



Research Article

Reconfiguring India–Germany Defence Cooperation: Strategic Convergence and the Future of Indo-Pacific Security

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Abstract

The rapidly evolving geopolitical landscape, characterised by intensifying great-power competition, technological disruption, and the strategic centrality of the Indo-Pacific, has fundamentally transformed the contours of contemporary defence partnerships. Against this backdrop, India and Germany are increasingly redefining their bilateral defence relationship from a predominantly economic engagement to a comprehensive strategic partnership encompassing defence industrial cooperation, maritime security, emerging technologies, and resilient supply chains. Despite this transformation, existing scholarship continues to focus largely on political and economic relations, offering limited analysis of the strategic drivers, institutional mechanisms, and future trajectory of India–Germany defence cooperation within the broader Indo-Pacific security architecture. Addressing this gap, the present study examines the evolving dynamics of bilateral defence cooperation by integrating the perspectives of Strategic Partnership Theory, Complex Interdependence, Hedging Strategy, and Strategic Autonomy. The study adopts a qualitative and analytical research design based on secondary data drawn from official government documents, defence policy papers, parliamentary reports, strategic think tanks, and recent academic literature published by internationally recognised institutions.

The study finds that converging geopolitical interests, concerns regarding maritime security, diversification of global defence supply chains, technological innovation, and the pursuit of strategic resilience have emerged as the principal drivers of India–Germany defence cooperation. Simultaneously, regulatory constraints, technology transfer restrictions, differing strategic cultures, and institutional limitations continue to impede the realisation of the partnership's full potential. The paper argues that a future-oriented India–Germany defence partnership should prioritise defence industrial collaboration, co-development and co-production of advanced technologies, cybersecurity, artificial intelligence, maritime domain awareness, semiconductor resilience, and structured Indo-Pacific cooperation. It concludes by proposing a comprehensive policy framework to institutionalise long-term strategic dialogue, strengthen defence innovation ecosystems, enhance interoperability, and contribute to a stable, inclusive, and rules-based Indo-Pacific security order.

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1. INTRODUCTION

Engagement and institutional dialogue. A significant milestone in this regard was the visit of India's Defence Minister, Rajnath Singh, to Germany in 2025, where both sides reaffirmed their commitment to strengthening bilateral defence cooperation. The discussions focused on expanding defence industrial collaboration, promoting joint research and development, enhancing military-to-military engagement, and exploring opportunities for co-development and co-production under India's defence manufacturing initiatives. The visit also reflected the broader transformation of India–Germany relations from a predominantly economic partnership to a comprehensive strategic partnership capable of contributing to regional and global security.



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Against this background, the present study seeks to examine how India and Germany can reconfigure their defence partnership to address contemporary geopolitical challenges and contribute to a stable Indo-Pacific order. The central research problem is to understand the extent to which defence industrial synergy between India and Germany can evolve into a sustainable strategic partnership capable of enhancing regional security while simultaneously supporting India's defence indigenization and Germany's expanding Indo-Pacific engagement.

Accordingly, the study is guided by the following research questions: What geopolitical and strategic factors are driving the expansion of India–Germany defence cooperation? How can defence industrial collaboration contribute to technological innovation, defence manufacturing, and supply-chain resilience? What opportunities and challenges influence the future trajectory of bilateral defence relations? Finally, what role can this partnership play in strengthening the security architecture of the Indo-Pacific?

The primary objectives of this research are to analyse the evolving strategic environment shaping India–Germany defence cooperation; examine the scope for defence industrial collaboration, technology transfer, and joint production; evaluate the implications of bilateral defence engagement for Indo-Pacific security; and identify policy measures that can strengthen this emerging strategic partnership in the coming decades.

Despite these positive developments, India–Germany defence cooperation remains considerably underdeveloped when compared with India's strategic partnerships with countries such as the United States, France, or Russia. Existing studies primarily focus on economic relations, trade, climate cooperation, or European Union–India engagement, while relatively limited scholarly attention has been devoted to bilateral defence industrial cooperation, technological collaboration, and their implications for Indo-Pacific security. This gap has become increasingly significant in light of emerging challenges such as strategic competition, defence supply-chain resilience, critical and emerging technologies, cyber threats, and maritime security.

The paper argues that the changing geopolitical landscape, intensified strategic competition, and the growing importance of resilient defence industrial ecosystems have transformed India–Germany defence cooperation from a peripheral bilateral relationship into a strategically significant partnership. By integrating India's manufacturing capabilities and strategic location with Germany's technological excellence and industrial expertise, both countries have the potential to develop a mutually beneficial defence ecosystem that contributes not only to national security and economic resilience but also to a free, open, stable, and rules-based Indo-Pacific order. The study therefore contends that defence industrial synergy should become the central pillar of future India–Germany strategic cooperation, enabling both countries to emerge as credible partners in shaping the evolving regional security architecture.

Theoretical Framework:

A robust theoretical framework is indispensable for understanding the evolving trajectory of India–Germany defence cooperation in an increasingly competitive international system. The transformation of bilateral defence relations cannot be adequately explained through a single theoretical lens. Rather, it requires an integrated analytical approach that combines insights from Strategic Partnership Theory, Complex Interdependence, Hedging Strategy, and Strategic Autonomy. Collectively, these theoretical perspectives explain why India and Germany—despite differing historical experiences, strategic cultures, and alliance commitments—have

progressively expanded defence cooperation in response to emerging geopolitical uncertainties, technological transformations, and the changing balance of power in the Indo-Pacific.

2.1 Strategic Partnership Theory

Strategic Partnership Theory provides the principal analytical foundation for this study. Unlike traditional military alliances, strategic partnerships are characterized by flexible, interest-driven, and issue-specific cooperation among states without legally binding mutual defence obligations. Such partnerships enable countries to pursue common strategic objectives while preserving independent foreign policy choices.

