



India-Russia Defense Partnership: New Challenges and Future Prospects

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Abstract: The India-Russia strategic partnership has been characterized by a longstanding and mutually beneficial defence relationship that has spanned over fifty years. This partnership has witnessed a notable shift from a buyer-seller dynamic to joint development and production of cutting-edge weaponry. Consequently, a significant portion of India's defence arsenal is comprised of Soviet/Russian weapons systems. However, as India aims to diversify its sources of arms imports and promote greater self-reliance in defence production, Russia's prominent position in India's defence considerations is diminishing. Moreover, recent challenges stemming primarily from the Ukraine conflict have cast a shadow over this defence relationship.

The focus is increasingly shifting towards how both countries can navigate practical and perceptual issues in their partnership. Furthermore, the exclusivity that India once enjoyed as the sole recipient of state-of-the-art Russian defence technology in its region, giving it a qualitative advantage over its adversaries, has been diluted with Russia now supplying advanced weaponry to China. Consequently, the Indo-Russian defence partnership is currently facing a significant test.

This article critically examines and analyzes the ongoing trends in the India-Russia defence relationship and explores the implications arising from these developments. It seeks to shed light on the evolving dynamics and challenges that both countries must address in order to sustain and strengthen their defence partnership.

Keywords: India-Russia relations, defense cooperation, arms trade, sanctions

The defence relationship between India and Russia stands as a cornerstone of their strategic partnership, representing a resilient and longstanding bond between the two nations. This relationship, often described as the "backbone" of bilateral ties, has endured for over half a century, characterized by continuous defence collaboration (Raghavan 2020). Notably, this collaboration has witnessed a significant shift from a traditional buyer-seller dynamic to joint development and production of

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state-of-the-art weapons, while respecting India's robust intellectual property rights (IPR) record (Saran 2018). As a result, Soviet/Russian weapons systems have come to dominate India's defence portfolio¹, although India has also pursued diversification in its weapons imports and emphasized greater indigenization².

The defence partnership has proven to be mutually beneficial, with Russian weapons and technology enhancing India's defence manufacturing capabilities while Indian orders have served as an innovation stimulus for Russia's military-industrial complex³. This robust defence relationship has fostered a deep sense of mutual trust, goodwill, and familiarity between Indians and Russians, contributing to a positive image of each other within both societies⁴. Moreover, it has, arguably, played a significant role in shaping India and Russia's shared sensitivity towards each other's core concerns⁵. The signing of a 10-year military technical cooperation agreement in December 2021, despite American sanctions, underscores India's continued emphasis on the defence partnership with Russia⁶. Similarly, Russia's refusal to yield to Chinese pressure and stop supplying India with defence equipment during the 2020 India-China border standoff in Galwan reflects a similar sentiment⁷.

Nevertheless, the current challenges primarily associated with the ongoing conflict in Ukraine have significantly impacted the strength of this defense partnership. This comprises the imminent risk of stricter Western sanctions imposed on nations involved in defense-related transactions with Russia⁸. Likewise, concerns are mounting

¹ Chaudhury D. 2020. More than 60-70% of India armed forces equipped with Russian origin weapons: Indian envoy. *The Economic Times*. URL: <https://economictimes.indiatimes.com/news/defence/more-than-60-70-of-india-armed-forces-equipped-with-russian-origin-weapons-indian-envoy/articleshow/76903811.cms> (accessed 21.04.2023).

² Ghoshal D., Ahmed A. 2022. India, world's biggest buyer of Russian arms, looks to diversify suppliers. *Reuters*. 22 November. URL: <https://www.reuters.com/world/india/india-worlds-biggest-buyer-russian-arms-looks-diversify-suppliers-2022-05-18/> (accessed 21.04.2023).

³ Makienko K. 2015. Military-technical cooperation between India and Russia: Time for radical solutions in Fets K., Unnikrishnan N., Kamalakaran A., Krovvidi E., Pasi R., Zubacheva K., *A New Era: India-Russia Ties in the 21st Century*. Russia Beyond the Headlines. Moscow.

⁴ Purushottam S. 2010. President Medvedev's Visit to India: Fresh Directions for Indo-Russian Partnership in the 21st Century. MP-IDSA. URL: https://idsa.in/idsacomments/PresidentMedvedevsVisittoIndia_spurushottam_201210 (accessed 21.04.2023); Ambassador thanks TASS for 'very good' factual coverage of India-Russia relations. TASS. 1 November 2021. URL: <https://tass.com/world/1356835> (accessed: 21.04.2023).

⁵ Parthasarathy G. 2022. India, too, has an all-weather friend. *Businessline*. 12 October. URL: <https://www.thehindubusinessline.com/opinion/columns/g-parthasarathy/india-too-has-an-all-weather-friend/article29452072.ece> (accessed 21.04.2023).

