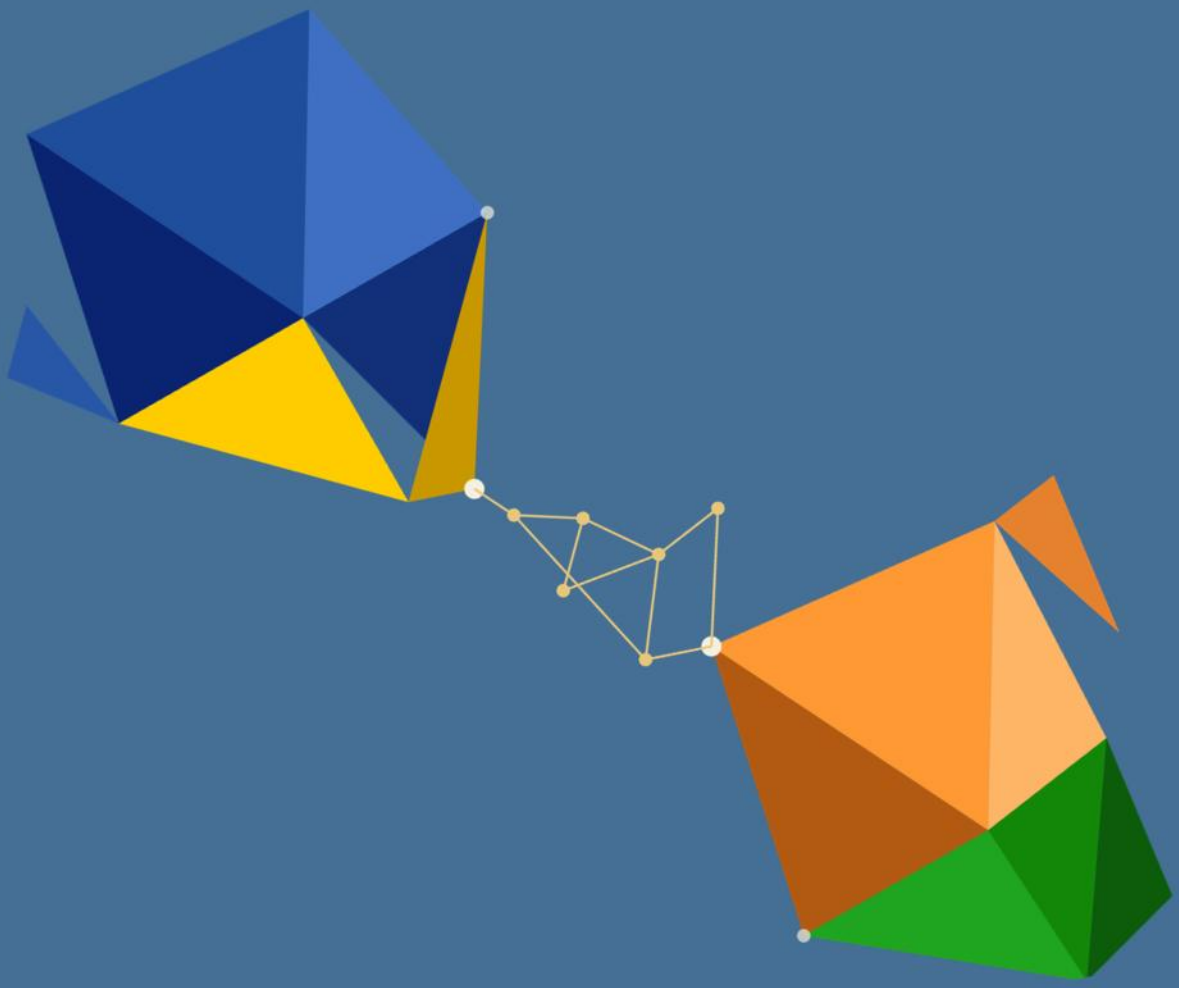
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IERF Policy Brief

Is India—EU Tech Cooperation Overrated?



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INDIA-EUROPE RESILIENCE FORUM

Hanns Seidel Foundation

Cover Image: AI Generated

The India–Europe Resilience Forum (IERF), established in 2025, was conceived through the collaborative efforts of four institutions: the Institute of Peace and Conflict Studies (IPCS), the Hanns Seidel Foundation (HSF) India, the Centre for Social Research (CSR), and the Centre for Educational & Social Studies (CESS)/Chanakya University (CU). The IERF aims to foster dialogue and collaboration between key stakeholders in India and Europe on common 'non-traditional' security challenges. Initially set up for a period of three years, the forum aspires to strengthen resilient India–Europe foreign policy cooperation in a time marked by geopolitical upheaval.

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Overview

The India–Europe Resilience Forum (IERF), established in 2025, fosters policy dialogue between key stakeholders in India and Europe on common, 'non-traditional' security challenges. To examine one such area—technology cooperation—the Institute of Peace and Conflict Studies (IPCS) and the Hanns Seidel Foundation (HSF), India, jointly organised a policy debate titled, 'This House Believes India–EU Tech Cooperation is Overrated,' at the HSF Headquarters in Munich on 12 February 2026, under the banner of the IERF. The question participants faced was how to build technological cooperation that is strategic and durable rather than being confined to trade deals. The debate sought clarity on what meaningful technology cooperation requires of India and the EU, why it matters in the current geopolitical context, and what is needed to move from political intent to delivery.

