SSPC Issue Brief

India and The European Union:
Critical Minerals and the Test of Economic Security

Swapnil Kumari | Rajeev Ranjan | Abhijit Poddar

November 10, 2026

Critical minerals have emerged as a key measure of India–EU economic security cooperation, connecting the energy transition and advanced technologies with the resilience of industrial supply chains. This commentary examines how India's National Critical Mineral Mission and the EU's Critical Raw Materials Act lay the groundwork for cooperation in mineral sourcing, processing, research, and recycling. It assesses the opportunities created by the 2026 strategic framework, as well as the financing, technological, and implementation constraints that may limit progress. This is the second commentary in the series, "India and the European Union Building Strategic Resilience". Building on the first paper's framework of resilient interdependence, this paper explores how cooperation can reduce specific mineral dependencies and strengthen industrial capabilities.

SOCIETY FOR THE STUDY OF PEACE & CONFLICT
Fostering Ideas, Research and Dialogue...

INDIA AND THE EUROPEAN UNION:

Critical Minerals and the Test of Economic Security

Swapnil Kumari | Rajeev Ranjan | Abhijit Poddar

November 10, 2026



ABSTRACT: Critical minerals are central to India–EU economic security, linking the energy transition and advanced technologies to resilient supply chains. This commentary examines how India's National Critical Mineral Mission and the EU's Critical Raw Materials Act enable cooperation in sourcing, processing, research, and recycling. It assesses opportunities under the 2026 strategic framework and barriers involving finance, technology, and implementation. This is the second commentary in the series, "India and the European Union Building Strategic Resilience". Building on the first paper's framework of resilient interdependence, this paper explores how cooperation can reduce specific mineral dependencies and strengthen industrial capabilities. (Image: PIB, India)

Citation: S. Kumari, R. Ranjan and A. Poddar, "India and the European Union: Critical Minerals and the Test of Economic Security," SSPC Issue Brief, November 10, 2026.

INTRODUCTION

Critical minerals have emerged as a key measure of India–EU economic security cooperation, connecting the energy transition and advanced technologies with the resilience of industrial supply chains. This commentary examines how India's National Critical Mineral Mission and the EU's Critical Raw Materials Act provide a foundation for cooperation in mineral sourcing, processing, research, and recycling. It assesses the opportunities created by the 2026 strategic framework, as well as the financing, technological, and implementation constraints that may limit progress. This is the second commentary in the series: "India and the European Union Building Strategic Resilience."[1]

Critical minerals and security

Critical minerals increasingly underpin both civilian technologies and military capabilities, linking their supply to international security. The transition to electric vehicles, renewable energy and advanced digital technologies is increasing demand for lithium, cobalt, graphite and rare earth elements. Other minerals are essential for semiconductors, aerospace and defense. The International Energy Agency's (IEA) Global Critical Minerals Outlook 2026 highlights risks from concentrated supply, trade restrictions, and dependence across strategic sectors. Under its Stated Policies Scenario, lithium demand rises more than threefold by 2040, equivalent to an increase of over 200% (Figure 1). [2]

Mineral supply chains also intersect with conflict financing. In eastern Democratic Republic of the Congo (DRC), armed groups derive revenue from control over mineral-rich areas and trade routes, including illicit extraction and smuggling. Separately, concentration in strategic mineral supply chains can give supplier countries economic and geopolitical leverage. China's export restrictions on rare earths, tungsten and molybdenum, for example, prompted WTO disputes brought by the EU, the United States and Japan in 2012. [3] The degree of concentration varies by mineral and processing stage. Dependence must therefore be assessed at the level of individual supply chains. Nevertheless, disruption at a dominant supplier can affect industries far beyond its borders.[4]

Critical minerals therefore sit at the center of economic security because they underpin modern energy, technology and defense systems. The strategic concern extends beyond the location of

