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INDIA AND THE EUROPEAN UNION: *Building Resilient Interdependence through Technology Cooperation*

Swapnil Kumari | Abhijit Poddar

October 28, 2026

India and the European Union's expanded strategic framework raises a practical question: how can closer cooperation reduce technological and economic vulnerabilities without requiring geopolitical alignment? This paper advances resilient interdependence as a framework for integrating trade, research, industrial development, and security cooperation. It argues that the principal challenge is translating existing institutional commitments into capabilities that remain available during disruptions. Science and technology policy research can support this task by identifying dependencies, pinpointing capability gaps, and assessing barriers to deployment. The paper proposes five measures: technology-vulnerability assessments through the Trade and Technology Council, research funding linked to identified gaps, a joint science and technology policy observatory, evaluation based on capabilities rather than activities, and institutional interoperability. These measures would help direct cooperation toward specific vulnerabilities while accommodating differences in foreign policy and regulation.

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ABSTRACT: India and the European Union's expanded strategic framework raises a practical question: how can closer cooperation reduce technological and economic vulnerabilities without requiring geopolitical alignment? This paper advances resilient interdependence as a framework for integrating trade, research, industrial development, and security cooperation. It argues that the principal challenge is translating existing institutional commitments into capabilities that remain available during disruptions. Science and technology policy research can support this task by identifying dependencies, pinpointing capability gaps, and assessing barriers to deployment. The paper proposes five measures: technology-vulnerability assessments through the Trade and Technology Council, research funding linked to identified gaps, a joint science and technology policy observatory, evaluation based on capabilities rather than activities, and institutional interoperability. These measures would help direct cooperation toward specific vulnerabilities while accommodating differences in foreign policy and regulation. (Image: PIB, India)

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BACKGROUND

January 27, 2026, marked an important moment in India–EU relations. At the 16th EU–India Summit, leaders endorsed the Towards 2030: A Joint India–European Union Comprehensive Strategic Agenda, signed the EU–India Security and Defense Partnership, and announced the conclusion of negotiations on the India–EU Free Trade Agreement (FTA).[1] The Strategic Agenda covers prosperity and sustainability, technology and innovation, security and defense, connectivity, and global issues.[2] It also links economic relations to resilient supply chains and closer connections among research, innovation, business, and market deployment. The agenda places technology cooperation within a broader economic and security framework. It sets political direction, but a footnote clarifies that it creates no financial commitments or legally binding rights or obligations.[3] Sector-specific institutions must therefore translate its commitments into funded programs, standards, industrial projects, and measurable outcomes.

The Security and Defense Partnership adds an important security dimension to this framework.[4] It covers maritime security, cyber-related issues, artificial intelligence and emerging disruptive technologies, hybrid threats, critical infrastructure, counterterrorism, non-proliferation, and space security and defense. Several of these areas rely directly on technological capability. Cybersecurity, for example, depends on digital infrastructure and technical expertise, while space security relies on satellites, communications, and data systems. AI applications also depend on computing capacity, data, and technical standards. In this way, the partnership formally links security cooperation to technological capability. However, it does not establish a common India–EU foreign or security policy, and the two sides continue to differ on important foreign-policy issues.

These developments build on a strategic partnership established in 2004.[5] Although its political momentum later weakened, trade and cultural engagement remained strong. The adoption of the EU–India Strategic Partnership: A Roadmap to 2025 at the 15th India-European Union Summit in 2020 marked a renewed commitment to political and strategic engagement.[6] The 2026 Strategic Agenda now builds on that roadmap, taking the relationship beyond a broad diplomatic framework toward more structured cooperation on trade, technology, security, connectivity, and resilience.[7]

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[1] "EU-India summit", *Consilium*, January 27, 2026. https://www.consilium.europa.eu/en/meetings/international-summit/2026/01/27/

[2] "Towards 2030: A Joint European Union-India Comprehensive Strategic Agenda", *European Commission*. January 27, 2026. https://ec.europa.eu/commission/presscorner/detail/it/statement_26_224

[3] Ibid.

[4] European External Action Service (EEAS). "Security and Defense Partnership between the European Union and the Republic of India." *Consilium*, 2026. https://data.consilium.europa.eu/doc/document/ST-5168-2026-INIT/en/pdf.