This IERF Policy Brief distils the debate's key insights and examines strategic engagement between India, the EU, and EU member states across two clusters:

1. Cooperation in the defence sector, and
2. Cooperation in clean energy transition, energy security, and climate change.

These clusters emerged as the key areas feasible for cooperation during the debate. This Policy Brief maps the **motivations, existing channels, major challenges, and focus areas of cooperation for the two clusters, and concludes with a policy recommendation.**

Introduction

The technology domain is currently witnessing a quasi-bipolar moment in capabilities, with the US and China maintaining positions at the top tier,[1] while remaining multipolar in agency. Multipolarity in agency refers to the exercise of discretion and making independent strategic choices on how to use, regulate, or even reject these technologies. India and the EU exercise considerable influence in deciding on the use of these technologies.[2] Against this backdrop, while the US and China are competing for dominance, countries like India and the EU member states are aiming for tech sovereignty. For India and the EU, 'tech sovereignty' means the ability to balance major powers and their rivalries as the two actors pursue their own interests. It allows them to assess the US' reliability as an

[1] Here 'capabilities' refer to heavy industrial and technological firepower capabilities. The US and China dominate investment and R&D in areas such as AI computing and large language model (LLM) training. However, Taiwan, South Korea, and the Netherlands continue to remain important players in semiconductor fabrication and chip design.

[2] The EU, for example, sets global regulatory standards (GDPR, the AI Act) to which the US and China must adhere when dealing with them, while India runs its own digital public infrastructure models (UPI, Aadhaar), declines to align fully with either side on AI governance, and applies its own rules on data localisation.

Indo-Pacific partner and a transatlantic ally, and can reduce dependencies on the Chinese tech ecosystem through diversification and indigenisation.

India and the EU share a commitment to strategic autonomy and an inclusive, rules-based order. They also have a similar approach to securing their interests through multi-vector engagements which avoid over-dependence on a single source, such as the US or China. This shared commitment provides the normative foundation for their partnership. This foundation is reinforced by a high level of political trust and a web of strategic partnerships at the level of EU member states built over the past three decades. India elevated these strategic ties with France, Germany, and the EU in the early 2000s, followed by recent agreements with Italy, Greece, Poland, and Finland.

This deepening relationship is increasingly centred on technology—a focus raised during the IERF policy debate and also reflected in successive official meetings between India and the EU. Institutional mechanisms such as the India-EU Trade and Technology Council (TTC), and initiatives including the Global Gateway, Horizon Europe, and the India-EU Connectivity Partnership, all treat technological collaboration as a priority.

Europe's research capacity, innovation ecosystems, and regulatory strength complement India's skilled talent, scale, and large market. During the IERF policy debate, participants highlighted areas of deep technology cooperation that should be actively explored between the two parties, including AI, big data, quantum computing, and 5G/6G connectivity.

This Policy Brief, organised around four questions for each cooperation cluster, explores the motivations for greater cooperation, existing institutional mechanisms, obstacles that constrain cooperation, and areas that should be prioritised to translate political intent into implementation. The analysis leads into one cross-cutting policy recommendation applicable to both the defence and clean energy clusters.

Motivations for Greater Cooperation

Defence

Converging threat perceptions is the most important motivator for tech cooperation in the defence sector. Despite operating in two different security theatres, the evolving threat perceptions of India, the EU, and EU member countries provide great impetus to engage with each other to strengthen defence. An unpredictable US administration, lessons from the Russia–Ukraine war, and China’s rise have unsettled both India and the EU. For both, reliable, affordable, advanced, and precise weaponry supported by the latest technologies has become a critical national security priority.

- Differences between the EU and the

US on geopolitical issues are at an all-time high.[3] Trump's actions in Venezuela,[4] strikes on Iran[5], and the EU's refusal to support these actions—despite repeated requests from Trump—have put immense stress on the transatlantic alliance. India, in turn, faces US tariff pressure tied to its Russia ties[6], hostility from Pakistan,[7][8] which continues to support proxy and terrorist activities, and China,[9,10] which raises sovereignty concerns especially by allegedly attempting to change the status quo of their shared border.

- The ongoing Russia–Ukraine war has exposed Europe's industrial unpreparedness, depleted munitions stockpiles, and limited mass-production capacity. For India, the same war has exposed the limitations of Russian weaponry and raised concerns about its defence preparedness, given that its arsenal still relies on Russian supplies.
- Additionally, China's assertiveness[11]—prominently the weaponisation of critical mineral supply chains and technology for critical defence equipment, together with increasing aggressiveness in the Indo-Pacific region—has further complicated both India and Europe's security environment.

Clean energy transition, energy security, and climate change

Shared vulnerability to energy shocks, concentrated supply chains, and converging climate ambitions drive India–EU cooperation on clean energy and climate. It further rests

[3] US President Trump has even considered options for withdrawing from NATO, expressed ambivalence regarding Article 5 commitments under the NATO Charter, and proposed acquiring Greenland, thereby challenging Denmark's sovereignty.