[1] The first paper in this series (*SSPC Issue Brief*, October 28, 2026) argued that India–EU relations should move beyond the language of strategic partnership towards resilient interdependence. This paper examines what that approach means for critical minerals, where access to resources must be matched by processing capacity, technological cooperation and commercially viable investment. Swapnil Kumari & Abhijit Poddar, "India and the European Union: Building resilient interdependence through technology cooperation," *SSPC Issue Brief*, October 28, 2026. https://sspconline.org/issue-brief/india-and-european-union-building-resilient-interdependence-through-technology-cooperation

[2] "Global Critical Minerals Outlook 2026," *International Energy Agency*, 2026, https://www.iea.org/reports/global-critical-minerals-outlook-2026

[3] China: Measures Related to the Exportation of Rare Earths, Tungsten and Molybdenum, dispute, *World Trade Organization*, May 2015, https://www.wto.org/english/tratop_e/dispu_e/cases_e/ds432_e.htm

[4] Executive Summary: Global Critical Minerals Outlook 2026, *International Energy Agency*, 2026, https://www.iea.org/reports/global-critical-minerals-outlook-2026/executive-summary

mineral reserves to control over processing, refining and the industrial supply chains that use these materials.

International cooperation has developed in response to these vulnerabilities. The Minerals Security Partnership (MSP), launched in 2022, was complemented by the MSP Forum in April 2024. Co-chaired by the EU and the United States, the Forum brings mineral-producing countries together with MSP partners, including India, to support projects and policy dialogue across mining, processing and recycling.[5] This provides a wider setting for India–EU cooperation. At the bilateral level, the Towards 2030 joint strategic agenda, endorsed at the 16th India–EU Summit on January 27, 2026, explicitly places critical-mineral cooperation under supply chains and economic security. It connects mineral supply with the energy transition and sustainable industrial ecosystems, alongside joint assessments of external vulnerabilities and cooperation in strategic value chains.[6]

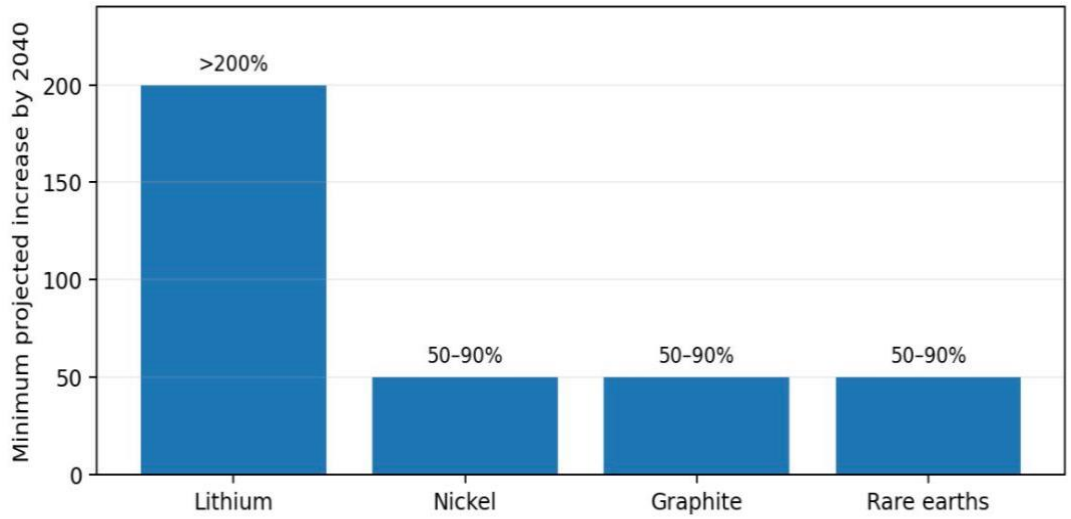


Figure 1. Indicative demand growth to 2040 under the IEA Stated Policies Scenario. The bars show lower bounds: lithium demand increases by over 200%; nickel, graphite, and rare earth demand growth falls within the reported 50–90% range (Source: IEA, Global Critical Minerals Outlook 2026, Outlook).[7]

India's approach before the 2026 strategic framework

Before 2026, India's critical-mineral policy increasingly emphasized diversification and supply security. The government recognized that the challenge extended beyond identifying domestic resources. Exploration required substantial investment and carried geological risk; projects faced long development periods, while processing capacity for several minerals remained geographically concentrated.

