboration on quantum communication and quantum computing.* Much like with AI, both the EU and India need to come up to

21 See Annex I for a comparison between iCET and the EU-India TTC.

speed with quantum communication and quantum computing. The aim is to foster joint R&D projects in the areas of natural hazards, climate change, and bioinformatics. India's pledge to support the GANANA Project – a new EuroHPC project that seeks to support the development of software for HPC applications based on the joint collaboration of European HPC Centres of Excellence and five Indian institutions – must be carried through.[22]

Operational aspects

8. *To address the underlying interests linked to both actors' bilateral trade, tech, and security concerns that cut across working groups.* The silo-ing of the three working groups within the EU–India TTC is artificial. This is not only not conducive to cross-fertilization but may also avoid broader trade, economic security or industrial concerns from each side from being considered. Failing to acknowledge these may lead to ineffective decision-making or even paralysis when seeking to operationalize actual initiatives.
9. *To assign a committee of senior leaders with members from both sides that regularly supervises the implementation of the EU-India TTC.* Officials from the relevant EU Directorates General and Indian Ministries - including in the realm of trade, technology, foreign affairs and security - will be assigned to be part of this committee. These leaders should also ensure that the fora that integrate European and Indian research institutions, industry, and investors are in place and connected to policymakers.

The evolving 2030 EU-India Roadmap positions the TTC as a central element. To maximize its impact, the TTC requires improved integration across key digital and sustainability regulations and strengthened internal coordination. The EU-India TTC represents the foundation on which the commercial, industrial, and economic security policies of both partners can be better aligned.

22 The European High Performance Computing Joint Undertaking (EuroHPC JU), "New EuroHPC Project Strengthening EU-India Ties: the GANANA Project", Press Release, 14 February 2025. Available at: https://eurohpc-ju.europa.eu/new-eurohpc-project-strengthening-eu-india-ties-ganana-project-2025-02-14_en.

This publication was prepared with the support of the Heinrich Böll Stiftung. The views and analysis contained in the publication are those of the author(s) and do not necessarily represent the views of the foundation.

Publisher: Heinrich-Böll-Stiftung New Delhi

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Place of publication: in.boell.org
Publication date: May 2025

Photo credits: Jonas Svidras | Pexels

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ANNEX I

Comparison between India-US iCET and India-EU TTC

Aspect	India–U.S. iCET	India–EU TTC
Launch & Leadership	Launched January 2023, led by National Security Councils (NSC)	Announced in April 2022 by Prime Minister Modi and Ursula von der Leyen (European Commission)
Strategic Objective	Tech partnership for national security, supply chain resilience in Critical and Emerging Technologies (CETs)	Balancing trade, tech regulation, and sustainable development
Key Focus Areas	Semiconductors, AI, Quantum, Open Radio Access Network, space, biotechnology, critical raw materials, clean and defence tech	Clean and green tech, strategic technologies, digital governance, DPI, data governance, AI standards, quantum and semiconductors
Approach to Regulation	Light-touch; innovation-centric, led by industry	Regulation-heavy; aligned with GDPR, DSA, DMA and India's DPDP
Talent & R&D Collaboration	Strong emphasis on STEM mobility, innovation linkages	Potentially strong, still constrained by visa/regulatory frameworks despite existing bilateral mobility and migration agreements between EU Members States and India
Supply Chain Strategy	"Friend-shoring" to reduce China dependence	Resilient supply chains with green and ethical sourcing goals
Institutional Design	NSC-led, strategic, agile with scope for innovators, start-ups and defence initiatives	Requires clarity, stronger engagement of industry and market take-up —needs empowered leading committee and ecosystem build-up from both sides
Challenges	Bridging regulatory asymmetries, IP concerns	Reconciling EU's data governance regulatory model with India's digital sovereignty; India's emphasis on bilateral relations with EU Member states vs. the EU at institutional level, IP concerns
Opportunities	Co-development of tech across sectors, including defence, expanding Quad tech agenda	Aligning on trusted digital infrastructure, ethical use of AI and green tech transfer
Geopolitical Framing	China-containment + strategic trust	Strategic autonomy + multi-polar order + resilience