



INTERNATIONAL RESEARCH JOURNAL OF HUMANITIES AND INTERDISCIPLINARY STUDIES

(Peer-reviewed, Refereed, Indexed & Open Access Journal)

DOI : 03.2021-11278686

ISSN : 2582-8568

IMPACT FACTOR : 8.428 (SJIF 2026)

BEYOND THE BUYER-SELLER MODEL: REFORMING INDIA-RUSSIA DEFENCE INDUSTRIAL COOPERATION FOR “ATMANIRBHAR BHARAT”

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DOI No. 03.2021-11278686 DOI Link :: <https://doi-ds.org/doi/10.2582/03.2021-11278686>

Abstract:

This article carefully assesses the systematic transformation of the India-Russia defense partnership from an age-old “buyer-seller” relationship towards a joint industrial ecosystem. It specifically synchronizes with the Ministry of Defense’s designation of 2025 as the “Year of Reforms” and the “Decade of Transformation” (2023-2032) and investigates how the organized shifts – explicitly the corporatization of the Ordnance Factory Board (OFB)–revamp tactical purchasing. By scrutinizing the merger of private sector innovation and collaboration in the latest technologies such as Artificial Intelligence, quantum computing, and robotics, this study underlines the transition towards Atmanirbhar Bharat. While systematic challenges such as payment friction and supply chain vulnerabilities remain, the study concludes that a reformed, co-development-led model is indispensable for India’s strategic autonomy and emergence as a global defense manufacturing center. Word count: 4369, excluding references.

Keywords: Atmanirbhar Bharat, Defence Public Sector Undertaking, Corporatization, Russian Original Equipment Manufacturer, Make in India, Quantum Computing, Artificial intelligence.

Introduction:

Though the era of militaristic expansion is over, every nation-state aspires to maintain a strong and effective military to act as a guarantor of security and to counter threats to its national interest.¹ Consequently, to maintain the efficiency and reliability of its military, a state must modernize it from time to time in terms of equipment, force structure, and tactics as technology and techniques evolve to maintain their relevance.² Historically, India relied heavily on imports to meet its defence requirements in the post-independence era.³ Repeated security challenges from neighboring countries have compelled India to transition from an import-dependent military to a modernized one through home-grown production cycles. In the 1980s, India launched the indigenous Guided Missile Development

Programme to acquire self-sufficiency in missile technology.⁴ In order to give impetus to the ongoing and future reforms, it was unanimously decided to observe 2025 as the “year of reforms” in the MoD.⁵ The broader aim of the reforms planned by the defence ministry would be to make the defence acquisition procedures simpler and time-sensitive, ensure deeper collaboration among key stakeholders, break silos, eliminate inefficiencies and optimise utilisation of resources.⁶ The year 2025 as “year of reforms” is a part of the 2023-2032 “decade of transformation” framework. The drivers for the “decade of transformation” which began in year 2023 are the changing character of war, the cumulative presence of five generations of warfare, two-and-a-half front security challenges, and predominant grey zone warfare.⁷ These initiatives aim to transition reforms from episodic events to institutional processes. By simplifying procurement and fostering deeper collaboration, Government of India creates the agility needed to integrate Russian technology into India’s domestic industrial ecosystem. This strategic shift fortifies defense preparedness while enabling “Atmanirbhar Bharat” through joint research and development and private sector participation. Ultimately, this framework ensures that strategic partnerships evolve to meet the changing characteristics of modern technology-driven warfare.

The Legacy of India-Russia Defense Procurement:

Since the Cold War era, defence has been a cornerstone of bilateral cooperation, with the Soviet Union emerging as a major arms supplier to India in the 1960.⁸ Moscow’s willingness to share its technologies and localize production, as evidenced by the establishment of the MiG-21 plant in India in 1962, along with the provision of military hardware following the US embargo in 1965, were the main drivers of the two countries coming together as defence partners.⁹ India’s continuing rise in contemporary global power politics and Russia’s resurgence and foreign policy assertiveness since 2000 have redefined the strength of bilateral relations.¹⁰ Named after the Brahmaputra and Moskva rivers, the BrahMos missile is a symbol of Indo-Russian collaboration, combining Indian propulsion and guidance systems with Russian expertise in missile technologies.¹¹ The growing threat perception has led India, a ‘client’ nation, towards military modernization, and Russia, the ‘seller’ nation, to service the growing defence requirements of India.¹² At the invitation of the Prime Minister of India, Shri Narendra Modi, the President of the Russian Federation, H.E. Mr. Vladimir Putin paid a state visit to India on December 04-05, 2025, for the 23rd India-Russia Annual Summit.¹³ The Leaders welcomed the outcomes of the 22nd Session of the IRIGC-M & MTC held in New Delhi on December 4, 2025.¹⁴ In response to India’s quest for self-reliance, the partnership is currently being reoriented to joint research and development, co-development, and co-production of advanced defence technology and systems.¹⁵