⁶ *India-Russia Joint Statement following the visit of the President of the Russian Federation*. Ministry of External Affairs, Government of India. 2021. 06 December. URL: https://mea.gov.in/bilateral-documents.htm?dtl/34606/India_Russia_Joint_Statement_following_the_visit_of_the_President_of_the_Russian_Federation (accessed 21.04.2023)

⁷ Mohan G. 2020. Chinese government mouthpiece People's Daily urges Russia not to sell arms to India. *India Today*. 23 June. URL: <https://www.indiatoday.in/world/story/chinese-government-mouthpiece-people-s-daily-urges-russia-not-to-sell-arms-to-india-1691982-2020-06-23> (accessed: 21.04.2023); Tiwari P. 2020. Rajnath Singh Calls His Moscow Visit Special, says India-Russia Enjoy Privileged Strategic Partnership. *Zee News*. 23 June. URL: <https://zeenews.india.com/india/rajnath-singh-calls-his-moscow-visitspecial-says-india-russia-enjoy-privileged-strategic-partnership-2291588.html> (accessed 21.04.2023)

⁸ Countering America's Adversaries Through Sanctions Act-Related Sanctions. 2022. *U.S. Department of the Treasury*. URL: <https://home.treasury.gov/policy-issues/financial-sanctions/sanctions-programs-and-country-information/countering-americas-adversaries-through-sanctions-act-related-sanctions> (accessed: 21.04.2023)

regarding the Kremlin's capacity to fulfill its obligations towards its defense partners while concurrently addressing its own urgent military demands in Ukraine⁹. These dynamics have the potential to directly impact India's operational readiness. To add to the complexity matrix is the perceived chinks in Russia's armour on account of the performance of some of Russian weaponry in the ongoing conflict, particularly the large stockpile of Soviet era weapons comprising T-72 and T-90 battle tanks, MBRLs and BMPs apart from precision-guided munition and air-defence capabilities¹⁰. Due to the critical role that some of these platforms play in India's military arsenal, there have been calls in certain circles to reevaluate the inclusion of Russian weapons in India's deterrence strategy.¹¹ Nevertheless, the pressing need of the hour is an objective analysis of the performance of Russian weapons amidst the overhang of information warfare.

Meanwhile, the exclusivity of India being the sole recipient of state-of-art Russian defence technology in India's neighbourhood which gave India a qualitative edge over its rivals too has been diluted amidst Russia now rearming China which inevitably increases India's security dilemma. This exclusivity was evident in Russia's exports of SU-30 MKI to India vis-à-vis the exports of SU-30 MKK/MK2 to China with the former being fitted with more advanced technology despite both aircrafts being on identical mainframes. Today, Russia is exporting S-400s to both India and China.

Indeed, as India places increased emphasis on indigenisation efforts alongside its ongoing diversification of the overall import basket, the Indo-Russian defence partnership, which has demonstrated resilience in the face of numerous challenges in the past, now encounters its most formidable trial.

Against the backdrop of these developments, this article aims to address the following inquiries: What is the prospective trajectory of the Indo-Russian defense partnership following the conclusion of the conflict in Ukraine? How should the performance of Russian weaponry on the Ukrainian battlefield be interpreted? What impact will Western sanctions have on existing and future defense agreements between India and Russia? Will Russia be capable of fulfilling its commitments amidst distractions caused by the situation in Ukraine? Is there a possibility of reassessment in India regarding the effectiveness of Russian weapons due to Russia's perceived reputational damage resulting from their performance in Ukraine? Will the ongoing import diversification by India and Russia's arms sales to China diminish the significance of the strategic partnership between India and Russia? How do the alternative platforms for Russian weapons compare in terms of their capabilities?

⁹ Bedi R. 2022. Russia Invading Ukraine Will Have a Domino Effect on India's Arms Deals. *The Wire*. 16 December. URL: <https://thewire.in/security/russia-invading-ukraine-will-have-a-domino-effect-on-indias-arms-deals> (accessed 21.04.2023).

¹⁰ Davydenko D., Khvostova M., Lymar O. 2022. Lessons for the West: Russia's military failures in Ukraine. *ECFR*. 11 August. URL: <https://ecfr.eu/article/lessons-for-the-west-russias-military-failures-in-ukraine/> (accessed 21.04.2023).

¹¹ Bedi R. 2022. To Maintain a Prepared Military, India Will Have to Find a Way Around Sanctions on Russia. *The Wire*. 19 December. URL: <https://thewire.in/security/india-russia-military-procurement-sanctions> (accessed 21.04.2023).

This article adopts a qualitative deductive study approach, employing an inference model as the theoretical framework for analysis. By dividing the text into various thematic sections, it facilitates a comprehensive examination of the aforementioned research questions. In addition to an extensive review of existing literature, the study incorporates the perspectives and insights of practitioners from both military and diplomatic backgrounds. This methodological approach enables a more in-depth exploration and inference of the short-term, medium-term, and long-term implications arising from the emerging situation. The inclusion of diverse sources and perspectives enhances the robustness and credibility of the study's findings.

The central argument of this article is that the evolving global and regional dynamics have the potential to impact the traditionally strong Indo-Russian defense partnership. The perspective of neo-realists, exemplified by Kenneth Waltz (1979, 1993, 2000), posits that in an anarchical international system characterized by uncertainty, states prioritize self-help measures to enhance their security and survival. Consequently, states tend to pursue indigenous arms production as a means to bolster their security, and India is no exception to this trend (Subrahmanyam, 2000).