India and Germany represent a classic example of an evolving strategic partnership based on converging geopolitical interests rather than alliance politics. Both countries share a commitment to preserving a rules-based international order, protecting freedom of navigation, strengthening maritime security, and promoting stability in the Indo-Pacific. Their cooperation extends beyond defence diplomacy to encompass defence industrial collaboration, advanced technological innovation, cybersecurity, maritime domain awareness, artificial intelligence, and resilient supply chains.

Strategic Partnership Theory argues that contemporary international politics increasingly favors flexible coalitions instead of rigid alliance structures. As global security challenges become multidimensional—ranging from cyber warfare and critical infrastructure protection to technological competition and supply chain vulnerabilities—states seek partners capable of enhancing strategic resilience rather than merely providing military guarantees.

For India, Germany represents a technologically advanced and politically reliable European partner capable of supporting defence modernization and indigenous manufacturing objectives. For Germany, India serves as a pivotal democratic power in the Indo-Pacific whose growing geopolitical influence contributes to regional stability and diversification of Europe's strategic engagements beyond the Euro-Atlantic theatre.

2.2 Complex Interdependence

The concept of Complex Interdependence, developed by Robert O. Keohane and Joseph S. Nye Jr., offers an important explanation for the multidimensional nature of India–Germany relations. Contrary to realist assumptions that military power dominates international politics, Complex Interdependence emphasizes the growing significance of economic integration, technological cooperation, institutional engagement, and transnational networks.

India and Germany maintain extensive economic, scientific, educational, industrial, and technological interactions that reinforce their strategic relationship. Defence cooperation today is closely interconnected with civilian technological innovation, digital infrastructure, semiconductor production, renewable energy, artificial intelligence, space technology, and cyber security. Consequently, national security increasingly depends upon resilient economic and technological partnerships rather than military capabilities alone.

This theoretical perspective also explains why both countries prioritize institutional dialogue through intergovernmental consultations, defence policy exchanges, industrial partnerships, and joint research initiatives. These multiple channels of interaction reduce strategic uncertainty, enhance mutual confidence, and create long-term mechanisms for policy coordination.

Furthermore, increasing interdependence enables both states to collectively address emerging non-traditional security challenges, including maritime piracy, cyber threats, climate-induced security risks, terrorism, and disruptions to global supply chains.

2.3 Hedging Strategy

Hedging Strategy constitutes another significant theoretical lens for analysing contemporary India–Germany defence cooperation. Hedging refers to a foreign policy strategy through which states simultaneously pursue cooperation, diversification, and strategic balancing under conditions of geopolitical uncertainty, without fully aligning against or with any single great power.

The present international order is characterized by intensifying strategic competition among major powers, particularly between the United States and China. Rather than adopting rigid bloc politics, both India and Germany increasingly pursue diversified strategic engagements that maximize national interests while minimizing strategic vulnerabilities.

India's foreign policy reflects a sophisticated hedging strategy by strengthening defence cooperation with the United States, France, Japan, Australia, Germany, and other European partners while maintaining strategic engagement with multiple global actors. Similarly, Germany seeks to diversify its strategic partnerships in the Indo-Pacific in response to changing global power dynamics, economic dependencies, and regional security concerns.

Within this framework, India–Germany defence cooperation serves as a mechanism for reducing excessive strategic dependence on any single partner, expanding defence-industrial networks, enhancing technological resilience, and strengthening collective capacity to manage regional security challenges without formal alliance commitments.

2.4 Strategic Autonomy

Strategic Autonomy represents one of the most influential concepts shaping contemporary Indian foreign and defence policy and has increasingly gained relevance within European strategic thinking. The concept refers to a state's ability to formulate and implement independent foreign, security, and defence policies based on national interests without undue external influence or alliance constraints.

For India, strategic autonomy remains a guiding principle inherited from its post-independence diplomatic tradition and has evolved into a modern framework supporting multi-alignment, indigenous defence production, technological self-reliance, and diversified strategic partnerships.

Germany's strategic outlook has similarly undergone significant transformation following major geopolitical developments, including the Russia–Ukraine conflict and growing concerns

regarding global strategic competition. Berlin increasingly recognizes the necessity of strengthening European defence capabilities, reducing excessive strategic dependencies, and expanding partnerships with like-minded Indo-Pacific democracies.

The convergence of India's strategic autonomy and Germany's evolving approach to strategic responsibility creates a strong foundation for defence-industrial collaboration, co-development of advanced military technologies, defence innovation, cybersecurity cooperation, and maritime security initiatives. Rather than limiting policy flexibility, bilateral cooperation enhances the strategic independence of both countries by broadening technological capabilities, diversifying defence partnerships, and reducing vulnerabilities arising from excessive dependence on any single external actor.

3. Evolution of India–Germany Defence Relations: From Limited Engagement to Strategic Convergence

The evolution of India–Germany defence relations represents a gradual yet profound transformation from a relationship rooted primarily in economic cooperation to one increasingly shaped by strategic imperatives, defence industrial collaboration, and converging geopolitical interests. Unlike India's defence engagement with traditional security partners such as Russia, France, or the United States, defence cooperation with Germany has evolved cautiously, constrained for decades by Germany's post-Second World War strategic culture and India's historical emphasis on strategic autonomy. Nevertheless, the changing international security environment—marked by China's expanding military footprint, the resurgence of great-power competition, disruptions in global supply chains, and the emergence of the Indo-Pacific as the epicentre of geopolitical rivalry—has fundamentally altered the trajectory of bilateral relations.

Today, India and Germany no longer perceive each other merely as economic partners; rather, they increasingly recognize their roles as indispensable stakeholders in maintaining a stable, rules-based international order. This strategic convergence has transformed defence cooperation from a peripheral aspect of bilateral relations into an important pillar of the broader India–Germany Strategic Partnership.