Impact of after Defence Public Sector Undertaking & Ordnance Factory Board corporatization on deals with Russia:

The Ordnance Factory Board (OFB) was largely a manufacturing hub for military hardware indigenization, technology transfer, and maintenance of WWR Capacity.¹⁶ The OFB functions on indents placed by the armed forces for its war wastage and training requirements.¹⁷ The need to bring in a change of mindset was felt as early as in the 1990s, wherein there were complaints relating to poor quality.¹⁸ Corporatization is likely to bring a different organizational culture based on greater accountability and responsibility.¹⁹ The main objective of corporatization was to make domestic defense manufacturing more efficient, accountable, and profit oriented. Defence Secretary Rajesh Kumar Singh has recently emphasized that Atmanirbharta (self-reliance) in defence is crucial for strategic autonomy and for achieving the goal of Viksit Bharat 2047.²⁰ These structural changes directly affected Indian Defence Public Sector Undertakings (DPSUs), which in turn has indirect consequences for major foreign partners like Russia. In 2018, the governments of India and Russia inked an intergovernmental agreement to establish a joint venture (JV) to produce AK-203 rifles in India.²¹ Additionally, at the 20th India-Russia Bilateral Summit in Vladivostok in 2019, an Inter-Governmental agreement to establish (IGA) on Mutual Cooperation in Joint Manufacturing of Spares, Components, Aggregates and other Material related to Russian/Soviet Origin Arms and Defence Equipment' was signed.²² Therefore, the 2019 IGA shifts the focus from simple procurement to "Life-Cycle Support" as it ensures that Indian DPSUs can maintain Russian-origin platforms (like the Su-30MKI or T-90 tanks) throughout their entire operational life without depending on Moscow for every small component. Both Sides agreed to encourage joint manufacturing in India of spare parts, components, aggregates, and other products for the maintenance of Russian-origin arms and defence equipment under the Make-in-India program through the transfer of technology and the setting up of joint ventures to meet the needs of the Indian Armed Forces as well as subsequent export to mutually friendly third countries.²³ Consequently, by localizing the production of spares and components, India is mitigating the risks of global supply chain disruptions, which is particularly relevant in the context of international sanctions or regional conflicts that might otherwise bottleneck the delivery of critical defense parts. The IGA stipulates assurance of orders for a minimum of five years to manufacturing facilities created under the agreement, subject to a reduction in cost, a reduction in the timeframe of supplies, and ensuring progressive indigenization of products in India.²⁴

Realigning with "Atmanirbhar Bharat" :

Since assuming power in 2014, Prime Minister Narendra Modi's government has made a determined attempt to strengthen the Indian arms industry and transform the country's image from the world's largest arms importer to a major exporter of defence equipment.²⁵ To realize this goal, the government has announced many reform majors under the 'Make in India' initiative and the '*Atmanirbhar Bharat Abhiyan*' (Self-reliant India Mission).²⁶ These measures cover virtually every facet of the Indian defence economy, spanning structures, acquisition processes, industrial regulations,

and budgetary provisions.²⁷ Beyond state-owned companies and public sector units, the Ministry of Defence (through agencies such as the DRDO or various DPSUs) collaborates with international partners on specialized joint projects. The biggest JV in the defence domain is BrahMos Aerospace, established in 1998 between the DRDO and a Russian collaborator; its turnover reached INR 33.32 billion (approximately US\$415 million) in 2022-23.²⁸ The “Year of Reforms” (2025) acts as a critical inflection point to move the India-Russia relationship away from its legacy buyer-seller constraints. This realignment is driven by three main pillars.