[4] Roy, D., & Masters, J. 2026. "The Trump administration's push for Greenland: What to know." *Council on Foreign Relations*. 22 January. https://www.cfr.org/articles/greenlands-independence-what-would-mean-us-interests

[5] The subsequent US blockade severely affected its friendly countries and further destabilized the region.

[6] Russia is one of India's major defence suppliers and oil import sources, and downgrading bilateral ties would be detrimental to India's national interests.

[7] "A Compilation of Pakistani Terrorist Attacks in India: 1989–2025 – Part I." NatStrat. May 26, 2025. https://www.natstrat.org/articledetail/publications/part-i-a-compilation-of-pakistani-terrorist-attacks-in-india-201.html

[8] "Compilation of Pakistani Terrorist Attacks in India: 1989–2025 – Part II." NatStrat. May 26, 2025. https://www.natstrat.org/articledetail/publications/part-ii-a-compilation-of-pakistani-terrorist-attacks-in-india-202.html

[9] India, having fought a deadly border clash with Chinese troops in Galwan in 2020, views Chinese capabilities as a clear and present danger. The continued deployment of around 50,000–60,000 Chinese troops and the reported completion of over 72 per cent of China's 628 'dual-use villages' along the Line of Actual Control since the 2020 Galwan clashes have further increased tensions and highlight the increasing Chinese assertiveness in the region.

[10] Beijing's China–Pakistan Economic Corridor passes through Indian territory, illegally occupied by Pakistan, and its aggressively growing presence in the Indian Ocean Region supported by its military modernisation threatens India's sovereignty and core security interests.

[11] Europe traditionally viewed China primarily through an economic lens, although the EU's 2019 characterization of Beijing as a 'systemic rival' and China's support for Russia's war efforts has altered this perception.

on several linked factors: both sides share geopolitical and geoeconomic interests in energy security, supply-chain resilience, and strategic autonomy; both have made climate commitments tied to the Sustainable Development Goals;[12] and both want to redefine environmental leadership through climate multilateralism.[13] However, there is one caveat—their pressing concerns differ, because the two are at different stages of development.[14]

- India and the EU import hydrocarbons and are exposed to energy crises, price volatility, and geopolitical disruption, as seen in the rising tensions in West Asia after the US strikes on Iran and in the ongoing Russia–Ukraine war.
- Both face the restructuring of global supply chains for critical raw materials that are essential to clean energy and electric vehicles, a sector China has come to dominate and has even weaponised as leverage. This drives a shared search for alternative sources and more resilient supply chains.
- The EU has positioned itself as a leader in climate policy, targeting net-zero by 2050 through the European Green Industrial Deal, carbon pricing, and the Carbon Border Adjustment Mechanism (CBAM). India, while prioritising development, has committed to net-zero by 2070 and to expanding renewable capacity, and is increasingly seen as a leading voice of the Global South. Both frame this ambition through the Sustainable Development Goals. This allows each side to describe the same cooperation in terms it can defend at home. Brussels can present it as climate ambition, and New Delhi as development and energy access.

Existing Channels of Cooperation[15]

Cooperation between India and the EU began with a focus on trade and development assistance and gradually expanded into a strategic partnership. The TTC is currently the most important institutional channel for technology cooperation. Its third meeting, held in Brussels on 16 July 2026, reiterated the centrality of the platform in India–EU cooperation.[16] In the clean energy sector, the

[12] Both are committed to implementing the Paris Agreement and cooperating in multilateral climate and energy fora.

[13] The two have signed the EU–India Clean Energy and Climate Partnership to this effect. "The EU–India Clean Energy and Climate Partnership." *EEAS*. 12 May 2020. https://www.eeas.europa.eu/delegations/india/eu-india-clean-energy-and-climate-partnership-0_en

[14] Saravanan, A. J. 2025. "Highlight 44/2025: India–EU cooperation on sustainable development: From trade to green transition." *Meig Programme*. 12 November. https://www.meig.ch/highlight-44-2025-india-eu-cooperation-on-sustainable-development-from-trade-to-green-transition/

[15] The complete list of existing mechanisms mentioned in this section is briefed in the Annexure Table from A1–A6.

[16] "EU and India strengthen strategic partnership with third trade and technology council." *European Commission.* July 15, 2026. https://ec.europa.eu/commission/presscorner/detail/en/ip_26_1627

TTC has a dedicated working group on climate and clean energy. Cooperation in this area is deepening in the current phase of growing political trust. The second TTC Ministerial Meeting in 2024 expanded cooperation on critical raw materials, semiconductors, AI, and standards. The launch of the India-EU Strategic Agenda 2024-2029 also gave the partnership further policy direction. At the third meeting of the TTC, India and the EU also agreed to establish a dedicated Innovation Hub for electric vehicle charging technologies and testing. Further, they launched a Deep-Tech Startup Partnership to support market access and commercialisation pathways for startups.