3.1 The Foundation Phase (1990–2000): Post-Cold War Reorientation

The end of the Cold War and the reunification of Germany in 1990 created new opportunities for redefining bilateral relations. During this period, both countries were primarily focused on domestic transformation. Germany concentrated on European integration and post-reunification economic restructuring, while India embarked upon its economic liberalization following the 1991 balance-of-payments crisis.

Defence cooperation remained limited, largely because Germany's security policy was predominantly Euro-Atlantic in orientation under the framework of NATO, whereas India's strategic attention remained focused on South Asia. Additionally, Germany's restrictive defence export regulations and cautious military diplomacy limited substantive defence engagement with non-allied countries.

India's 1998 nuclear tests further complicated defence interactions. Germany, aligning with the broader European position, expressed concerns regarding nuclear proliferation and temporarily reduced strategic engagement. Despite these political differences, bilateral dialogue did not collapse. Instead, both countries continued diplomatic consultations, recognizing the long-term importance of political engagement. This period therefore established institutional trust rather than operational military cooperation.

3.2 Strategic Expansion (2000–2015): Institutionalizing Defence Cooperation

The first decade of the twenty-first century marked a decisive shift in bilateral relations. Rapid globalization, increasing economic interdependence, and India's emergence as one of the world's fastest-growing economies encouraged Germany to adopt a more pragmatic approach towards strategic cooperation. The establishment of the India–Germany Strategic Partnership in 2000 constituted a major milestone, providing a formal framework for expanding political dialogue, technological cooperation, and defence consultations. Although defence remained secondary to trade and industrial cooperation, both governments initiated regular exchanges between defence ministries, military officials, and strategic think tanks.

During this period, maritime security gradually emerged as an area of mutual concern. Germany increasingly acknowledged India's central role in ensuring stability across the Indian Ocean, particularly in safeguarding Sea Lines of Communication (SLOCs), combating piracy, and protecting global trade routes. Simultaneously, India viewed Germany as an important source of advanced defence technology, engineering expertise, and industrial innovation.

The growing emphasis on defence industrial cooperation reflected complementary comparative advantages. Germany possessed globally competitive capabilities in naval engineering, submarine technologies, precision manufacturing, electronics, and advanced defence systems, whereas India sought technological partnerships supporting indigenous defence modernization under its expanding domestic industrial base.

Although large-scale defence procurement remained limited, the period witnessed expanding military education exchanges, defence policy consultations, and cooperation in multilateral security forums. These developments gradually shifted bilateral defence relations from symbolic diplomacy toward practical institutional engagement.

3.3 Strategic Convergence in an Era of Geopolitical Competition (2015–2026)

The period after 2015 represents the most dynamic phase in India–Germany defence relations. Three interrelated geopolitical developments significantly accelerated strategic convergence.

First, China's growing military assertiveness in the Indo-Pacific fundamentally altered German strategic thinking. The increasing militarization of the South China Sea, challenges to freedom of navigation, and concerns regarding economic

coercion encouraged Germany to diversify its Indo-Pacific partnerships.

Second, India's emphasis on *Atmanirbhar Bharat*, defence indigenization, and strategic autonomy created new opportunities for industrial collaboration based on co-development, technology transfer, and resilient defence supply chains.

Third, Russia's invasion of Ukraine in 2022 reshaped European security priorities. Germany announced its historic *Zeitenwende* ("strategic turning point"), committing unprecedented investments in defence modernization and signalling a more proactive international security role. This transformation significantly expanded the scope for defence cooperation with trusted Indo-Pacific partners, particularly India.

Germany's Indo-Pacific Guidelines (2020) further institutionalized this strategic reorientation by recognizing India as a key security partner in preserving a rules-based maritime order. Since then, bilateral cooperation has increasingly focused on maritime domain awareness, cybersecurity, artificial intelligence, defence innovation, space security, and critical technologies.

High-level political engagement has also intensified. Regular interactions between defence ministers, national security officials, and military leadership have produced greater strategic coherence. The visit of Indian Defence Minister Rajnath Singh to Germany in 2025 symbolized the growing political commitment to expanding defence industrial partnerships, military technology cooperation, and long-term strategic coordination.

3.4 Recent Defence Dialogues:

From Political Consultation to Strategic Coordination

Recent years have witnessed a remarkable expansion in structured defence dialogues. These interactions increasingly emphasize capability development rather than merely confidence-building.

Annual consultations between defence ministries now address emerging domains such as cyber defence, artificial intelligence, resilient supply chains, maritime security, and defence industrial cooperation. Strategic discussions are increasingly linked with broader Indo-Pacific consultations involving foreign ministries, defence establishments, and security experts. The Intergovernmental Consultations (IGC) mechanism has become the highest institutional platform for reviewing strategic cooperation across multiple sectors, including defence and security. Simultaneously, Track 1.5 and Track 2 dialogues involving think tanks and academic institutions have enriched policy discussions on maritime governance, defence innovation, and regional security architecture.

These institutional dialogues demonstrate the gradual normalization of defence cooperation between two democratic powers sharing common interests in preserving regional stability and the rules-based international order.

3.5 Military Diplomacy: Building Confidence Through Professional Engagement

Military diplomacy has emerged as an important confidence-building instrument in bilateral relations. Although India and

Germany do not conduct large-scale bilateral military exercises comparable to India's engagements with France or the United States, interactions between armed forces have steadily expanded

These include senior military exchanges, naval port visits, defence staff consultations, professional military education programmes, observer participation in multinational exercises, and cooperation in humanitarian assistance and disaster relief (HADR). Such activities facilitate interoperability, improve mutual understanding, and promote exchanges of operational best practices.

Naval diplomacy has assumed particular significance because both countries share an interest in ensuring freedom of navigation and protecting maritime trade routes extending from the Indian Ocean to the Indo-Pacific.