[5] Joint Press Statement for 5th India-EU Summit, *Ministry of External Affairs(India)*, November 08, 2004, https://www.mea.gov.in/bilateral-documents?dtl/7470/Joint_Press_Statement_for_5th_IndiaEU_Summit

[6] "India-EU Strategic Partnership: A Roadmap to 2025", *Ministry of External Affairs(India)*, July 15, 2020, https://www.mea.gov.in/bilateral-documents?dtl/32828/IndiaEU_Strategic_Partnership_A_Roadmap_to_2025

[7] "Towards 2030: A Joint India-European Union Comprehensive Strategic Agenda. 2026. *Ministry of External Affairs(India),* https://www.mea.gov.in/bilateral-documents?dtl/40616.

However, this should not be mistaken for the emergence of an India–EU geopolitical bloc. Rather, the relationship reflects two partners building strategic capacity, drawing on shared interests while recognizing important differences in their external policies. The key challenge is to translate those shared interests into practical measures that reduce vulnerabilities exposed by recent crises, including the US-Israel-Iran war, the war in Europe, instability around the Persian Gulf and the Red Sea, weaponized supply chains, critical-mineral restrictions, semiconductor competition, cyber risks, and broader strategic uncertainty.

Partnership without Geopolitical Alignment

Expanding the relationship does not mean India and the EU have identical foreign-policy positions. India has continued to emphasize strategic autonomy and diversified external partnerships. The EU has developed its own approach to strategic autonomy in reaction to economic and security dependencies. These approaches overlap in their concern with vulnerability yet differ in their external-policy application. The difference is visible in the two sides' positions on Russia's war against Ukraine. Recent scholarship shows that India has continued to frame the conflict through strategic autonomy, dialogue, and multi-alignment. India has maintained a distinct position despite EU efforts to influence its approach. [8] This difference does not prevent cooperation in technology or trade. However, it does limit the usefulness of treating the India–EU relationship as a conventional geopolitical alignment.

The same distinction applies to China. The EU has described China as a partner, competitor, and systemic rival.[9] India has pursued economic engagement with China while simultaneously seeking to reduce vulnerabilities arising from excessive dependence. These positions do not amount to a common China policy. They can nevertheless support cooperation on specific supply-chain vulnerabilities.

This distinction suggests a more precise objective for the next phase of the relationship. India and the EU do not need to eliminate interdependence. They need to reduce dependencies that create disproportionate vulnerability. The objective can therefore be described as resilient interdependence.

The scale of the economic relationship reinforces the case for resilient interdependence. The EU was India's third-largest trading partner in goods in 2024–25, with bilateral trade of INR 11.5 lakh crore (USD 136.54 billion), including Indian exports worth INR 6.4 lakh crore.[10] Around 6,000

[8] Monika Barthwal-Datta, "Narrating order as resistance: India, the EU, and the 'Russia-Ukraine conflict," *European Politics and Society*, July 14, 2026, pp. 1–13. DOI: 10.1080/23745118.2026.2691389. Also See, Nishant Rajeev, "Understanding India's Evolving Policy of Strategic Autonomy," *IDSS Paper (RSIS)*, February 21, 2025, https://staging.rsis.edu.sg/rsis-publication/idss/ip25015-understanding-indias-evolving-policy-of-strategic-autonomy/

[9] "EU trade relations with China, Facts, figures and latest developments", *European Commission*, August 21, 2026. https://policy.trade.ec.europa.eu/eu-trade-relationships-country-and-region/countries-and-regions/china_en

[10] "India–EU Free Trade Agreement Concluded: A Strategic Breakthrough in India's Global Trade Engagement", *Press Information Bureau*, January 27, 2026.
https://www.pib.gov.in/PressReleasePage.aspx?PRID=2219065&reg=3&lang=2

European companies operating in India generated €186 billion in turnover in 2024 and supported approximately six million jobs. [11]

The conclusion of the FTA negotiations further strengthens this relationship. The summit statement described the conclusion of the negotiations as a milestone and called for timely implementation. Concluding negotiations, however, is distinct from bringing an agreement into force. The negotiated terms provide preferential EU market access for more than 99% of Indian exports and include provisions concerning small and medium-sized enterprises (SMEs) and digital trade. [12] These benefits remain subject to the required implementation procedures. The Investment Protection Agreement and the Geographical Indications Agreement are separate instruments and should not be presented as components already completed through the FTA negotiations.

The economic-security question therefore extends beyond the agreement itself. Trade can increase interdependence without necessarily reducing vulnerability. A supply chain can remain exposed when a particular material, technology or production stage is concentrated in one external source. The policy question is therefore not simply whether bilateral trade expands. It is whether sources of essential inputs diversify as economic integration increases.