Beyond the TTC, Horizon 2020, and Horizon Europe,[17] The Partnership Instrument, Global Europe, and Global Gateway flagship projects are emerging as key channels for cooperation. Cross-border digital trust between India and the EU is developing in parallel. The Administrative Arrangement on Advanced Electronic Signatures and Seals, signed by India and the EU in January 2026, marks an important step towards interoperability between their respective public key infrastructure ecosystems.[18]

Defence

- Beyond the TTC and the Horizon programmes, the Strategic Dialogue on Foreign and Security Policy,[19] India-EU Security and Defence Partnership, and the EU project, 'Enhancing Security Cooperation in and with Asia and the Indo-Pacific' (ESIWA+), are other important existing channels for defence-technology cooperation.
- Further opportunities are emerging from India's renewed focus on 'Make in India' and its drive to apply AI, big data, and quantum computing to military technology.
- Defence-related cooperation is conducted between India and EU member states and is therefore entirely bilateral. France is a major partner and Germany is emerging. Engagement with Italy, Spain, and Sweden has been more limited, though it has improved recently. Such cooperation continues and is even on the road to intensification, with the latest bilateral agreement and

[17] Even though both programmes are primarily civilian-oriented, research conducted in the programmes, including robotics, artificial intelligence, and quantum technologies, has generated technologies with potential dual-use applications relevant to defence and security. European Commission: Directorate-General for Research and Innovation, Unlocking the potential of dual-use research and innovation, Publications Office of the European Union, 2025, https://data.europa.eu/doi/10.2777/5771805

[18] Blarel, N. 2026. "Advancing a Resilient India–EU Technology Partnership Beyond Trade". *Hanns Seidel Foundation*. 27 May. https://india.hss.de/news/advancing-a-resilient-india-eu-technology-partnership-beyond-trade-news14079/

[19] "Security and Defence Partnership Between the European Union and the Republic of India." EEAS. 27 January 2026. https://www.eeas.europa.eu/sites/default/files/2026/documents/SECDEF-partners-EU-India.pdf

announcements between India and respective EU member states like France and Germany. Still greater focus on EU-level coordination—even though the cooperation will continue to be bilateral—can only amplify the relationship.

Clean energy transition, energy security, and climate change

- Beyond the TTC and the Horizon programmes, other multilateral platforms for cooperation include the International Solar Alliance (ISA),[20] the Coalition for Disaster Resilient Infrastructure (CDRI), One Sun, One World, One Grid (OSOWOG), Mission Innovation, the Breakthrough Agenda, the G20 Energy Transitions Working Group, and Climate Sustainability Working Group.
- Major bilateral mechanisms with individual member states include the Partnership for Green and Sustainable Development with Germany; the Indo–French Roadmap on the Development of Green Hydrogen, the Agence Française de Développement (AFD) framework with France; Indo–Dutch cooperation on green hydrogen and port decarbonisation; Leadership Group for Industry Transition (LeadIT) with Sweden; and the Indo–Finnish Quantum Computing Centre.
- Both India and the EU have adopted laws, policy frameworks, and commitments that underpin this cooperation. On the Indian side, these include the Panchamrit commitments at COP26 (the eight national missions forming the foundation of its climate and sustainability policy), Production Linked Incentive (PLI) schemes, National Green Hydrogen Mission, and National Critical Mineral Mission. On the European side, they include the European Green Industrial Deal, REPowerEU, Net-Zero Industry Act, and Critical Raw Materials Act.

Major Challenges to Cooperation

India and the EU confront several challenges to cooperation. The EU's rules are strict and norm-driven, such as their rigorous regulations governing arms exports[21] or the ones regulating trade and sustainability, which can also bring defence technology and energy into their governance ambit. In addition, the interpretation of these rules can

[20] The launch of ISA by India and France in 2015 marked the beginning of a joint North–South climate leadership dimension within the partnership.

[21] These arms export rules allow EU member states, following criteria including regional stability, human rights, and conflict risk, to restrict technology cooperation and defence exports.

often vary across member states in the EU.[22] Fragmentation in interpretation of EU laws and policies within the EU further complicates cooperation. Several EU member states are involved in producing defence hardware, and many pursue separate bilateral initiatives with India with varying levels of ambition and willingness to share advanced technologies.[23] Restrictions on technology transfer and intellectual property hinder cooperation in each sector, and domestic political pressures on both sides can result in potential shifts in positions over time.

Defence

- Traditionally, the EU's arms export rules, and those of its member states, have rested on political rather than commercial criteria. Member states apply these rules differently. For example, France gives greater weight to strategic and industrial considerations than most other member states. As licensing remains a national decision, these rules are liable to change with shifts in the politics of the member states that implement them.[24]
- India–Russia ties continue to concern Europe, with fears of possible technology leakage. India, in turn, remains cautious about EU–China and EU–Pakistan relations and the sharing of its defence capabilities with either, which could put its national security objectives at risk. India has recently asked the Netherlands[25] and Italy[26] not to share advanced defence technologies with Pakistan, at a time when India is deepening defence-technology cooperation with both.
- European defence industry is inward-looking, and defence imports require negotiation with multiple stakeholders, as many EU member states are involved in producing defence hardware.[27] Interpretation of rules also

[22] "EU code of conduct on arms exports." *Arms Control Association.* (n.d.). https://www.armscontrol.org/act/1998-05/eu-code-conduct-arms-exports

[23] "The future of European competitiveness." *European Union*. September 2024. https://commission.europa.eu/document/download/97e481fd-2dc3-412d-be4c-f152a8232961_en?filename=The+future+of+European+competitiveness+_+A+competitiveness+strategy+for+Europe.pdf

[24] After India's 1998 nuclear tests and the codification of the EU's arms export rules, and technology cooperation with India was restricted, owing to its non-signatory status to the NPT and concerns over regional instability, especially the Kashmir conflict. These restrictions eased after the 2008 India–US nuclear deal, but they left India with a lasting concern. EU export policies are norm-driven, and political change in member countries could again shift public opinion against defence-technology cooperation with India.