1. Indigenisation Goals and Procedural Simplification
2. Leveraging Private Sector Innovation and Micro, Small, and Medium Enterprises Participation
3. Case Study: Transitioning to reform-Led Models (BrahMos and AK-203)

India’s defence indigenization mission, supported by the ‘Atmanirbhar Bharat’ vision, aims to reduce reliance on foreign arms imports by fostering a self-sufficient defence ecosystem.²⁹ However, achieving true self-reliance also requires addressing deep-seated technological gaps, strengthening industrial capabilities and expanding the global export footprint.³⁰ The Union Budget 2026-27, announced by the central government on February 01, 2026, places national security at the core of India’s modernisation, self-reliance and innovation priorities.³¹ The Budget gives a strong thrust to *Aatmanirbhar Bharat* (Self-reliant India) by promoting indigenous manufacturing and reducing import dependence.³² One of the successful examples of self-reliant strategy is indigenous development of CBRN reconnaissance vehicle. The primary purpose of a modern Chemical, Biological, Radiological, and Nuclear (CBRN) Reconnaissance Vehicle is to provide battlefield commanders and civil authorities with early warning.³³ For decades, India’s response capability to these threats was limited and heavily import-dependent.³⁴ The successful development and acceptance of the, indigenous 8x8 CBRN Reconnaissance Vehicle marks a significant milestone in India’s ‘Atmanirbhar Bharat’ (Self-reliant India) journey in defence.³⁵ This achievement is underpinned by strategic policies such as Defence Research and Development Organisation’s (DRDO) Development cum Production Partner (DcPP) program, which actively integrates private Indian firms early in the R&D cycle.³⁶ India is now exporting arms, ammunition, and related items to over 85 countries, with 100 Indian firms participating in international arms sales.³⁷ Some of the major items exported include “Dornier-228, 155 mm Advanced Towed Artillery Guns, Brahmos Missiles, Akash Missiles System, Radars, simulators, Mine Protected Vehicles, Armoured Vehicles, PINAKA Rockets & Launchers, Ammunitions, Thermal Imagers, Body Armours, besides Systems, Line Replaceable Units and Parts & components of Avionics and Small Arms.”³⁸ Since the signing of the “Declaration on the India-Russia Strategic Partnership” in October 2000, India-Russia ties have evolved significantly, touching political, security, defence, trade and economy, science and technology, culture, and people-to-people cooperation.³⁹ This collaborative framework ensures a steady pipeline of engines and spare parts that are critical for

maintaining the operational readiness of the Indian Armed Forces. Several defense platforms are also assembled/produced in India such as T-90 tanks and Su-30 MKI aircraft.⁴⁰ India and Russia have agreed to set up joint ventures in India to manufacture spare parts, components, and other products for military hardware and systems originally made or supplied by Russia, including tanks, fighter jets, ships, missiles, and the spare parts needed to maintain them.⁴¹ Moving beyond a basic buyer-seller relationship, defence cooperation now emphasizes mutual innovation and the joint assembly of advanced defence systems. The following weapon platforms illustrate this deepened technological synergy.

Weapon Systems	Description
BrahMos Missile	The BrahMos Cruise Missile System, jointly developed by India's DRDO and Russia's NPO Mashinotroyeniya (NPOM), remains a flagship of India-Russia military-technical collaboration in missile technology.
Sukhoi Su-30MKI	Licensed production of the multi-role fighter aircraft by Hindustan Aeronautics Limited (HAL) in India.
T-90 Tanks	Licensed production of the t-90S Bhishma main battle tank in India.
S-400 Triumph	Procurement of the advanced long-range surface-to-air missile defense system (SAM) by India. This is not jointly produced but is procured.
INS Vikramaditya	Refurbishment and transfer of the former Russian aircraft carrier Admiral Gorshkov to India. Most of India's conventional and nuclear-powered submarines are of Russian origin.
AK-203 Assault Rifles	Production by the Indo-Russia Rifles Private Limited (IRRPL) joint venture in Korwa, India, under the "Make in India" initiative. ⁴²