Direction of Policy Responses

Policy responses must therefore be organized around identifiable vulnerabilities rather than a general expansion of cooperation. The institutional architecture for this work already exists. India and the EU established the Trade and Technology Council (TTC) in 2023. The TTC contains working groups covering strategic technologies and connectivity, green and clean technologies, and trade, investment and value chains. The third TTC meeting in July 2026 reaffirmed the council as a central platform for trade, technology and security cooperation. The two sides also agreed to strengthen work on specific strategic value chains, including agri-food, active pharmaceutical ingredients and clean-energy technologies. [13]

The TTC can address technology and value chains. The Science and Technology Agreement and Horizon Europe can support research cooperation. This is already reflected in collaborative research under Horizon Europe on marine pollution, waste-to-renewable hydrogen and battery recycling, supported by approximately €60 million in planned joint investment across these priority

[11] "Companies Fuel India's Growth: New Report Reveals Nearly 6,000 Firms Driving GDP, Jobs and Manufacturing Excellence," *EEAS/ Delegation of the European Union to India and Bhutan*, May 7, 2026. https://www.eeas.europa.eu/delegations/india/eu-companies-fuel-india%E2%80%99s-growth-new-report-reveals-nearly-6000-firms-driving-gdp-jobs-and_en?s=167

[12] "India–EU Free Trade Agreement Concluded: A Strategic Breakthrough in India's Global Trade Engagement", *Press Information Bureau*, January 27, 2026, https://www.pib.gov.in/www.pib.gov.in/Pressreleaseshare.aspx?PRID=2219065

[13] "International cooperation with India in research and innovation," *European Commission*, July 15, 2026, https://research-and-innovation.ec.europa.eu/strategy/strategy-research-and-innovation/europe-world/international-cooperation/bilateral-cooperation-science-and-technology-agreements-non-eu-countries/india_en

areas.[14] The Security and Defense Partnership can address security applications. The FTA can provide the economic framework for expanded trade. Much of the required institutional framework is therefore already in place.

What remains less developed is the analytical connection between these institutions. A semiconductor research project may have implications for industrial resilience. A battery-recycling project may affect critical-mineral dependence. A decision on digital standards may affect cross-border technology deployment. A research partnership may produce knowledge that requires industrial investment before it becomes strategic capability. A 2026 policy analysis at Observer Research Foundation, a New Delhi-based policy think tank, identified dependence on a small number of critical-mineral suppliers as a vulnerability for both India and Europe. The report argued that existing India–EU policy instruments need to be connected through a practical pipeline involving financing, standards, project development, and institutional coordination. [15]

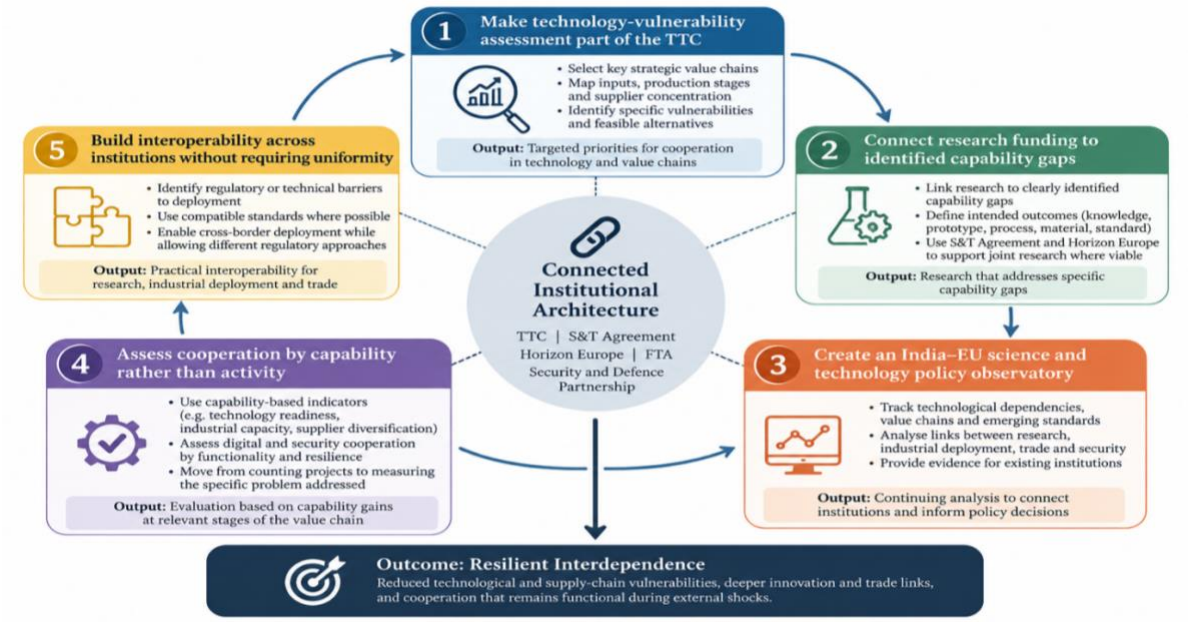


Figure I. Five linked measures to operationalize the 2030 Strategic Agenda and advance resilient interdependence. (*The figure was generated using AI-assisted graphical tools based on an author-developed conceptual framework. AI was used only for visualization and graphic design. The author developed and verified the substantive content and interpretation.*)

[14] "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.