[25] "India asks the Netherlands not to supply arms to Pak." *Hindustan Times.* March 19 2025. https://www.hindustantimes.com/india-news/india-asks-netherlands-not-to-supply-arms-to-pak-officials-101742324820849.html

[26] "Rajnath Singh asks Italy to avoid defence tech sharing with Pakistan." Trivedi, Saurabh. The Hindu. September 3, 2026. https://www.thehindu.com/news/national/rajnath-singh-asks-italy-to-avoid-defence-tech-sharing-with-pakistan/article70925141.ece

[27] For example, one of the considerations behind the decision against the Eurofighter Typhoon in India's Medium Multirole Combat Aircraft (MMRCA) procurement was the involvement of multiple vendors in its production. See Patel, A. (2012, January 16). Patel, Avnish. 2012. "India's procurement of a European

varies across countries.

- European companies have found it hard to do business in India. Pilatus of Switzerland[28] and Dassault of France[29] have both faced corruption allegations, and the Bofors deal with Sweden became a long-running scandal[30] and a textbook case of corruption in India.

Clean energy transition, energy security and climate change

- Challenges in cooperation on energy and climate change arise from geopolitical shifts, uncertainties in the supply of critical raw materials, energy security concerns, and shrinking budgets for climate commitments. They also stem from supply-chain constraints, rising delivery costs, and from domestic political economy pressures.
- CBAM, environmental regulations, and sustainability rules are viewed by Indian manufacturers as burdensome and difficult to comply with, particularly for small and medium-sized enterprises. Differences in standards and certification systems create further barriers to cooperation and market access.
- India and the EU often differ on climate finance, the pace of reducing fossil fuel use, and the principle of equity in climate responsibilities, reflecting differing interpretations of India's development needs and climate responsibilities.
- Electrolysers and large-scale energy storage systems are protected by strict intellectual property rules and licensing arrangements which could limit the sharing of EU technology, know-how and manufacturing processes with India.

Focus Areas for Cooperation

Rising defence spending and shared ambitions on clean energy and climate have created conditions for closer tech cooperation between India, the EU, and EU member states. Some of the most promising areas including AI, big data, and quantum computing, cut across both clusters (defence and energy and climate), making them priority areas for cooperation. The most

fighter." *Royal United Services Institute.* 16 January 2012. https://www.rusi.org/publication/indias-procurement-european-fighter

[28] "Swiss Pilatus Flies into Corruption Allegations." *Ljubas, Zdravko.* OCCRP. July 15, 2019. https://www.occrp.org/en/news/swiss-pilatus-flies-into-corruption-allegations

[29] "Rafale deal | €1 mn paid to middleman in Rafale deal, says French report." Special Correspondent. The Hindu. April 5, 2021. https://www.thehindu.com/news/national/rafale-deal-french-anti-corruption-agency-afa-found-dassault-paid-1-million-euros-to-middleman-report/article34243196.ece

[30] At various points, European firms including Tatra, Bofors, AgustaWestland, and BVT Poland were implicated in corruption scandals.

important factor in turning these conditions into concrete results does not depend on creating new institutions but rather on utilising those that already exist. India–EU cooperation could prioritise a few high-impact sectors, balance regulatory flexibility with safety, strengthen research integration, and maintain clear communication. The TTC, the Strategic Agenda 2024–2029, Horizon Europe, and bilateral frameworks are the key platforms to operationalise joint projects, research partnerships, and industrial collaboration.

Additionally, successful bilateral initiatives reinforce wider partnership rather than fragment it. The following priorities explain where combined India—EU energies could be directed.

Defence

- In response to the security environment in Europe, EU member countries are rearming themselves such that the collective defence spending of EU member states rose by 12.6 per cent to USD 563 billion in 2025.[3132] India has also increased its defence budget from the previous year, which reached USD 78.5 billion in 2025.[33]
- India is world's second-largest defence importer of major arms[34] and on a mission to diversify[35] its sources of defence cooperation. Over the last two decades, New Delhi has made great improvements in the design and assembly of tanks, artillery guns, fighter aircraft, and naval vessels, and has become increasingly self-reliant in system design and integration. However, its capability for producing critical subsystems such as critical alloys, engines, sonar, radar, over-the-horizon missiles, and network-centric warfare suites is still underdeveloped.[36]
- Priority areas for cooperation could therefore include critical military subsystems, space-based situational