[5] Minerals Security Partnership Forum, European Commission, https://policy.trade.ec.europa.eu/help-exporters-and-importers/accessing-markets/raw-materials/minerals-security-partnership-forum_en. Also, see, Questions and Answers on the Minerals Security Partnership Forum, April 5, 2024, https://ec.europa.eu/commission/presscorner/detail/en/qanda_24_1808

[6] Towards 2030: A Joint India–European Union Comprehensive Strategic Agenda, Government of India / European Union, January 27, 2026, https://ec.europa.eu/commission/presscorner/detail/it/statement_26_224

[7] See, "Global Critical Minerals Outlook 2026," https://www.iea.org/reports/global-critical-minerals-outlook-2026.

India consequently pursued domestic and overseas opportunities in parallel. At home, it expanded exploration and auctioned critical-mineral blocks. Abroad, it sought mineral assets and long-term supplies. The National Critical Mineral Mission (NCMM), launched in 2025, set targets of 1,200 domestic exploration projects and the acquisition of 50 overseas mining assets by 2030–31.[8] These are program targets, rather than mines already secured or in production.

Khanij Bidesh India Limited (KABIL) became an important part of this overseas strategy. Its January 2024 agreement in Argentina secured exploration and exclusivity rights over five lithium-brine blocks, with commercial exploitation dependent on discovering and developing viable deposits. The agreement did not itself establish producing mines. KABIL also explored opportunities in Australia and Chile.[9] Alongside overseas sourcing, the NCMM supports processing, recycling, research and stockpiling. The broader objective is to diversify mineral sources while strengthening India's capacity to convert them into usable industrial inputs.[10]

The EU's approach before the 2026 strategic framework

The EU's mineral strategy similarly reflected growing concern about economic security and supply-chain vulnerability. It sought to strengthen domestic capacity while widening its network of international suppliers. Critical raw materials were increasingly treated as essential to green technologies, digital industries, defense, aerospace and industrial competitiveness.

The Critical Raw Materials Act (CRMA), which entered into force in May 2024, established EU-level capacity benchmarks for strategic raw materials by 2030: extraction equivalent to at least 10% of annual EU consumption, processing of at least 40%, and recycling capacity capable of producing at least 25%. It also set a diversification benchmark under which no single non-EU country should supply more than 65% of annual consumption of each strategic raw material at any relevant processing stage. These benchmarks aim to build capacity and reduce dependence, rather than impose an immediate blanket import prohibition.[11]

The Resource EU Action Plan, adopted on December 3, 2025, sought to accelerate this strategy through investment support, joint purchasing, stockpiling and partnerships with resource-rich countries. Its proposals also addressed recycling and the commercial risks facing alternative

[8] National Critical Mineral Mission, Ministry of Mines (Government of India), *Press Information Bureau*, April 09, 2025, https://www.pib.gov.in/Pressreleaseshare.aspx?PRID=2120525. Also see, National Critical Mineral Mission, International Energy Agency policy summary, *International Energy Agency*, April 13, 2026. https://www.iea.org/policies/25735-national-critical-mineral-mission

[9] "India signs agreement for lithium exploration and mining project in Argentina", Government of India, *Press Information Bureau*, January 15, 2024, https://www.pib.gov.in/PressReleaseIframePage.aspx?PRID=1996380; Also, see, "KABIL is exploring opportunities for acquisition of overseas critical minerals assets in Argentina, Australia and Chile, *Press Information Bureau*, July 31, 2024, https://www.pib.gov.in/PressReleasePage.aspx?PRID=2039606

[10] National Critical Mineral Mission. Ministry of Mines, *Press Information Bureau*, April 9, 2025, https://www.pib.gov.in/Pressreleaseshare.aspx?PRID=2120525; IEA policy summary, National Critical Mineral Mission, https://www.iea.org/policies/25735-national-critical-mineral-mission

[11] European Critical Raw Materials Act, European Commission. https://commission.europa.eu/topics/competitiveness/green-deal-industrial-plan/european-critical-raw-materials-act_en

suppliers. The EU's approach thus combined greater domestic capacity with diversified international sourcing.[12]