3.6 Institutional Mechanisms: The Architecture of Strategic Partnership

The sustainability of India–Germany defence relations increasingly rests upon robust institutional mechanisms rather than episodic political initiatives. The India–Germany Strategic Partnership, Intergovernmental Consultations (IGC), Foreign Office Consultations, Defence Ministry dialogues, Defence Industry Working Groups, military staff talks, and collaborations between strategic think tanks collectively provide a comprehensive institutional architecture.

These mechanisms enable regular policy coordination, facilitate defence industrial cooperation, identify emerging technological opportunities, and ensure continuity despite changes in political leadership. Importantly, they reflect the maturation of bilateral relations from transactional engagement toward an institutionalized strategic partnership capable of addressing the evolving security challenges of the Indo-Pacific and beyond.

4. Drivers of Strategic Convergence:

The strategic convergence between India and Germany has evolved beyond traditional diplomatic engagement into a multidimensional security partnership shaped by profound transformations in the international system. The return of great-power rivalry, the militarization of the Indo-Pacific, disruptions in global supply chains, and the accelerating pace of technological innovation have collectively redefined the strategic priorities of both countries. While India seeks reliable technological partners capable of strengthening its defence industrial base without compromising strategic autonomy, Germany increasingly recognizes India as an indispensable security stakeholder in maintaining a stable and rules-based Indo-Pacific order. Consequently, defence cooperation today is driven not merely by bilateral interests but by converging geopolitical realities and shared strategic calculations.

4.1 Indo-Pacific Security

The Indo-Pacific has emerged as the principal theatre where India and Germany's strategic interests increasingly intersect. Germany's adoption of the Indo-Pacific Guidelines (2020) and its active participation in the European Union's Indo-Pacific strategy signify a major departure from its traditionally Europe-centric security outlook. India, on the other hand, has

consistently viewed the Indo-Pacific as a region defined not by military alliances but by inclusivity, maritime security, respect for sovereignty, and adherence to international law.

A central pillar of this convergence is the shared commitment to the freedom of navigation and overflight in accordance with international maritime law, particularly the provisions of the United Nations Convention on the Law of the Sea (UNCLOS). Both countries recognize that unrestricted maritime mobility is fundamental to global trade, energy security, and economic prosperity. Germany's deployment of the frigate Bayern to the Indo-Pacific in 2021 and subsequent naval engagements with regional partners reflected Berlin's willingness to support the preservation of an open maritime order beyond Europe.

The South China Sea represents another important area of strategic convergence. Although Germany is not a claimant state, it opposes unilateral attempts to alter the maritime status quo through coercion or militarization. India similarly advocates peaceful dispute resolution based on international law while emphasizing the importance of maintaining regional stability. Their alignment on these principles reflects a broader commitment to preserving the rules-based international order without directly entering regional territorial disputes.

Equally significant is the shared concern regarding the security of the Sea Lanes of Communication (SLOCs) stretching from the Indian Ocean through the Malacca Strait to the Western Pacific. Nearly 90 percent of global merchandise trade and a substantial share of Europe's energy imports traverse these maritime corridors. For export-driven economies such as Germany and rapidly growing economies such as India, uninterrupted maritime connectivity is a strategic necessity. This mutual dependence has encouraged greater cooperation in maritime domain awareness, naval diplomacy, anti-piracy operations, and humanitarian assistance and disaster relief (HADR), thereby strengthening their security partnership.

4.2 China Factor

Although neither India nor Germany officially characterizes China as an adversary, Beijing's increasingly assertive geopolitical behaviour has become a significant catalyst for Indo-German strategic convergence.

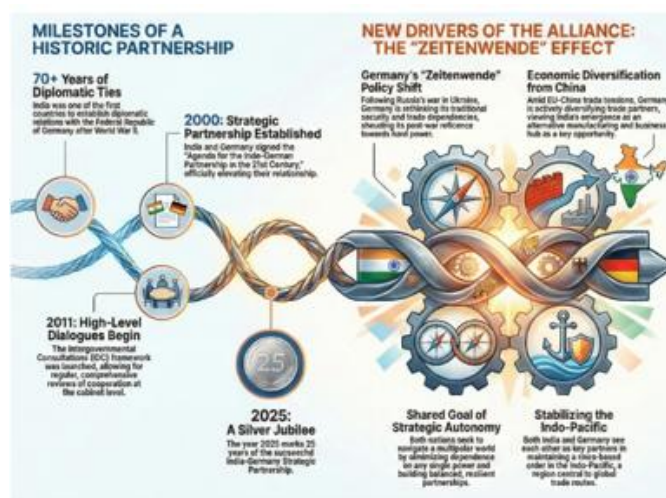
China's rapid naval modernization and expanding blue-water capabilities have altered the maritime balance across the Indo-Pacific. The steady increase in the operational reach of the People's Liberation Army Navy (PLAN), combined with frequent deployments in the Indian Ocean Region, has generated concerns regarding long-term regional stability. India perceives these developments as direct security challenges, while Germany increasingly views them through the broader lens of safeguarding international maritime governance and economic resilience.

The strategic implications of China's "String of Pearls" initiative further reinforce shared security concerns. The development of dual-use port infrastructure extending from the South China Sea to the western Indian Ocean—including facilities in Gwadar, Hambantota, and Djibouti—has expanded China's logistical footprint across critical maritime chokepoints. Although officially framed as commercial investments, these facilities possess clear strategic utility during periods of geopolitical competition. India interprets this expanding network as an attempt to increase Chinese strategic influence in its maritime neighbourhood, whereas Germany views it as part of a wider challenge to the stability of global trade routes.

Beyond conventional military competition, technological rivalry has emerged as an equally important driver. China's dominance in telecommunications infrastructure, rare-earth supply chains, semiconductor manufacturing, and emerging digital technologies has heightened concerns regarding technological dependence. Both India and Germany are therefore pursuing greater diversification of critical technology ecosystems while strengthening cooperation in trusted supply chains, advanced manufacturing, and resilient digital infrastructure.