[31] McGerty, F., & Dewey, K. 2026. "Global defence spending continues to grow amid geopolitical uncertainty." *Institute for Strategic Studies*. 24 February. https://www.iiss.org/online-analysis/military-balance/2026/02/global-defence-spending-continues-to-grow-amid-geopolitical-uncertainty/

[32] Inching closer towards achieving the Hague Summit pledge to increase defence and security spending to five per cent of GDP by 2035. "The Hague Summit Declaration." *NATO.* 25 June 2025. https://www.nato.int/en/about-us/official-texts-and-resources/official-texts/2025/06/25/the-hague-summit-declaration

[33] This constitutes the largest allocation (13 per cent) to any ministry. See also Chakrabarty, T. 2025. "Demand for grants 2025-26 analysis: Defence." *PRS Legislative Research*. 4 February. https://prsindia.org/budgets/parliament/demand-for-grants-2025-26-analysis-defence

[34] George, M. et al. 2026. "Trends in international arms transfers, 2025." *SIPRI.* March. https://www.sipri.org/sites/default/files/2026-03/fs_2603_at_2025.pdf

[35] Due to the reasons outlined in the above subsection on motivation, India's dependence on Russian defence imports needs to decline.

[36] Kranenburg, V., & Okano-Heijmans, M. 2023. "How strategic tech cooperation can reinvigorate relations between the EU and India." *The Clingendael Institute.* January. https://www.clingendael.org/sites/default/files/2023-01/Report_Strategic_tech_cooperation_between_EU_India.pdf

awareness, quantum technologies, and the use of AI, big data, and unmanned systems. Key opportunities include co-production[37] and co-development with European defence manufacturers and building trusted frameworks for technology transfer that address security and leakage concerns to ensure cooperation manifests in manufacturing rather than stopping short at dialogue.

Clean energy transition, energy security, and climate change

- Participants in the policy debate identified several areas for cooperation. These include green hydrogen and electrolysers, battery storage and advanced chemistries such as LFP, sodium-ion and solid-state, electric vehicles and charging infrastructure, critical raw materials and the circular economy, floating offshore wind, grid digitalisation, demand response, virtual power plants, AI-driven forecasting, Small Modular Reactors, and fusion through ITER.
- They also suggested that efforts should be concentrated primarily on green hydrogen, storage, and critical raw materials, since the need for these for both India and the EU is the strongest.
- This work could aim for regulatory interoperability, not full alignment. Structured dialogue on standards, certification, and data governance would take it forward, with flexibility clauses where strategic needs demand. This would also ease the compliance burden that measures such as CBAM imposes on Indian manufacturers.

Policy Recommendation: A Sandbox Approach to India-EU Cooperation

India and the EU can set up joint policy and regulatory sandboxes in both the defence and clean energy transition, energy security, and climate change clusters. A sandbox approach could ease the regulatory and compliance challenges that pose significant challenges to India-EU cooperation. India and the EU already use sandboxes in their own governance systems.[38][39] A sandbox

[37] Co-production refers to the joint manufacture of a defence system by two or more countries. It involves the transfer of production technology and sensitive subsystems from the originating country to partners, who may subsequently extend production to additional components. Currently, India and France are finalising terms for a joint co-production agreement for Rafale aircraft and have also released a joint statement to expand co-production in other areas. See also, "India – France Joint Statement." *PIB.* 17 February 2026. https://www.pib.gov.in/PressReleaseDetail.aspx?PRID=2229412&reg=44&lang=1 and "India to make Rafale jets with France in boost to defence ties, Macron says." *Reuters.* 19 February 2026. https://www.reuters.com/world/india/india-make-rafale-jets-with-france-boost-defence-ties-macron-says-2026-02-19/

[38] For reference, see following acts, Artificial Intelligence Act. (2024, July 12). https://eur-lex.europa.eu/eli/reg/2024/1689/oj, Regulation - EU - 2024/1735 - en - EUR-lex. (2024b, June 28). https://eur-lex.europa.eu/eli/reg/2024/1735/oj/eng

[39] Chakravarty, D. (2025, August 22). *Charting the growth and aspirations of India's fintech regulatory sandboxes*. orfonline.org.

would let an Indian start-up or a EU firm test its product in an approved EU or Indian environment under joint audit, and meet agreed standards before full market entry. Joint sandboxes would also cut certification and compliance costs for start-ups and small firms, while each side keeps final control over its own standards.

The TTC would be a good 'host' platform for these sandboxes as it offers an established starting point. The TTC's green and clean energy working group could host sectors like battery storage and recycling,[40] while its strategic technologies working group, which already covers standards and certification, could set the stage for semiconductors and dual-use technologies such as UAVs. Two conditions would be important for its success. Each side should accept the other's test results and audits for agreed products, and secure data zones should allow cross-border testing while keeping data protected. These data zones would also bridge India's sectoral localisation rules and the EU's data protection rules, a gap the FTA leaves open.[41]

Applying sandboxes to the defence sector is harder than in clean energy because of national security sensitivities. Each side will operate with some fear of sensitive information potentially leaking to third countries. EU defence funding is also largely closed to Indian firms. Defence sandboxes could therefore be started on a limited scale, with dual-use technologies through the TTC, and military innovation through bilateral routes such as between India and France and India and Germany.