Additionally, Krause (1992) outlines the rationale and logic behind defense relationships, considering them as instruments of state policy. From the perspective of arms-producing nations, arms exports serve multiple purposes, encompassing strategic, political, and economic interests. By being a provider of security through arms exports, a nation can enhance its global image and expand its presence in regions that might otherwise be peripheral to its priorities. Moreover, arms sales generate revenue, contributing to economic gains, while also reducing the unit cost of production through export orders. Furthermore, customized requirements from importing nations often serve as catalysts, driving manufacturers to push the boundaries of their technological capabilities, subsequently integrating these advancements into their domestic defense ecosystem.

Likewise, when a state engages in the import of weapons, it not only enhances its security capabilities but also gains the opportunity to forge stronger ties with a technologically superior exporter by leveraging its market position. This strategic advantage can be instrumental in balancing against potential adversaries. As the defense partnership progresses, the importing state is likely to seek access to weapons technology, aiming to foster self-reliance in defense manufacturing. Consequently, the sale of weapons often establishes a positive and enduring working relationship between the seller and the recipient, leading to what is commonly referred to as a lock-in scenario.

Neuman (1987) emphasizes how trust developed over time encourages both buyers and sellers to explore opportunities for joint development and production. This approach serves as a risk-mitigation strategy while also enabling sellers to maintain relevance in the arms market of buyer states, thereby overcoming the occasional interchangeable nature of weapons trade. However, states that rely on weapons imports also

exhibit caution regarding the potential risks of overdependence on a single supplier. The cohesion within a defense partnership may also be jeopardized if the weapons supplier fails to meet the evolving defense requirements of the importing state.

Within this context, an increasing body of literature is emerging that suggests Russia may no longer possess its former strength in weapons manufacturing, largely due to perceived setbacks in the ongoing conflict in Ukraine.¹² Consequently, some voices are advocating for a reassessment of dependence on Russian weaponry.

However, despite these discussions, the India-Russia defense partnership continues to play a vital role in strengthening their overall strategic relationship. In response to the evolving complexities, numerous Indian and Russian scholars argue that it is crucial to adopt innovative and unconventional approaches¹³. This may involve insulating the partnership from the respective countries' engagements with third parties, while also acknowledging the reality that Russia will remain a significant, albeit not the primary, defense partner for India. This perspective underscores the need for adaptability and flexibility in navigating the shifting dynamics of the defense partnership.

The India-Russia partnership has consistently remained a key element in the foreign policy considerations of both New Delhi and Moscow. This enduring alliance persists even as both countries have pursued a multi-vectored foreign policy approach, enabling them to explore new partnerships and exercise a broader range of choices. However, any significant divergence in the Indo-Russian relationship could have implications for the strategic autonomy and maneuverability of both nations.

Notably, a growing drift in the India-Russia partnership, coupled with Russia's ongoing confrontations with Western powers, could potentially lead to increased reliance on China by the Kremlin. This shift in alliances has the potential to disrupt the balance of power in Asia, which would inevitably complicate India's geopolitical land-

¹² Stecklow S., Villars D., Tamman M. 2022. The supply chain that keeps tech flowing to Russia. *Reuters*. 13 December. URL: <https://www.reuters.com/investigates/special-report/ukraine-crisis-russia-tech-middlemen/> (accessed 21.04.2023).

¹³ Chenoy A. 2022. Russia-India Relations in a Transformative World Order. *Valdai Discussion Club*. 20 July. URL: <https://valdaiclub.com/a/highlights/russia-india-relations-in-a-transformative-world/> (accessed 21.04.2023); Bhadrakumar M.K. 2022. Modi ignores West's sanctions on Russia. *Indian Punchline*. 17 December. URL: <https://www.indianpunchline.com/modi-ignores-west-s-sanctions-on-russia/> (accessed 21.04.2023); Sibal K. 2022. Why India must not join the West in demonising Russia. *India Narrative*. 11 September. URL: <https://www.indianarrative.com/opinion-news/why-india-must-not-join-the-west-in-demonising-russia-48224.html> (accessed 21.04.2023); Saran P. 2022. Ukraine: Peacemaker India? Jaishankar's Moscow visit was crucial. New Delhi seems more ready to facilitate dialogue. *The Times of India*. 19 November. URL: <https://timesofindia.indiatimes.com/blogs/toi-edit-page/ukraine-peacemaker-india-jaishankars-moscow-visit-was-crucial-new-delhi-seems-more-ready-to-facilitate-dialogue/> (accessed 21.04.2023); Kupriyanov A. 2022. India's Foreign Policy Dilemmas: Protecting National Interests. *Valdai Discussion Club*. 02 November. URL: https://valdaiclub.com/a/highlights/india-s-foreign-policy-dilemmas/?sphrase_id=1443161 (accessed 21.04.2023); Kortunov A. 2022. India likely to stay neutral over Ukraine in defiance of US pressure — analyst. *Tass*. 12 April. URL: <https://tass.com/world/1436651> (accessed 21.04.2023); Borisov T. 2021. Russia-India: Military and Technical Cooperation in the World After COVID-19'. *Centre for Analysis of Strategies and Technologies*. URL: <http://cast.ru/eng/comments/russia-india-military-and-technical-cooperation-in-the-world-after-covid-19.html> (accessed 21.04.2023); Trenin D. 2022. Carnegie Connects: Understanding Putin and Ukraine With Dmitri Trenin'. *Carnegie Endowment*. 22 February. URL: <https://carnegieendowment.org/2022/02/22/carnegie-connects-understanding-putin-and-ukraine-with-dmitri-trenin-event-7820> (accessed 21.04.2023).

scape. The evolving dynamics in the region would require India to navigate a more intricate strategic environment, considering the broader implications of a potential realignment between Russia and China.