4.3 Defence Industrial Cooperation

Defence industrial collaboration represents one of the most promising dimensions of Indo-German strategic convergence. Unlike traditional buyer-seller relationships, the emerging partnership increasingly emphasizes co-development, technology transfer, industrial innovation, and long-term manufacturing collaboration.



India's Make in India initiative and the broader vision of Atmanirbhar Bharat seek to transform the country into a globally competitive defence manufacturing hub capable of reducing import dependence while expanding indigenous technological capabilities. Germany's globally recognized expertise in precision engineering, advanced manufacturing, naval systems, aerospace technologies, and defence electronics aligns closely with these national objectives.

German defence industries possess internationally acknowledged strengths in submarine technologies, armoured systems, propulsion engineering, sensors, radar technologies, automation, and advanced materials. Collaborative industrial partnerships offer India opportunities not only to acquire sophisticated technologies but also to develop domestic production capacities through localized manufacturing, skill development, and research collaboration.

Increasing emphasis on joint production rather than conventional procurement reflects a strategic shift in bilateral defence relations. Collaborative manufacturing enables technology absorption, strengthens indigenous industrial ecosystems, creates highly skilled employment, and enhances long-term operational sustainability. Simultaneously, German firms gain access to India's expanding defence market, highly skilled engineering workforce, and competitive manufacturing environment.

An equally important aspect concerns the resilience of global defence supply chains. Recent geopolitical disruptions—including the COVID-19 pandemic and ongoing geopolitical conflicts—have exposed vulnerabilities associated with excessive dependence on geographically concentrated production networks. India and Germany increasingly recognize that diversified, trusted, and transparent supply chains are essential for ensuring long-term strategic resilience. Consequently, industrial cooperation is evolving from commercial engagement into an integral component of national security planning.

4.4 Emerging Technologies

The future trajectory of Indo-German defence cooperation will be increasingly determined by collaboration in disruptive and dual-use technologies that are transforming the character of modern warfare.

Artificial Intelligence (AI) is revolutionizing military decision-making through predictive analytics, autonomous command systems, intelligence processing, logistics optimization, and battlefield awareness. Joint research in trustworthy and ethically governed AI offers opportunities for both countries to enhance defence preparedness while promoting responsible technological innovation.

In the domain of cyber security, the increasing frequency of cyber espionage, ransomware attacks, and critical infrastructure targeting has elevated cyber resilience to the level of national security. India and Germany possess complementary strengths in cyber governance, digital infrastructure protection, encryption technologies, and cyber capacity building, creating substantial opportunities for institutionalized cooperation.

The strategic significance of quantum technologies continues to expand across secure communications, precision navigation,

advanced sensing, and cryptography. Collaborative investment in quantum research can provide both nations with technological advantages while reducing strategic dependence on external suppliers in next-generation computing and secure communications.

Similarly, the growing militarization of outer space has increased the importance of satellite resilience, space situational awareness, secure navigation systems, and satellite-based intelligence. Cooperation between Indian and German scientific and defence institutions can significantly enhance resilience in space-enabled military operations.

Finally, the rapid proliferation of autonomous systems, including unmanned aerial vehicles, unmanned underwater platforms, robotic combat systems, and intelligent surveillance networks, is fundamentally reshaping future military doctrines. By integrating Germany's engineering excellence with India's expanding innovation ecosystem and digital capabilities, both countries are well positioned to establish a technologically advanced defence partnership capable of addressing the strategic challenges of an increasingly contested Indo-Pacific security environment.

5. Challenges to India–Germany Defence Cooperation in an Era of Strategic Competition:

Despite the remarkable transformation of India–Germany defence relations over the past decade, the partnership continues to face several structural, political, technological, and strategic constraints that limit its full potential. While both countries increasingly recognize each other as indispensable partners in preserving a stable Indo-Pacific and strengthening resilient defence supply chains, the pace of cooperation has often lagged behind political rhetoric. These challenges arise not merely from policy differences but from deeply embedded institutional cultures, historical experiences, alliance commitments, and regulatory frameworks.

One of the foremost challenges is the difference in strategic cultures. India's strategic outlook has historically been shaped by the principles of strategic autonomy, non-alignment, and independent decision-making. Even while expanding defence partnerships with countries such as the United States, France, Japan, and Australia, India has consistently avoided formal military alliances. Germany, by contrast, has traditionally operated within the framework of NATO and the broader Euro-Atlantic security architecture. Its defence planning, procurement priorities, and operational doctrines remain closely aligned with alliance commitments. Consequently, while India emphasizes flexible strategic partnerships driven by national interests, Germany often approaches defence cooperation through multilateral institutional mechanisms. These differing strategic philosophies occasionally generate variations in priorities, operational expectations, and long-term planning.

A second major constraint stems from Germany's obligations within NATO and the European Union's Common Security and Defence Policy (CSDP). Following Russia's invasion of Ukraine in 2022, Germany significantly redirected its defence priorities toward European territorial security. Berlin's landmark *Zeitenwende* policy committed unprecedented financial resources to military modernization and reinforcement

of NATO's eastern flank. As a result, German defence industries have increasingly focused on fulfilling domestic military requirements and supporting European security commitments. Although Germany has simultaneously enhanced its Indo-Pacific engagement, finite industrial capacity and competing strategic priorities inevitably constrain the scale of defence collaboration available for extra-European partners, including India.

Another persistent obstacle involves European Union regulations governing defence exports and dual-use technologies. Germany maintains one of the world's most restrictive arms export control regimes, reflecting strong domestic political sensitivity regarding military exports. Licensing procedures require extensive political approval, compliance with EU regulations, human rights assessments, and end-user verification. These rigorous procedures often delay procurement timelines and reduce predictability for long-term defence projects. For India, which increasingly seeks rapid modernization and timely acquisition of advanced military technologies, prolonged approval mechanisms reduce operational efficiency and complicate strategic planning.