[15] Manini, "India and EU's Shared Imperative of Critical Minerals Cooperation," *ORF Issue Brief*, Number 874, May 2026. https://www.orfonline.org/research/india-and-eu-s-shared-imperative-of-critical-minerals-cooperation

Science and technology policy research can help connect these institutions by mapping dependencies across technology value chains and assessing how regulatory choices affect deployment. It can also evaluate whether joint research produces capabilities that remain available during external shocks, distinguishing cooperation that builds resilience from cooperation that creates new dependencies.

WAY FORWARD

Moving the India–EU relationship "beyond strategic partnership" requires managing interdependence and translating institutions into measurable capabilities. Science and technology research can identify technological vulnerabilities and assess whether cooperation mitigates them, thereby strengthening resilience. Partnerships on critical minerals should expand processing and recycling; semiconductor initiatives should address value-chain gaps; and digital cooperation should support cross-border systems with agreed safeguards. Resilient interdependence connects existing India–EU institutions by coordinating their work rather than creating additional agreements or forums. Both parties can retain distinct foreign-policy choices and regulatory systems while cooperating on technology and interoperability, maintaining economic interdependence while reducing single points of failure.

The next phase should therefore focus on five linked measures (*Figure I*):

1. *Make technology-vulnerability assessment part of the TTC*

The TTC should select a limited number of strategic value chains for detailed assessment. Each assessment should identify the inputs, production stages and technologies on which the value chain depends. It should also identify where supply is concentrated and whether technically viable alternatives exist. The purpose should be to identify a specific vulnerability rather than to produce a general assessment of strategic resilience. For example, an assessment of a semiconductor value chain should distinguish between dependence on chip design, fabrication, packaging, testing, materials, and manufacturing equipment. This would allow subsequent India–EU cooperation to target the stage at which the vulnerability occurs.

2. *Connect research funding to identified capability gaps*

Research cooperation should be linked more explicitly to the capability gaps identified through these assessments. A research project should state whether its intended outcome is new knowledge, a prototype, a production process, a material, a standard or another defined capability. This would also provide a basis for linking cooperation under the Science and Technology Agreement and India's potential association with Horizon Europe to the wider strategic framework. Research funding would not need to be directed towards every identified vulnerability. It would instead support those gaps for which joint research can provide a technically credible response.

3. *Create an India–EU science and technology policy observatory*

A joint science and technology (S&T) policy observatory should provide the analytical layer connecting research, technology, trade and security institutions. Its task should be to track selected technological dependencies, changes in value chains, emerging standards and the movement of research towards industrial application. The observatory should not become another diplomatic

forum. Its principal output should be evidence for the TTC and other existing institutions. For example, it could identify when a research partnership has produced a technically successful result but faces a manufacturing or regulatory barrier before deployment.

4. Assess cooperation by capability rather than activity

India–EU cooperation should be evaluated by the capability it creates at the relevant stage of the value chain. Research programs may therefore be assessed through indicators such as technology-readiness progression, prototypes or industrial partnerships when these are appropriate to the project. Industrial initiatives may require different measures, such as additional processing capacity, supplier diversification, or increased recycling capacity. The same principle should apply to digital and security cooperation. A digital initiative should be assessed partly by whether systems can interoperate under agreed safeguards. A security-related technology program should be assessed by whether the relevant capability can be maintained during disruption. This would shift evaluation from the number of projects or declarations towards the specific problem that each intervention was intended to address.

5. Build institutional interoperability

India and the EU should identify where regulatory or technical differences prevent technologies developed through cooperation from moving into wider use. Not every difference requires harmonization. In some areas, compatible technical standards may be sufficient. This distinction matters most where research, industrial deployment, and security requirements overlap. The objective should be to establish the conditions under which systems, technologies, and services can operate across the two jurisdictions while allowing each side to retain regulatory approaches suited to their domestic objectives. Taken together, these measures would give practical content to resilient interdependence. The task is to identify where dependence becomes a source of vulnerability, locate the relevant stage of the technology or value chain, and assign an institutional response. The 2026 framework already provides much of the institutional architecture required for this approach.





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