Evolution of defence ties

Over the past decade, there has been a notable shift in the nature of the defense partnership between India and Russia. The focus has shifted towards technology transfer, joint production, and development, rather than solely relying on off-the-shelf purchases¹⁴. This change aligns with Russia's extensive military modernization program launched during the same period. Additionally, efforts have been made to address structural challenges, including the issue of spare parts availability¹⁵.

The outcomes of these endeavors have been mixed. Positive results have been observed in projects such as the expansion of the range of BrahMos missiles and their integration with India's frontline Sukhoi SU-30 MKI aircraft, enhancing their lethality¹⁶. Furthermore, the production of AK-203 rifles in Amethi, which aims to promote small arms manufacturing in India, is anticipated to commence soon. These rifles are expected to become the standard weapons for a significant portion of the Indian army.¹⁷ In a similar vein, Russian assistance played a crucial role in the development of India's indigenous nuclear-powered ballistic missile submarine, Arihant, further bolstering India's nuclear deterrence capabilities¹⁸. Notably, Indian naval personnel gained valuable operational experience through their involvement with INS Chakra, an Akula-class nuclear-powered submarine leased from Russia in 2012, which prepared them for the operation of Arihant¹⁹.

¹⁴ Interview of Ambassador with TASS. 2021. *Embassy of India in Moscow*. 01 November. URL: <https://indianembassy-moscow.gov.in/ambassador-interviews-01-11-2021-1.php> (accessed: 21.04.2023); Pubby M. 2018. Russia offers to jointly design, build submarines. *The Economic Times*. 06 July. URL: <https://economictimes.indiatimes.com/news/defence/russia-offers-to-jointly-design-build-submarines/articleshow/64877908.cms> (accessed 21.04.2023).

¹⁵ India to Manufacture Spare Parts, Components for Russian Defence Equipment. 2019. *Live Mint*. 16 September. URL: <https://www.livemint.com/news/india/india-to-manufacture-spare-parts-components-for-russian-defence-equipment-1567608077013.html> (accessed: 21.04.2023); Trubnikov V. 2016. The Risks of Reducing Cooperation with India Can be Minimized if Russia Works Towards Improving its Competitiveness. *The Russian International Affairs Council (RIAC)*. 28 March. <https://russiancouncil.ru/en/analytics-and-comments/comments/the-risks-of-reducing-cooperation-with-india-can-be-minimize/> (accessed 21.04.2023).

¹⁶ IAF test-fires extended range BrahMos cruise missile from SU-30MKI. 2023. *The Hindu*. 29 December. URL: <https://www.thehindu.com/news/national/iaf-test-fires-extended-range-brahmos-cruise-missile-from-su-30mki/article66317299.ece> (accessed 21.04.2023)

¹⁷ Chinoy S. Behera L. 2019. AK-203: A Boost for the Army and Make in India. *MP-IDSA*. 11 March. URL: https://idsa.in/idsa-comments/ak-203-make-in-india_chinoy-lkbehera-110319 (accessed 21.04.2023)

¹⁸ Raghuvanshi V. 2019. India signs \$3 billion contract with Russia for lease of a nuclear submarine. *Defense News*. 8 March. URL: <https://www.defensenews.com/global/asia-pacific/2019/03/08/india-signs-3-billion-contract-with-russia-for-lease-of-a-nuclear-submarine/> (accessed 21.04.2023)

¹⁹ Russia leases out Nerpa nuclear-powered attack submarine to India. 2011. *India Today*. 31.12. URL: <https://www.indiato-day.in/world/asia/story/russia-leases-out-nerpa-nuclear-submarine-to-india-150449-2011-12-30> (accessed 21.04.2023).

However, not all projects within the India-Russia defense partnership have been successful. Projects such as the Fifth Generation Fighter Aircraft (FGFA) and Multi Role Transport Aircraft (MRTA) have been abandoned due to disagreements over technology transfer, division of labor, cost-sharing, and the perceived inability to achieve India's envisioned outcomes (Bedi 2018)²⁰. Similarly, it is expected that the Kamov Ka-226T light utility helicopter project will meet a similar fate²¹.

Consequently, while Russia remains a significant defense partner for India, driven by both historical ties and emerging requirements, there has been a gradual decline in India's defense imports from Moscow²². This can be attributed to various factors, including India's efforts to diversify its defense imports as part of its multi-aligned foreign policy and its increasing focus on indigenization. Indeed, the diversification of imports has coincided with India's qualitative strengthening of defense engagements with Western countries, whose equipment and technology have often been found to align better with India's evolving requirements²³. Similarly, Russia itself has diversified its exports, capitalizing on its growing partnership with China and exploring new markets in Africa, West Asia, and Southeast Asia.