Closely linked to export regulations are technology transfer restrictions. India's defence industrial strategy under Atmanirbhar Bharat prioritizes indigenous production, co-development, intellectual property sharing, and domestic manufacturing. German defence firms possess globally competitive expertise in submarine technologies, naval propulsion systems, sensors, advanced engineering, artificial intelligence, and industrial automation. However, concerns regarding intellectual property protection, commercial competitiveness, export licensing, and sensitive technologies often limit the extent of technology transfer. Consequently, several cooperation initiatives remain confined to conventional procurement instead of evolving into genuine joint research, development, and manufacturing partnerships.

Budgetary constraints further influence bilateral defence cooperation. Although both countries have increased defence spending in response to evolving geopolitical tensions, financial priorities remain distinct. India must simultaneously modernize three military services while addressing border security challenges along the northern and western frontiers. Germany, despite creating a €100 billion special defence fund, continues to balance military modernization with extensive social welfare commitments and fiscal discipline. Such budgetary pressures can slow procurement decisions, reduce investment in collaborative research projects, and delay industrial partnerships requiring long-term financial commitments.

Another significant challenge is Germany's complex economic relationship with China. China remains one of Germany's largest trading partners and an essential market for German automotive, manufacturing, and engineering industries. Although Berlin has introduced a policy of "de-risking" rather than complete economic decoupling, substantial commercial dependence continues to shape strategic calculations. India, meanwhile, increasingly perceives China as its principal long-term strategic competitor, particularly following border tensions in eastern Ladakh. This divergence occasionally produces

different threat perceptions and varying levels of urgency regarding Indo-Pacific security initiatives.

The legacy of Germany's historical engagement with Russia also continues to influence strategic policymaking. Decades of energy interdependence and diplomatic engagement created institutional habits that required significant adjustment after the Ukraine conflict. Although Germany has substantially revised its Russia policy, defence resources and political attention remain heavily concentrated on the European security theatre. Consequently, Indo-Pacific initiatives sometimes receive comparatively lower prioritization within Germany's broader strategic agenda.

Finally, political hesitation and domestic public opinion remain influential constraints. German coalition governments often face parliamentary scrutiny regarding defence exports, overseas military engagement, and strategic partnerships. Public opinion has traditionally favoured diplomacy, conflict prevention, and humanitarian engagement over expanded military cooperation. In India, policy continuity has generally been stronger regarding defence modernization; however, bureaucratic procurement procedures and regulatory complexities occasionally slow the implementation of bilateral agreements. These domestic political dynamics can reduce policy momentum despite strong diplomatic intent.

6. Future of India–Germany Defence Cooperation:

The future trajectory of India–Germany defence cooperation will be shaped not merely by conventional military engagements but by the emergence of advanced defence technologies, resilient industrial ecosystems, and the evolving geopolitical architecture of the Indo-Pacific. As global strategic competition increasingly revolves around technological superiority, maritime security, and supply-chain resilience, both countries possess complementary capabilities capable of transforming their bilateral defence relationship into one of the most significant strategic partnerships between Europe and Asia. While India offers geopolitical centrality, military modernization, and a rapidly expanding defence manufacturing base, Germany contributes world-class engineering, defence innovation, industrial excellence, and technological sophistication. Consequently, the future of bilateral defence cooperation is expected to evolve from transactional engagement to a long-term strategic partnership founded upon co-development, co-production, technological innovation, and shared responsibility for regional stability.

One of the most promising areas of future cooperation is joint naval exercises and maritime interoperability. The Indian Ocean has emerged as the principal theatre of global strategic competition, carrying nearly 80 percent of global maritime oil trade and a significant proportion of international commerce. Germany's growing Indo-Pacific engagement, reflected in the deployment of naval assets to the region and participation in multinational maritime exercises, complements India's role as the primary security provider in the Indian Ocean Region (IOR). Regular bilateral and multilateral naval exercises would strengthen interoperability, improve anti-submarine warfare capabilities, enhance humanitarian assistance and disaster relief (HADR) coordination, and reinforce freedom of navigation

consistent with international maritime law. Such cooperation would also support maritime confidence-building measures and contribute to regional stability.

A second strategic pillar lies in submarine technologies and underwater warfare. Germany possesses globally recognized expertise in advanced conventional submarine design, stealth technologies, fuel-cell-based Air Independent Propulsion (AIP) systems, and underwater sensors. India's long-term submarine modernization programme under Project-75(I) and future

indigenous submarine development initiatives provides significant opportunities for industrial collaboration. Beyond platform acquisition, future cooperation should prioritize joint research, technology transfer, indigenous manufacturing, maintenance ecosystems, and collaborative development of underwater autonomous vehicles. Such cooperation would strengthen India's underwater deterrence while enabling Germany to expand its strategic industrial footprint in the Indo-Pacific.



another emerging domain concerns integrated air defence and missile defence systems. Modern warfare increasingly demands multi-layered air defence capable of countering ballistic missiles, cruise missiles, drones, and hypersonic threats. Germany's expertise in advanced radar technologies, electronic warfare, command-and-control architecture, and integrated air defence networks aligns well with India's expanding air defence modernization efforts. Future collaboration may include joint development of surveillance sensors, battlefield management systems, secure communication networks, and integrated command structures that enhance situational awareness across multiple operational domains.