What the 2026 India–EU framework changes

The Towards 2030 joint comprehensive strategic agenda provides a basis for connecting India's and the EU's previously parallel efforts in production, overseas sourcing, recycling and diversification. Its importance lies in establishing a shared policy direction. The agenda itself creates no financial commitments or legally binding obligations; individual projects still require financing, agreements and implementation.[13]

The agenda's emphasis on secure and diversified critical-mineral supply chains links resource security to industrial cooperation. The Trade and Technology Council (TTC) provides a platform for connecting research, technology and industry with these objectives. A practical next step would be to identify a small number of mineral-specific bottlenecks and match them with joint processing, recycling or investment projects. This would make cooperation more measurable than broad commitments to diversification.

An early example is the €15.2 million joint call for proposals on electric-vehicle battery recycling announced in May 2026 under the TTC. It supports technologies to recover materials including lithium, graphite, and cobalt, alongside collection systems and pilot-scale demonstrations. The initiative is a funded research and innovation call, rather than evidence that commercial recycling capacity has already been delivered.[14]

The framework therefore creates an opportunity to move from parallel diversification towards coordinated mineral value chains. India offers a growing market and an expanding industrial and research base; European partners bring relevant technology, research capabilities and investment. These complementarities will require negotiated arrangements on finance, intellectual property and access to recovered materials. The objective is resilient interdependence supported by viable projects.

What the partnership alone cannot solve

India–EU cooperation can strengthen mineral security, but it cannot remove all supply-chain risks. Mining projects can take years to reach production and face financing, environmental, regulatory and community-related delays. Price volatility can undermine new projects even where strategic demand is strong. The IEA estimates that refining projects outside dominant suppliers face capital

[12] Commission adopts RESourceEU to secure raw materials, reduce dependencies and boost competitiveness. European Commission, December 03, 2025. https://ec.europa.eu/commission/presscorner/api/files/document/print/en/ip_25_2891/IP_25_2891_EN.pdf

[13] "India-EU Joint Statement on the State Visit of H.E. Mr. Antonio Costa, President of the European Council, and H.E. Ms. Ursula von der Leyen, President of the European Commission, to India, and the 16th India-EU Summit, January 25–27, 2026", https://www.consilium.europa.eu/media/2c3jbm5f/eu-india-joint_statement_20260127.pdf

[14] EU and India Launch Major €15.2 Million/~₹169 Crore Joint Initiative to Revolutionize EV Battery Recycling under the India-EU Trade and Technology Council (TTC), May 6, 2026. https://www.eeas.europa.eu/delegations/india/eu-and-india-launch-major-%E2%82%AC152-million%E2%82%B9169-crore-joint-initiative-revolutionize-ev-battery-recycling_en?s=167

costs 20% to more than 150% higher and operating costs averaging around 50% higher.[15] Long-term purchase commitments and appropriate financing may therefore be necessary to make alternative supply commercially viable.

Diversifying mining alone will leave vulnerabilities intact if refining and manufacturing remain concentrated. Joint projects should connect resource access with processing and downstream demand. Cooperation must also offer tangible benefits to resource-rich partner countries through local value addition, skills, infrastructure and responsible environmental practices. Traceability and due diligence are particularly important where mineral trade intersects with armed conflict. Recycling can supplement primary supply, but its contribution depends on collection systems, available waste volumes and recovery economics.

How science and technology policy supports mineral cooperation

Science and technology policy provides a practical bridge between India and the EU by supporting joint research and the development of usable technologies. The bilateral science and technology agreement, renewed until 2030, provides an institutional foundation, while the 2026 strategic agenda give research and innovation greater prominence. For minerals, the test is whether cooperation improves recovery rates, material purity and industrial-scale processing.

The TTC links scientific cooperation to broader economic priorities, including semiconductors, clean energy, advanced materials, and battery recycling. Joint research also covers renewable hydrogen and marine pollution. Within mineral value chains, shared testing facilities, demonstration projects and skills development could help researchers and firms translate laboratory results into production. The battery-recycling call provides a specific opportunity to assess this progression.