While DPSUs, the DRDO, and large private companies are the mainstays of India's defence production, they are supported by an ever-growing number of micro, small, and medium enterprises (MSMEs) and startups.⁴³ As of January 2023, 14,000 MSMEs and 329 startups are engaged in defence

production in India.⁴⁴ Through ‘Make in India’ and the ‘Atmanirbhar Bharat’ mission, New Delhi has been working towards diversifying its defence sector and reducing its import dependency for military hardware.⁴⁵ India has relied on Russia for up to 60% of its arms purchases, and Prime Minister Narendra Modi’s government aims to establish joint ventures to develop the country’s domestic industry.⁴⁶ As part of this bilateral plan, state-run defence entities and private defence firms in India will collaborate with Russian original equipment manufacturers.⁴⁷ However, some experts have raised doubts about the feasibility of this arrangement, citing the varying degrees of cooperation required.⁴⁸ Amit Cowshish, a former financial adviser at India’s Ministry of Defence (MoD), suggests that Indian companies could develop products with indigenous designs or in technical collaboration with countries that have both used Russian-origin equipment and have more robust technical capabilities than India.⁴⁹

Technological Synergy in the “Decade of Transformation” :

The exponential growth of technology has made many miracles possible, but it has also made it difficult for people and societies to adapt to these changes.⁵⁰ Artificial Intelligence is now being seen as the harbinger of the next technological era – and it has the potential to redefine international relations in a radically unprecedented manner.⁵¹ India's ambassador to Russia, Vinay Kumar, wrote in a TASS article ahead of an Indian Summit that India and Russia are well-positioned to use artificial intelligence as a force multiplier.⁵² The diplomat noted that the main challenges in implementing AI are its democratization, the creation of unbiased datasets, training and retraining of the workforce, ensuring sufficient computing infrastructure, and developing a robust governance system to address future risks.⁵³ India and Russia have shifted their defence partnership by focusing more on technologies that are still undisciplined, such as quantum computing, artificial intelligence, and robotics. This forward-looking teamwork combines Russia’s efficient expertise in complex algorithms and hardware with India’s software ecosystem. Current initiatives focus on co-developing autonomous systems and unmanned aerial vehicles (UAVs) to modernize the Indian Army into a future-ready technology-enabled force. By integrating AI-driven electronic warfare suites and quantum-secured communications, both nations aim to achieve “revolutionary leaps” in capability, ensuring that their strategic partnership remains relevant in the era of hybrid warfare. On February 18-20, a Russian delegation led by Minister of Digital Development, Communications, and Mass Media Maksut Shadayev participated in the Artificial Intelligence (AI) Impact Summit held by the Indian side in New Delhi.⁵⁴ The remarks on behalf of the Russian Federation emphasized the importance of ensuring the security and trustworthiness of this technology, as well as the need for joint efforts to overcome the digital gap and create conditions for non-discriminatory access to AI resources such as data, computing power, hardware, and software.⁵⁵ The Russian delegation welcomed the final declaration, which enshrines a number of Russia-advanced initiatives aimed at enhancing international cooperation in ensuring the security and necessary level of trust in artificial intelligence, as well as stepping up

consolidated efforts to use AI in science, the economy, and social area to address the challenges of bridging the digital gap and providing states with equal opportunities for developing this technology.⁵⁶ Quantum technology is being prioritized to address the vulnerabilities of digital communication in contested environments. The state visit of President Vladimir Putin on December 4-5, 2025, represents a pivot point in contemporary geopolitics that transcends the standard narrative of ‘transactional diplomacy’. As he put it in the interview, Russia does not “simply sell weapons to India; we share technologies,” a remark that reveals how Moscow now views India as a long-term co-developer rather than a downstream recipient.⁵⁷ The principle of joint development is now extending beyond defence into artificial intelligence, quantum technologies, space systems, nuclear research, and advanced materials.⁵⁸ It represents a move from a transactional relationship to one grounded in shared knowledge creation and scientific confidence.⁵⁹ Quantum computing, which uses subatomic particles for computing instead of standard binary bits, is poised to be the next great technological leap.⁶⁰ India’s National Quantum Mission, supported by significant public investment, aims to build national capacity in quantum communication, quantum computing and advanced materials.⁶¹ Russia already possesses strong foundations in quantum physics and superconducting materials.⁶² Joint projects could include Quantum Key Distribution satellites, secure post-quantum communication protocols, shared quantum laboratories and hardware accelerators for high-performance computing.⁶³ The development of Unmanned-aerial (UAVs), ground (UGVs), and underwater vehicles, shifting the burden of high-risk missions from human personnel to autonomous platforms. These systems are designed for persistence and precision, providing real-time intelligence and striking capabilities. When integrated with Artificial Intelligence, these unmanned platforms can operate in “swarms,” overwhelming enemy defences through coordinated, decentralized manoeuvres. If India desires to be a leading technological power, it is imperative that it invest in necessary research and development.⁶⁴ Significant collaboration in this sector will allow India to access the cutting-edge infrastructure necessary to indigenously develop this technology, while providing Russia with ready market access for any quantum technologies it may develop in the future.⁶⁵ While high-tech defence collaboration between India and Russia has thus far focused on conventional weapons such as fighter planes and missiles, a greater emphasis on AI and robotics will help extend the military relationship into the future.⁶⁶ The future roadmap emphasizes a “Civil-Military Fusion” approach, where academic research and private-sector innovation are harmonized to accelerate the deployment of these technologies. This synergy ensures that the India-Russia partnership moves beyond simple procurement into a high-tech collaborative era, defining the future of sovereign defence capabilities.