The changing dynamics of the India-Russia defense partnership are reflected in the declining deliveries from Russia, which dropped by 52 percent between 2016 and 2020²⁴. Consequently, Russia's share in India's defense imports decreased from 70 percent to 50 percent during the same period. Despite this decline, Russia still accounts for 49 percent of India's defense imports, with France being the next largest supplier at 18 percent, followed by Israel at 13 percent, and the US at 4 percent²⁵.

Furthermore, the conflict in Ukraine since 2014 has added complexities to the transactional aspect of the India-Russia defense relationship. The weaponization of the US dollar through measures such as the Countering American Adversaries Through Sanctions Act (CAATSA) has placed India in a vulnerable position regarding potential sanctions²⁶. While alternative payment mechanisms, including the use of national

²⁰ Menon J. 2013. India Concerned About FGFA Work Share With Russia. *Defense News*. 21 October. URL: <https://aviation-week.com/defense-space/india-concerned-about-fgfa-work-share-russia> (accessed 21.04.2023).

²¹ Sagar P. 2020. JVs with Russia for 200 Helicopters, Lakhs of Rifles Stuck over Cost, Content. *The Week*, 16 December. URL: <https://www.theweek.in/news/india/2020/02/06/jvs-with-russia-for-200-helicopterslakhs-of-rifles-stuck-over-cost-content.html> (accessed 21.04.2023).

²² SIPRI Arms Transfers Database. SIPRI. URL: <https://www.sipri.org/databases/armstransfers> (accessed 21.04.2023).

²³ Pandit R. 2022. Marine Rafale score over American Super Hornet in Navy-deal dogfight. *The Times of India*. 8 December. P. 13.

²⁴ SIPRI Arms Transfers Database. SIPRI. URL: <https://www.sipri.org/databases/armstransfers> (accessed 21.04.2023).

²⁵ Dwivedi G. 2022. Why India cannot afford to delink from Russia for its defence needs. *India Today*. 25 October. URL: <https://www.indiatoday.in/news-analysis/story/russia-ukraine-war-india-cannot-afford-to-delink-from-moscow-1918878-2022-02-28> (accessed 21.04.2023); SIPRI Arms Transfers Database. SIPRI. URL: <https://www.sipri.org/databases/armstransfers> (accessed 21.04.2023).

²⁶ Kupriyanov A. 2018. Impact of the U.S. Anti-Russian Sanctions on the Russia-India Cooperation in the Military-Technical Area. *Russia International Affairs Council*. 10 September. <https://russiancouncil.ru/en/analytics-and-comments/analytics/russia-india-cooperation-against-the-background-of-sanctions-adverse-effects-and-new-opportunities/> (accessed 21.04.2023)

currencies, have shown some success, the dominance of the US dollar, the imbalanced composition of India-Russia trade, and currency fluctuations make it challenging to find a suitable monetary exchange mechanism.²⁷ Consequently, the threat of secondary American sanctions continues to loom over Indian defense companies and banks, which remain cautious due to their significant exposure to the more lucrative Western markets.

However, despite the changing dynamics, India's decision to procure the S-400 air defense platform in 2018, along with a range of new equipment and upgrades worth US\$18 billion, demonstrates New Delhi's continued recognition of the value of Russian arms. This decision also signifies India's commitment to upholding its strategic choices without allowing any third country to veto them.²⁸ Similarly, Russia's refusal to yield to Chinese pressure and stop supplying India with defense equipment during the 2020 India-China border standoff in Galwan, despite Moscow's increasing strategic dependence on Beijing, highlights Russia's enduring appreciation for its partnership with India.²⁹

Litmus test of endurance of defence ties

The ongoing conflict in Ukraine serves as a crucial test for the future resilience of the India-Russia defense collaboration. The focus will increasingly be on how the two countries navigate practical and perceptual challenges. These include concerns about Russia's reliability as a weapons supplier, the effectiveness of Russian weapons in light of reputational damage caused by setbacks compared to Western arms, and the growing comprehensive Western sanctions against the Russian military-industrial complex.

These challenges coincide with India's renewed emphasis on indigenization, leading to a 30 percent decline in arms imports and a greater diversification of imports through competitive international bidding to acquire the best available technology³⁰. The stakes are high for India's combat readiness, particularly given the heightened threat matrix in its neighborhood, including China's increasing assertiveness, Pakistan's ongoing asymmetric conflict, and the Sino-Pakistani collaboration against India³¹. Moreover, Russia's growing reliance on China to withstand Western pressure has

²⁷ Kashin V. 2020. Webinar on Russia-India Relations. *Valdai Discussion Club*. URL: <https://www.youtube.com/watch?v=Ci5gnr2ZETQ> (accessed 21.04.2023).

²⁸ Siddiqui H. 2019. India to Pay in Rupees for S-400 Missile System from Russia, Says Top Russian Diplomat'. *Financial Express*. URL: <https://www.financialexpress.com/defence/india-to-pay-in-rupees-for-s-400-missile-system-from-russia-says-top-russian-diplomat/1688845/> (accessed 21.04.2023).

²⁹ Mohan G. 2020. Chinese government mouthpiece People's Daily urges Russia not to sell arms to India. *India Today*. 23 June. URL: <https://www.indiatoday.in/world/story/chinese-government-mouthpiece-people-s-daily-urges-russia-not-to-sell-arms-to-india-1691982-2020-06-23> (accessed 21.04.2023).