Formal negotiations concerning India's association with Horizon Europe began on July 17, 2026, with the stated aim of concluding them by the end of 2026 and enabling India's association from 2027.[16] In early November 2026, the European Commission and India successfully concluded negotiations on India's association with Horizon Europe, the European Union's €93.5 billion research and innovation program. This development marks a significant step in EU–India scientific cooperation, creating new funding opportunities and strengthening research partnerships.[17] The association remains under negotiation, but both sides can proceed with a formal signing once they complete the required procedures. India's association with Horizon Europe is expected in January 2027. The new participation and funding arrangements will not apply until the agreement takes effect. This could expand opportunities for Indian institutions and firms to participate in collaborative research. Clear arrangements on intellectual property,

[15] Global Critical Minerals Outlook 2026, International Energy Agency, 2026. https://www.iea.org/reports/global-critical-minerals-outlook-2026/executive-summary

[16] "International cooperation with India in research and innovation", European Commission, 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

[17] "EU-India: EU and India conclude negotiations on association to Horizon Europe", *Euraxess*, November 06, 2026, https://euraxess.ec.europa.eu/worldwide/india/news/eu-india-eu-and-india-conclude-negotiations-association-horizon-europe. Also, see, "Horizon Europe", European Union, https://research-and-innovation.ec.europa.eu/funding/funding-opportunities/funding-programmes-and-open-calls/horizon-europe_en

technology transfer and commercial use would help translate scientific cooperation into stronger mineral capabilities.

CONCLUSION

The economic security test for India and the EU is whether cooperation reduces excessive dependence while keeping supply affordable and commercially viable. Both had already begun diversifying their mineral supplies; the 2026 framework offers a stronger basis for coordinating those efforts. Implementation should now focus on mineral-specific vulnerability assessments, joint overseas projects, processing partnerships, and expanding recycling beyond pilot scale. Progress should be judged by additional processing capacity, qualified alternative suppliers, and reliable supplies to industry. The €15.2 million recycling call is an initial step. A more resilient industrial ecosystem will depend on converting such initiatives into sustained production and investment.





SWAPNIL KUMARI
Student in the 2026 cohort of the Science, Technology, and Policy Studies program in the Department of Science, Technology, & Policy Studies, School of Language & Literature/Humanities, Nalanda University, Bihar, India.



RAJEEV RANJAN
Student in the 2026 cohort of the Science, Technology, and Policy Studies program in the Department of Science, Technology, & Policy Studies, School of Language & Literature/Humanities, Nalanda University, Bihar, India.



DR. ABHIJIT PODDAR
Associate Professor (Visiting), Department of Science, Technology and Policy Studies, School of Language and Literature/ Humanities, Nalanda University, Bihar, India.

Email: abhi.poddar@nalandauniv.edu.in

The views expressed in this paper are personal.

SOCIETY FOR THE STUDY OF PEACE & CONFLICT
Fostering Ideas· Research and Dialogue...

The Society for the Study of Peace and Conflict (SSPC) is an independent, non-profit, nonpartisan research organization based in New Delhi, dedicated to conduct rigorous and comprehensive research, and work towards disseminating information through commentaries and analyses on a broad spectrum of issues relating to peace, conflict, and human development. SSPC has been registered under the Societies Registration Act (XXI) of 1860. The SSPC came into being as a platform to exchange ideas, to undertake quality research, and to ensure a fruitful dialogue.

Copyright © *Society for the Study of Peace and Conflict, New Delhi*

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means, electronic, mechanical, photocopying, recording, or otherwise, without first obtaining written permission of the copyright owner.

Published by:
Society for the Study of Peace and Conflict.
Post Box: 10560, JNU Old Campus, New Delhi-110067.
https:// sspconline.org
LinkedIn: @sspconline
X (Formerly Twitter): @sspconline
FB: www.facebook.com/sspconline

We welcome your feedback. Email your comments at "sspconline@gmail.com"

Designed and typeset by Excel Solutions, New Delhi.