Conclusion

The debate that prompted this Policy Brief asked whether India–EU tech cooperation is overrated. While the motivations and channels of cooperation between the two are tangible, the assumption that either will deliver on its own is overrated. The structural basis for deeper cooperation is already strong; however, its delivery remains shaky. Bolstering this requires both sides to shift from dialogue-based engagement to implementation-focused cooperation. Joint regulatory sandboxes anchored in the TTC could be one practical way to make this shift. The FTA represents a potential strategic inflection point, but trade liberalisation alone will not sustain a durable partnership. Trade can begin the process but cannot complete it. Resilient cooperation will depend on

https://www.orfonline.org/research/charting-the-growth-and-aspirations-of-india-s-fintech-regulatory-sandboxes

[40] The working group is co-chaired by India's Principal Scientific Adviser and the European Commission's Directorate-General for Research and Innovation. They have also hosted a Matchmaking event on EV battery recycling technologies in 2024, see, Interaction with startups from India and EU- an outcome of the matchmaking event on EV Battery Recycling Technologies under the India-EU Trade and Technology Council WG2. https://www.psa.gov.in/article/interaction-startups-india-and-eu-outcome-matchmaking-event-ev-battery-recycling/9127

[41] Jaiswal, H. (2026, March 11). *India–EU Free Trade Agreement: Promising in scope, Limited in regulatory space*. CSEP. https://csep.org/blog/india-eu-free-trade-agreement-promising-in-scope-limited-in-regulatory-space/

extending the relationship beyond market access into security, defence, and technology, and on translating political intent into joint delivery.

Unless the issues that have so far deterred both parties are addressed, the current motivators will not produce the cooperation each side seeks.

Annexure

Table A1. India–EU Mechanisms

Mechanism/Framework	Category	Year	Core Areas of Cooperation
India–EU Summit	Political & Strategic	2000	The summit sets the political direction that the working-level mechanisms act upon and currently serves as the apex political dialogue for strategic coordination. Its 16th meeting in February 2026 opened exploratory talks on India's Horizon Europe association.
India–EU Strategic Agenda 2024–2029	Strategic Framework	2024	Its agenda lists defence, technology, and clean energy as priorities. It can serve as a reference document against which TTC working groups and member-state initiatives are aligned, and could help bilateral work reinforce rather than fragment the EU-level approach.
India–EU Security and Defence Consultations	Security Dialogue	Ongoing	Maritime security, the Indo-Pacific, critical maritime routes. It is a standing security dialogue between India and EU which could move from consultation to delivery by taking up the critical subsystem gaps—alloys, engines, sonar, radar, over-the-horizon missiles—as a defined agenda item and by addressing European concerns over technology leakage alongside Indian concerns over transfers to Pakistan.
India–EU Energy Panel	Energy Cooperation	2008	Renewables, smart grids, energy efficiency. This is an established technical forum. It suits grid digitalization, demand response and storage work identified as areas of

			cooperation, and can carry the detailed standards discussion that the TTC sets in principle.
India–EU Clean Energy and Climate Partnership	Climate & Energy	2016	Renewable energy, climate finance, hydrogen, adaptation. Cooperation in these areas can concentrate on green hydrogen and storage, where the motivations to cooperate for both sides are the strongest. It is also the natural place to work through climate finance differences that remain unresolved between the two.
India–EU Joint Working Group on Environment	Environmental Cooperation	Ongoing	Biodiversity, pollution control, sustainability. Provides a technical channel for circular economy work tied to critical raw materials, which both sides have identified as a de-risking priority.
India–EU Trade and Technology Council (TTC)	Trade & Technology	2023	Strategic technologies, clean energy technologies, resilient value chains. This is a central institutional channel, carrying a dedicated climate and clean energy pillar. Its working groups can run the structured dialogue on standards, certification and data governance that regulatory interoperability requires, with flexibility clauses where strategic needs demand.

India–EU FTA, Investment Protection and GI Negotiations	Trade Negotiations	Relaunched 2021	Trade liberalization, investment protection, geographical indications. The FTA opens market access, however, trade liberalization solely will not sustain the partnership. Its value depends on extending the relationship beyond market access into security, defence and technology, and on addressing the imbalance of offerings that complicated the negotiations.
India–EU Connectivity Partnership	Connectivity	2021	Green and digital infrastructure, Indo-Pacific connectivity. Offers a route for co-investment in charging infrastructure and cross-border grid links, moving clean energy cooperation from research towards deployment.
Horizon Europe Cooperation	Research & Innovation	2021 – 2027	A notable platform for international cooperation with the EU in research and innovation, covering clean energy, climate science, biotechnology, and other areas. The first round of exploratory talks on India's association with Horizon Europe was held in February 2026 during the 16th India—EU Summit.[42] India and the EU agreed to commence formal negotiations on this subject during the third meeting of the TTC, held in Brussels in July 2026, with the aim of concluding the negotiations in the same year.