Structural & Procedural Challenges:

The Stockholm International Peace Research Institute (SIPRI) once observed that India’s production cost of aircraft like the HJT-16 basic trainer, MiG-21, HF-24 and Gnat fighters, Alouette

helicopter, and HS-748 transports were 150 to 190 percent of the cost of similar aircraft that India could have imported.⁶⁷ If the growing cost of modern weapons is an inhibiting factor, the forces of globalization in the post-Cold War era have not helped, either.⁶⁸ To tide over the growing cost of modern arms, the global defence industry has undergone “significant changes,” entailing “an increasing level of cooperation between defence firms, involving co-production/ development, partnerships, mergers and acquisitions, and joint ventures.”⁶⁹ India too, has attempted with limited success, to open its arms industry to foreign companies while encouraging domestic enterprises to seek partnerships with global original equipment manufacturers (OEMs), including through the offset guidelines of the Ministry of Defence’s (MoD) arms procurement manual.⁷⁰ While the shift of India-Russia relations towards co-development model looks promising, many hurdles remain firm. Ambitious plans such as the “Decade of Transformation” will be successful only when policymakers move past the barriers of structural and procedural nature. The primary barriers are budgetary limitations and the need to maintain pace with changing technologies. Moreover, streamlined coordination between different ministries remains important to ensure that local institutional reforms effectively harmonize with India’s foreign defence partnerships. When we go through the current defense budget expenditure, it shows that a substantial amount is consumed by revenue expenditure, mainly for the maintenance of age-old Russian platforms, leaving a very small window for capital accession. To encourage long-term joint ventures, India must create a multi-year, non-lapsable defence fund. Such a highly essential reform is very important to ensure that the financial volatility of the global level does not disrupt the modernization timelines of critical partnerships. The lack of a “single-window clearance” mechanism results in “departmental silos,” causing significant delays in processing important files. The lineup of these ministries is crucial for maintaining the “strategic timing” of bilateral defense contracts and ensuring that domestic policy aligns with geopolitical commitments. As India moves towards joint production, legal handling must align to handle complex Intellectual Property Rights (IPR) and international contract management. The ongoing global geopolitical climate, characterized by regimes such as CAATSA and SWIFT restrictions, has exposed the vulnerabilities of the defence supply chain. As long as Indian platforms rely on “third-party components” sourced globally, the “Amanirbhar Bharat” objectives remain at risk. Mitigating these procedural threats requires a complete “localization of the Supply Chain,” ensuring that spare parts and sub-systems are manufactured within the domestic industrial base to bypass external sanctions.