The future partnership will also depend significantly upon Maritime Domain Awareness (MDA). Maritime security today is driven as much by information superiority as by naval capability. India and Germany can jointly develop satellite-based maritime surveillance, artificial intelligence-enabled vessel tracking, underwater sensor networks, and secure information-sharing mechanisms to monitor strategic sea lanes stretching from the Indian Ocean to the Mediterranean. Enhanced MDA cooperation would strengthen responses to piracy, illegal fishing, maritime terrorism, trafficking, and grey-zone activities while supporting regional maritime governance. Artificial Intelligence (AI) is expected to become one of the defining technologies of twenty-first century defence cooperation. Both countries increasingly recognize AI as a force multiplier capable of transforming intelligence analysis, predictive logistics, autonomous systems, cyber defence,

command-and-control, and decision support. Future collaboration should establish joint AI research centres involving governments, defence industries, universities, and technology startups. Collaborative AI innovation would not only improve military effectiveness but also facilitate the development of ethical frameworks governing responsible military applications of AI.

Closely linked to AI is the expanding domain of cyber cooperation. As defence infrastructures become increasingly digitized, cyber resilience has become indispensable to national security. India and Germany can institutionalize regular cyber dialogues, joint cyber exercises, threat intelligence sharing, cyber incident response mechanisms, and collaborative research on quantum-resistant encryption technologies. Such cooperation would strengthen the resilience of critical defence infrastructure against state-sponsored cyber threats and hybrid warfare.

Equally important is collaboration in drone technologies and autonomous systems. Recent conflicts—including the Russia–Ukraine war and Operation Sindoor—have demonstrated that unmanned systems are redefining the conduct of warfare by offering cost-effective precision, persistent surveillance, and distributed combat capabilities. India and Germany possess complementary strengths in software engineering, sensors, robotics, avionics, and precision manufacturing. Future cooperation could include co-development of unmanned aerial vehicles (UAVs), loitering munitions, autonomous maritime systems, counter-drone technologies, and swarm intelligence capable of supporting multi-domain military operations.

Beyond military platforms, semiconductors and supply chain security will become the foundation of future defence cooperation. Advanced defence systems increasingly depend upon secure access to semiconductors, rare-earth materials, precision electronics, and trusted digital infrastructure. India's semiconductor mission and Germany's advanced manufacturing ecosystem provide opportunities to establish resilient defence supply chains that reduce dependence upon vulnerable external suppliers. Such cooperation would contribute to technological sovereignty and strategic resilience for both countries.

Future defence cooperation should also prioritize defence startups, innovation ecosystems, and technology corridors. India's rapidly expanding defence innovation initiatives, including iDEX (Innovations for Defence Excellence), combined with Germany's advanced research institutions, Mittelstand industries, and defence technology companies, create favourable conditions for joint innovation. Bilateral innovation corridors connecting universities, defence

laboratories, startups, venture capital networks, and industrial clusters would accelerate the commercialization of emerging defence technologies while fostering indigenous capability development.

The strategic significance of India–Germany cooperation will further increase through triangular and minilateral partnerships involving like-minded democratic powers. India–Germany–Japan cooperation can strengthen Indo-Pacific infrastructure resilience, maritime connectivity, and advanced technology collaboration. Similarly, India–Germany–France cooperation offers considerable potential in naval security, aerospace technologies, defence manufacturing, and Indian Ocean governance, particularly given France's enduring military presence in the region. At the broader institutional level, expanding India–European Union defence engagement can facilitate greater industrial integration, coordinated maritime initiatives, technology partnerships, and resilient supply-chain frameworks supporting a rules-based international order.

Table 6.1: Emerging Pillars of Future India–Germany Defence Cooperation

Strategic Domain	Future Areas of Cooperation	Expected Strategic Outcomes
Maritime Security	Joint naval exercises, anti-submarine warfare, HADR	Enhanced Indo-Pacific stability and interoperability
Naval Modernization	Submarine technologies, AIP systems, underwater sensors	Stronger underwater deterrence and indigenous capability
Air Defence	Integrated air defence, radar, electronic warfare	Multi-layered protection against emerging aerial threats
Maritime Domain Awareness	Satellite surveillance, information sharing, AI-enabled monitoring	Improved maritime security and real-time situational awareness
Emerging Technologies	Artificial Intelligence, autonomous systems, quantum research	Technological superiority and future battlefield preparedness
Cyber Security	Joint cyber exercises, cyber intelligence, critical infrastructure protection	Greater cyber resilience against hybrid threats
Defence Industry	Defence startups, co-production, innovation corridors	Sustainable defence industrial ecosystem
Strategic Technologies	Semiconductors, trusted supply chains, advanced electronics	Reduced technological dependence and supply-chain resilience
Minilateral Partnerships	India–Germany–Japan, India–Germany–France, India–EU	Broader strategic influence and collective regional security

In conclusion, the future of India–Germany defence cooperation lies in moving beyond conventional defence diplomacy towards a comprehensive strategic partnership rooted in technological innovation, industrial collaboration, and shared geopolitical interests. As the Indo-Pacific becomes the epicentre of global strategic competition, the convergence of India's strategic geography and Germany's technological capabilities presents an opportunity to establish a resilient defence partnership capable of contributing not only to bilateral security but also to regional stability and the preservation of a rules-based international order. Such a partnership would represent a significant evolution in twenty-first-century strategic cooperation, demonstrating how democratic middle powers can jointly shape the future security architecture of the Indo-Pacific.

7. Policy Recommendations: Building a Future-Oriented India–Germany Defence Partnership (2026–2040)

The evolving geopolitical environment, characterized by intensifying great-power competition, technological disruption, and maritime insecurity, demands a deeper and more institutionalized India–Germany defence partnership. As both countries increasingly recognize each other as indispensable strategic partners in the Indo-Pacific and Europe, future cooperation must move beyond transactional defence trade toward a long-term strategic ecosystem based on innovation, interoperability, and industrial resilience. The following ten policy recommendations provide a comprehensive roadmap for strengthening bilateral defence cooperation over the next two decades.