³⁰ SIPRI Arms Transfers Database. *SIPRI*. URL: <https://www.sipri.org/databases/armstransfers> (accessed 21.04.2023).

³¹ Sibal K. 2022. China will remain a threat to India. *The Statesman*. URL: <https://www.thestatesman.com/exclusive-interviews/china-will-remain-threat-india-1503095206.html> (accessed 21.04.2023).

further complicated India's geostrategic calculations. This is exemplified by the sale of sophisticated Russian defense platforms, including the S-400 air defense systems, to Beijing, which are also sought by India. One argument is that historically Russia has made certain adjustments favoring India in the weapons sold to both New Delhi and Beijing, while another perspective suggests that identical weapons ensure a balance of power³². However, the crucial question is whether Russia would be able to offer India an advantage given its increasing dependence on China. Likewise, would India accept multi-billion-dollar weapons platforms if they do not provide a clear advantage over its rivals and adversaries?

Reliable Weapons Supplier

With the conflict in Ukraine showing no signs of resolution in the near future, concerns have arisen regarding Russia's ability to meet its export delivery schedules. It is likely that Russia's main focus will be on fulfilling its own requirements for the ongoing conflict, including replenishing depleted armaments.

As a result, there is a cloud of uncertainty surrounding the timely delivery and upgrades of critical platforms intended for India. These include the second batch of S-400 air defense systems, Mig-29 and Su-30 MKI aircraft, Igla-S air defense systems, the lease of a nuclear submarine, joint production of AK-203 rifles, and numerous other systems³³. In fact, according to the Indian Air Force's submission to the Indian Parliament's Standing Committee on Defense in March 2023, a "major delivery" from Russia is unlikely to occur in 2023 due to the ongoing developments in Ukraine.³⁴ Consequently, the Indian Air Force has reduced its modernization budget by nearly one-third for the financial year 2023-24.

Furthermore, the persistent issue of spare parts for Russian equipment in India's inventory may resurface. Despite concerted efforts, the operational readiness of the frontline SU-30 MKI aircraft fleet stands at a concerning 60 percent. Similar challenges exist across several other platforms³⁵.

Furthermore, the established modus operandi that India had developed post the developments in Ukraine in 2014, involving both Russia and Ukraine for the supply of equipment and upgrades for India, now faces uncertainty. This includes projects such

³² Makienko K. 2015. Military-technical cooperation between India and Russia: Time for radical solutions. Fets K., Unnikrishnan N., Kamalakaran A., Krovvidi E., Pasi R., Zubacheva K. *A New Era: India-Russia Ties in the 21st Century*. Russia Beyond the Headlines. Moscow.

³³ Bedi R. 2022. To Maintain a Prepared Military, India Will Have to Find a Way Around Sanctions on Russia. *The Wire*. URL: <https://thewire.in/security/india-russia-military-procurement-sanctions> (accessed 21.04.2023).

³⁴ Thirty Sixth Report Standing Committee on Defence 2022-23". 2023. *Lok Sabha Secretariat*. 16 April. URL: https://loksabhadocs.nic.in/lsscommittee/Defence/17_Defence_36.pdf (accessed 21.04.2023).

³⁵ Simha R. 2021. Future-Proofing the Flanker: Why an Upgrade is Critical for the Sukhoi Su-30. *Raksha Anirveda*. URL: <https://raksha-anirveda.com/future-proofing-the-flanker-why-an-upgrade-is-critical-for-the-sukhoi-su-30/> (accessed 21.04.2023).

as the modernization of AN-32 transport aircraft, the transfer of R-27 air-to-air missiles for the SU-30 MKI fighter jets, and the provision of Ukrainian engines for the four Russian frigates ordered by India³⁶. The question arises as to whether Ukraine would be willing to maintain the status quo in light of the ongoing conflict.

Currently, over 50 percent of India's equipment remains of Russian origin, despite India's efforts to diversify its import sources³⁷. This includes critical frontline equipment such as an aircraft carrier, tanks, submarines, frigates, fighter jets, and mid-air refuelers. Therefore, any significant disruption in Russia's commitment to arming India over the long term would have a direct impact on India's national defense capabilities.

Reputational Damage

The ongoing conflict in Ukraine has raised questions about the effectiveness of certain Russian weaponry when compared to Western arms. Specifically, the performance of Soviet-era weapons such as T-72 and T-90 battle tanks, multiple rocket launchers (MBRLs), infantry fighting vehicles (BMPs), as well as precision-guided munitions and air defense capabilities, has come under scrutiny. These assessments are particularly relevant considering Russia's claims of having undertaken a comprehensive overhaul and modernization of its defense industry in the past decade, including the development of state-of-the-art equipment claimed to have no analogues³⁸.

However, it would be unfair to attribute the setbacks experienced on the battlefield solely to defense equipment. Other factors such as command and control skills, leadership, training, logistics, intelligence capabilities, effective resource utilization, adequate manpower, morale, and motivation have also played significant roles in determining the outcomes of the conflict. Additionally, Russia's strategic decision to preserve its best but limited stock of equipment for a potential direct confrontation with a larger threat, such as NATO, could have influenced the allocation of resources and deployment of certain platforms³⁹. It is worth noting that many of the losses suffered by Russia in the conflict involve modernized yet Soviet-era equipment rather than newly developed Russian platforms. Furthermore, achieving an impregnable air defense system is a complex task that involves technical, scientific, and economic challenges⁴⁰. Instances where Russian missile defenses were unable to intercept hostile projectiles can be attributed to the inherent difficulties associated with developing a foolproof defense system.