[42] "EU and India Launch Talks on Horizon Europe Association - Research and Innovation." *European Commision.* 6 February 2026. https://research-and-innovation.ec.europa.eu/news/all-research-and-innovation-news/eu-and-india-launch-talks-horizon-europe-association-2026-02-06_en

Partnership Instrument & Global Europe (NDICI)	Financing Instrument	Ongoing	Sustainable development and climate projects. A funding route for the joint projects and research partnerships the focus areas identify, particularly in green hydrogen and storage.
InvestEU & Global Gateway Projects	Infrastructure & Investment	Ongoing	Green transition and digital infrastructure. Can support co-investment rather than dialogue alone, which is the shift the brief identifies as necessary. Suited to deployment-stage work in the green transition.
International Solar Alliance (ISA)	Multilateral Platform	2015	Solar deployment and energy access. Launched by India and France, it marks the North–South climate leadership dimension of the partnership. It can be used to carry Global South priorities alongside EU climate ambition, which is one of the stated motivations for cooperation.
Coalition for Disaster Resilient Infrastructure (CDRI)	Resilience Platform	2019	Climate-resilient infrastructure. A route for joint work on infrastructure resilience, which links to the shared supply-chain and energy security concerns.
Leadership Group for Industry Transition (LeadIT)	Industrial Decarbonization	2019	Steel, cement and heavy industry transition. Addresses the hard-to-abate sectors where CBAM compliance pressures on Indian manufacturers are highest, making it the practical forum for working through that challenge.

One Sun, One World, One Grid (OSOWOG)	Energy Connectivity	Ongoing	Cross-border renewable energy grids. Supports the grid digitalization and interconnection work listed amongst the areas of cooperation.
Mission Innovation	Clean Energy Innovation	Ongoing	Clean energy research and innovation. Gives a multilateral route for joint clean energy research, complementing the bilateral research integration pursued through Horizon Europe.
Breakthrough Agenda	Climate Cooperation	Ongoing	Sectoral decarbonization. Aligns with the focus on green hydrogen and storage, and offers a sectoral route for coordinating on decarbonization targets.
G20 Energy Transitions Working Group	Multilateral Dialogue	Ongoing	Energy transition coordination. A forum where both sides can work on the pace of the fossil fuel transition, when their positions differ.
G20 Climate Sustainability Working Group	Climate Governance	Ongoing	Climate resilience and sustainability. Suited to the equity questions on climate responsibilities that separate the two, and to the SDG framing both the EU and India use.

Table A2. India–Germany

Mechanism/Framework	**Category**	**Year**	**Core Areas of Cooperation**
Partnership for Green and Sustainable Development	Sustainability Partnership	2022	Climate finance and green growth. Germany is an established green partner and an emerging defence one. Aligning this partnership with the Strategic Agenda 2024–2029 would allow bilateral effort reinforce the EU-level approach rather than

			run parallel to it.

Table A3. India–France

Mechanism/Framework	Category	Year	Core Areas of Cooperation
Indo-French Strategic Partnership	Strategic Partnership	1998	Defence, nuclear, climate and Indo-Pacific cooperation. France is the major defence partner. Co-production and co-development with French manufacturers is the most direct route to closing the critical subsystems gap, provided trusted frameworks for technology transfer address security and leakage concerns.
International Solar Alliance (ISA)	Solar Cooperation	2015	Solar deployment and finance. The India–France origins of the ISA give the bilateral relationship a climate leadership dimension that can be extended to the wider EU partnership.
Indo-French Green Hydrogen Roadmap	Hydrogen Cooperation	2022	Hydrogen ecosystem development. Green hydrogen is one of the three areas where efforts could be concentrated. This roadmap is the most developed bilateral vehicle for it and can be used as a template for other member states.
AFD Financing Cooperation	Development Finance	Ongoing	Renewables, biodiversity and sustainable cities. Provides the finance to take renewables cooperation from agreement to deployment.

Table A4. India–Netherlands

Mechanism/Framework	Category	Year	Core Areas of Cooperation
Green Hydrogen & Port Decarbonization Cooperation	Green Logistics	Ongoing	Rotterdam–India green corridor cooperation. It Supports the green hydrogen priority through a defined corridor.

Table A5. India–Sweden

Mechanism/Framework	Category	Year	Core Areas of Cooperation
Leadership Group for Industry Transition (LeadIT)	Industrial Decarbonization	2019	Focused on Hard-to-abate sectors. Engagement with Sweden has been more limited on defence, but LeadIT is an established green channel and addresses the sectors most exposed to CBAM.

Table A6. India–Other EU Member States

Mechanism/Framework	Category	Year	Core Areas of Cooperation
Indo-Finnish Quantum Computing Centre	Quantum Cooperation	Ongoing	Quantum technologies are listed as a priority in both clusters, which makes the centre a meeting point for defence and clean energy interests.



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The Hanns Seidel Foundation (HSF), founded in 1967, is a German political foundation working in the service of 'Democracy, Peace and Development'. At present, the foundation is engaged in the implementation of over 80 projects across 50 countries worldwide. In India, the foundation works in collaboration with local partners, providing support for capacity-building measures and national and international policy dialogues with the aim of effectively localising and achieving sustainable development goals. HSF India's partnerships and projects are primarily focused on youth engagement, good governance, climate action, and security, including women-led development.



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