Policy Recommendation	Strategic Objective
1. Institutionalize a 2+2 Defence and Foreign Ministers' Dialogue	Establish an annual ministerial mechanism bringing together Defence and Foreign Ministers of both countries. Such a platform would ensure strategic continuity, faster decision-making, and coordinated responses to emerging regional and global security challenges.
2. Launch an Annual India–Germany Defence Ministers' Dialogue	Create a dedicated high-level defence dialogue focusing on military modernization, Indo-Pacific security, defence industrial cooperation, and implementation of bilateral defence projects. This would provide sustained political direction to military cooperation.
3. Establish an India–Germany Joint Defence Innovation Fund	Create a jointly financed innovation fund supporting research in Artificial Intelligence, autonomous systems, quantum technologies, cyber defence, hypersonic technologies, space security, and next-generation

	military communications. Universities, defence laboratories, startups, and private industries should jointly participate.
4. Develop a Comprehensive Technology Transfer Framework	Move beyond traditional buyer–seller relationships by negotiating a transparent framework for co-development, co-production, intellectual property sharing, licensing, and industrial partnerships. Such a mechanism would complement India's Atmanirbhar Bharat initiative while expanding Germany's trusted defence partnerships in Asia.
5. Expand Bilateral Logistics and Military Mobility Cooperation	Conclude logistics support arrangements covering naval replenishment, maintenance facilities, humanitarian assistance, disaster relief operations, and military mobility. Greater logistical interoperability would significantly improve operational readiness during multinational exercises and regional contingencies.
6. Initiate Regular Joint Naval Patrols and Maritime Domain Awareness Cooperation	Conduct coordinated naval patrols, anti-piracy missions, submarine tracking exercises, and real-time Maritime Domain Awareness (MDA) information sharing across the Indian Ocean. Enhanced naval cooperation would strengthen freedom of navigation, protection of Sea Lines of Communication (SLOCs), and maritime stability.
7. Build a Bilateral Defence Startup and Innovation Ecosystem	Encourage collaboration between India's rapidly growing defence startups and Germany's advanced defence technology firms through accelerator programmes, venture capital partnerships, defence innovation challenges, and joint incubation centres. This would accelerate commercialization of dual-use technologies.
8. Institutionalize Cyber Command and Digital Security Cooperation	Establish regular cooperation between national cyber commands on cyber resilience, cyber threat intelligence, protection of critical military infrastructure, secure communication systems, artificial intelligence governance, and counter-disinformation strategies. Joint cyber exercises should become an annual feature of bilateral defence engagement.
9. Expand Military Education, Officer Exchange, and Strategic Research Networks	Increase exchanges among military academies, staff colleges, war colleges, defence universities, think tanks, and strategic research institutions. Long-term fellowships, faculty exchanges, joint simulation exercises, and collaborative research would cultivate strategic trust and promote doctrinal convergence between future military leaders.
10. Promote Defence Industrial Corridor-to-Corridor Cooperation	Integrate India's Defence Industrial Corridors (Uttar Pradesh and Tamil Nadu) with Germany's advanced defence manufacturing clusters through joint ventures, supply-chain integration, component manufacturing, skill development, and advanced engineering partnerships. Such industrial connectivity would diversify global defence supply chains while enhancing production resilience.

India and Germany possess highly complementary strategic capabilities: India offers a rapidly expanding defence manufacturing ecosystem, a central role in Indo-Pacific security, and one of the world's largest armed forces, while Germany contributes advanced defence technologies, engineering excellence, industrial capacity, and strong institutional frameworks. Transforming this complementarity into a comprehensive strategic defence partnership requires sustained political commitment, institutionalized military engagement, technology-driven industrial cooperation, and long-term strategic vision. If these recommendations are implemented over the coming decade, the India–Germany defence relationship can evolve into one of the most influential middle-power security partnerships of the twenty-first century—strengthening regional stability, reinforcing a rules-based international order, and contributing significantly to the future security architecture of both the Indo-Pacific and Europe.

8. CONCLUSION

The transformation of India–Germany defence cooperation reflects a broader reconfiguration of the global strategic order, where security partnerships are increasingly shaped by technological innovation, resilient defence industrial ecosystems, and shared geopolitical interests rather than traditional alliance structures. As strategic competition intensifies across the Indo-Pacific, both countries have recognised the importance of expanding their partnership beyond economic engagement towards a multidimensional framework encompassing defence manufacturing, maritime security, cyber resilience, artificial intelligence, semiconductor cooperation, and critical technology governance.

This study demonstrates that the growing convergence between India and Germany is driven by complementary strategic objectives. India seeks advanced defence technologies,

industrial modernisation, and diversified strategic partnerships to strengthen its vision of *Atmanirbhar Bharat* and strategic autonomy. Germany, meanwhile, is redefining its Indo-Pacific engagement by enhancing its security presence, reducing excessive dependence on vulnerable supply chains, and deepening cooperation with trusted democratic partners. These shared priorities create a strong foundation for long-term defence collaboration.

However, the partnership continues to face important structural challenges, including differing strategic cultures, restrictive export control regimes, technology transfer limitations, bureaucratic complexities, and the absence of institutional mechanisms capable of translating political commitments into sustained operational outcomes. Addressing these constraints will require greater policy coordination, regulatory harmonisation, and sustained political commitment from both governments.

Looking ahead, India–Germany defence cooperation should evolve towards co-development, co-production, defence innovation ecosystems, joint research in emerging technologies, enhanced maritime domain awareness, and regular strategic dialogues. Institutionalising defence industrial partnerships between public and private sectors, promoting collaboration among start-ups and research institutions, and expanding military education and interoperability will further strengthen bilateral resilience.

Ultimately, a future-oriented India–Germany defence partnership has the potential to emerge as a significant pillar of a free, open, inclusive, and rules-based Indo-Pacific. By combining technological excellence with strategic trust and industrial collaboration, both countries can contribute not only to their national security objectives but also to regional stability, resilient supply chains, and the evolution of a balanced and cooperative international security architecture.

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