³⁶ Pechorina N. 2016. Ukraine-India Arms Trade. *Moscow Defence Brief*. URL: <https://mdb.cast.ru/mdb/2-2016/item2/article1/> (accessed 21.04.2023).

³⁷ Bedi R. 2022. To Maintain a Prepared Military, India Will Have to Find a Way Around Sanctions on Russia. *The Wire*. URL: <https://thewire.in/security/india-russia-military-procurement-sanctions> (accessed 21.04.2023).

³⁸ They're Trying to Catch Up: Putin's Defense Speech in Quotes. *The Moscow Times*. 25.12.2019. URL: <https://www.themoscowtimes.com/2019/12/25/theyre-trying-catch-up-putin-defense-speech-a68738> (accessed 21.04.2023).

³⁹ Pifer S. 2022. The Russia-Ukraine war and its ramifications for Russia. *Brookings Institute*. 8 December. URL: <https://www.brookings.edu/articles/the-russia-ukraine-war-and-its-ramifications-for-russia/> (accessed 21.04.2023).

⁴⁰ Interview of a serving Indian Colonel in the Indian army who prefers to remain anonymous.

Nevertheless, the evidence of chinks in Russia's armour have been a revelation. These include efficacy of its T-72 and T-90 frontline tanks and BMPs⁴¹. The T-72s and the T-90s, for instance, have been found to be vulnerable when attacked by Javelin ATGMS. Similarly, T-72 turrets have been found to explode under sustained fire. This has been attributed to its existing design where the ammunition storage lies in close proximity to turret mainframe to enable self-loading, with the ammunition often exploding when the turret gets hit (Bakshi 2023).

The fact that Russia has had to rely more on Iranian rather than indigenous drones is also an acute reflection of Russian MIC not keeping pace with the changing nature of warfare⁴².

Meanwhile, the presence of foreign components in Russian defense platforms indicates that Russia's import substitution program, initiated in 2014, has not achieved the desired outcomes. This is particularly evident in the crucial area of chips and semi-conductors, which are integral to modern defense equipment (see note 12). The lack of adequate machine tools necessary for large-scale commercial production of these critical components has been identified as a significant vulnerability in Russia's military-industrial complex (MIC)⁴³. This concern was publicly acknowledged as early as 2015 by the former Deputy Prime Minister Dmitry Rogozin, who highlighted Russia's "challenging situation in the microelectronics and machine tool building sectors" and emphasized the absence of a robust ecosystem in the country⁴⁴. However, there appears to be a renewed emphasis on enhancing the production of these crucial force multipliers, as evidenced by Prime Minister Mikhail Mishustin's plans to develop a national electronic industry. This indicates a renewed commitment to address the deficiencies in microelectronics and machine tool building sectors and underscores the recognition of the need to bolster domestic production capabilities⁴⁵.

Western Sanctions

The raft of comprehensive Western sanctions on practically the entire Russian MIC is likely to be a major impediment in not only Russia's ability to rearm itself but also meet its export commitments. The latter has been a vital source of Russian revenue and a tool of power projection and building global partnerships.

⁴¹ Pifer S. 2022. The Russia-Ukraine war and its ramifications for Russia. *Brookings Institute*. 8 December. URL: <https://www.brookings.edu/articles/the-russia-ukraine-war-and-its-ramifications-for-russia/> (accessed 21.04.2023).

⁴² Russia Flew \$140M, Captured Western Arms to Iran for 160 Drones – Reports. *The Moscow Times*. 09 November. URL: <https://www.themoscowtimes.com/2022/11/09/russia-flew-140m-captured-western-arms-to-iran-for-160-drones-reports-a79326> (accessed 21.04.2023).

⁴³ Pukhov R. 2019. Defense, Trade and Foreign Policy: An Interview with CAST Director Ruslan Pukhov. *CAST*. URL: <http://cast.ru/eng/news/defense-trade-and-foreign-policy-an-interview-with-cast-director-ruslan-pukhov.html> (accessed 21.04.2023).

⁴⁴ Rogozin nazval datu polnogo importozameshcheniia v oboronke [Rogozin gave a date for the full phasing out of imports in the military industrial sector]. 2015. *RBC*. 04 December. URL: <https://www.rbc.ru/politics/04/12/2015/5660b5679a79473f88734f85> (accessed 21.04.2023).

⁴⁵ Russia to continue developing microelectronic equipment — Cabinet. 2023. *TASS*. 24 January. URL: <https://tass.com/economy/1566547> (accessed 21.04.2023).

The extensive sanctions imposed by Western countries on the Russian military-industrial complex (MIC) are expected to pose significant challenges to Russia's re-armament efforts and its ability to fulfill export commitments⁴⁶. These exports have served as a crucial source of revenue for Russia, as well as a means of projecting power and establishing global partnerships.