Strategic Foresight: The Future Roadmap:

India and Russia are working more closely together on defense. Instead of merely purchasing equipment from each other, they are joining forces to create tools and technology. Experts say that between 2023 and 2032, Russia should work with India. Russia has great technological ideas, and India is good at making things. This partnership goes beyond meeting the internal needs. It aims to make

India a global center for producing and maintaining Russian-origin platforms. This could also help friendly third-party countries. To plan for the future, we must collaborate rather than simply buy and sell. This is crucial for underwater operations, hypersonic missiles, and advanced fighter aircraft. We also need to make quick decisions and allow experts to lead to avoid lengthy processes in the future. By using key logistics routes, such as the Northern Sea Route and the International North-South Transport Corridor, both countries can protect their defense supply chains from external political pressures. This updated roadmap ensures that the “Special and Privileged Strategic Partnership” is key to a world with multiple influences. This helps India maintain its long-term independence and supports regional stability. Russia and India can work together to help each other. Russia has good science and factories, and India is very good at making things and using computers. Together, they can create new opportunities for growth. Historically, the relationship between Russia and India followed a simple “buyer-seller” model. Russia provided advanced technology, which India used. The “Decade of Transformation” plan calls for a change. Both countries need to work together more equally, using their unique strengths to become self-reliant. Russia is proficient in developing new technologies, especially in fields such as airplanes and power systems. India is great at making things quickly and at a low cost, and it has strong computer skills to do so. If they work together, they can create cool new technologies using Russia’s hardware skills and India’s software skills. This collaboration not only secures India’s defense supply chain but also positions the country as a global maintenance and export hub for Russian-origin weapons systems. Ultimately, this structural alignment transforms a bilateral dependency into a co-dependent industrial powerhouse, ensuring that both nations remain competitive in an increasingly fragmented global defense market. Russia is helping India by sharing important technologies that other countries keep to themselves. This helps India create its own powerful tools, such as nuclear engines and missiles, so it does not have to rely on others. In this way, India can better handle competition with other large countries. To ensure that plans turn into real actions, it is important for leaders from India and Russia to talk regularly. This will help them work together on defense and keep up with what is happening in the world. However, for the “Decade of Transformation” to succeed, these joint mechanisms must evolve from periodic summits into “action-oriented” technical bodies. The IRIGC-M&MTC will involve technical experts and private-sector leaders to accelerate decision-making in military cooperation. A single-window clearance system for joint ventures will allow teams to replicate projects such as BrahMos in aerospace and undersea areas. By creating a monitoring unit to strengthen the supply chain, both countries can ensure that their reforms lead to real industrial results and secure strong partnerships.

Policy Recommendations for Sustaining the "Decade of Transformation"

Focus Area	Strategic Recommendation
Fiscal Reforms	Establish a Non-lapsable Defence Modernization Fund to ensure that high-tech R&D in AI and Quantum computing is not interrupted by annual budgetary Cycles
Institutional Agility	Create a "Single-Window Technical Cell" within the Department of Military Affairs (DMA) to streamline the approval process for Joint Ventures (JVs) with Russian OEMs.
Supply Chain Resilience	Provide incentives for "Localization of Sub-systems" by providing tax benefits and create suitable and easy structure to Indian MSMEs that provide critical spare parts for Russian-origin platforms under the Atmanirbhar Bharat Initiative.
Legal Frameworks	Draft a specialized Intellectual Property Rights (IPR) Protocol for co-developed technologies to ensure clear ownership and export rights for future global sales.
Logistics Integration	Co-opt the International North-South Transport Corridor (INSTC) into the defense logistics core to reduce dependency on traditional maritime routes are susceptible to geopolitical tensions.

Conclusion:

The transition of India-Russia defence cooperation exemplifies to the world the retreat from import dependency from the Indian side towards a strategic partnership that is going through the phase of technological co-dependence. This article clearly demonstrates that the “year of reforms” (2025) and the framework of “Decade of Transformation” is not just verbal statements; they show the core

restructuring of India's defence industrial platform. The transition of India-Russia's Soviet-era "buyer-seller" paradigm to a model of "Strategic co-innovators" is the most important event in their bilateral relations. To sustain this momentum, India must continue to address the identified structural bottlenecks, particularly in procurement agility and fiscal management. The harmonization of Russia's advanced R&D with India's manufacturing scale under Atmanirbhar Bharat offers a unique blueprint for strategic autonomy in a fragmented and multipolar world. As global supply chains remain vulnerable to geopolitical disruptions, a resilient, localized defense ecosystem co-developed with Moscow ensures that India remains a self-reliant power pole. These reforms align with the official guidelines from the Ministry of Defense and important Joint Statements. This supports the move towards a shared defense system.

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