The recent focus of Western efforts to penalize Russia for its actions in Ukraine has been on strengthening the Countering America's Adversaries Through Sanctions Act (CAATSA). A key aspect of this approach involves restricting Russia's access to external technology components. Imposing technology embargoes could undermine Russia's endeavors not only to replenish its depleted arsenal and fulfill external orders but also to narrow the perceived technological gap with Western countries. Implementing a new import substitution program would likely require a substantial period of time, especially considering the concurrent economic crisis, which would necessitate balancing priorities between military expenditure and other essential sectors.

CAATSA's second prong, which aims to undermine Russia's exports by imposing secondary sanctions on countries and entities engaged in defense business with Russia, has once again brought attention to India. India holds the distinction of being the largest global importer of Russian weapons. The entities subject to sanctions include prominent design bureaus such as Rostec, Uralvagonzavod, Kalashnikov Concern, Almaz-Antey, United Aircraft Corporation (UAC), and United Shipbuilding Corporation (USC) - all of which have a well-established history of close collaboration with the Indian defense establishment. Several flagship weapons in India's inventory, including SU-30 MKI and MiG 29 fighter jets, IL-78 tankers, Mi-17 and Mi-35 helicopters, T-90 battle tanks, S-400 missile defense systems, AK-47 rifles, and Talwar-class frigates, are produced by these companies.

This situation has prompted speculation that the underlying objective of Western sanctions is to gain greater market share in sectors traditionally dominated by Russia. Given the current politically charged climate, Indian banks and entities with global exposure, particularly in the more lucrative Western markets, have been hesitant to engage in business involving Russia⁴⁷. The issue of timely payments from India has also arisen due to Russia's exclusion from the SWIFT payment system. Although alternative mechanisms such as "rupee-rouble" arrangements and soft loans have been explored to insulate projects from the impact of sanctions, they are still in their early

⁴⁶ Countering America's Adversaries Through Sanctions Act-Related Sanctions. 2022. *U.S. Department of the Treasury*. URL: <https://home.treasury.gov/policy-issues/financial-sanctions/sanctions-programs-and-country-information/countering-americas-adversaries-through-sanctions-act-related-sanctions> (accessed 21.04.2023).

⁴⁷ Large Indian lenders shun direct rupee transactions in Russia trade: Report. 2022. *Business Standard*. 16 October. URL: https://www.business-standard.com/article/markets/large-indian-lenders-shun-direct-rupee-transactions-in-russia-trade-report-122101000291_1.html (accessed 21.04.2023).

stages, and efforts to fine-tune Vostro accounts are ongoing. Currency fluctuations and the imbalanced composition of bilateral trade are viewed as significant obstacles to the smooth operation of these mechanisms⁴⁸.

Additionally, the imposition of sanctions could disrupt joint Indo-Russian projects intended for third countries. One notable example is the BrahMos missile system, which has garnered significant attention for its potential export to the Philippines and other nations. However, there have been reports of several states suspending new defense projects with Russia. These joint initiatives were not only aimed at strengthening the India-Russia defense partnership but also at leveraging their shared assets for monetization purposes.

Contingency Measures

Amidst the ongoing disruptions in the defense landscape, maintaining defense deterrence becomes a paramount concern for India. Effectively addressing this challenge requires adopting innovative and flexible approaches from both Russia and India. The key to success lies in leveraging the expertise of Indian technicians and enterprises, who have demonstrated their capability to sustain Russian equipment under adverse conditions, such as shortages or substandard spare parts⁴⁹. While extreme measures like cannibalization represent one end of the spectrum, alternative strategies involve localized production of components while adhering to intellectual property rights. Enhancing the qualitative transfer of Russian blueprints could assuage concerns within India regarding potential equipment failures. Furthermore, the reputation of Russia as a dependable defense partner, which has been established over the past half-century, is also at stake. Notably, the emergence of several Micro, Small, and Medium Enterprises (MSMEs) in India dedicated to manufacturing spare parts and components for Russian equipment underscores the nation's commitment to addressing this issue⁵⁰.

Similarly, innovative financial measures are imperative to mitigate the threat posed by ongoing Western sanctions, which are expected to persist as a proverbial Damocles Sword in the future. These measures may encompass streamlining the Vostro mechanisms and adopting a more flexible and accommodating approach in determining exchange rates. Achieving a more balanced bilateral trade relationship holds potential in resolving this persistent issue. Additionally, considering the deferment of payments without invoking penalty clauses during the development of alternative

⁴⁸ Sen A. 2022. 'War effect. RBI gives approval for opening of nine Vostro accounts of Russian banks'. *The Hindu Business Line*. 25 November. URL: <https://www.thehindubusinessline.com/money-and-banking/rbi-gives-approval-for-opening-of-nine-vostro-accounts-of-russian-banks/article66141427.ece> (accessed 21.04.2023).

⁴⁹ Interview of Commodore Abhay Kumar Singh (Retd.), Indian Navy and at present Research Fellow at MP-IDSA, and Major General Bipin Bakshi (Retd.), Indian Army.

⁵⁰ Russia submits list of items to NSIC for sourcing from Indian MSMEs. 2022. *KNN*. 05 December. URL: <https://knnindia.co.in/news/newsdetails/msme/russia-submits-list-of-items-to-nsic-for-sourcing-from-indian-msmes> (accessed 21.04.2023).

measures could be explored. These concerted efforts aim to navigate the challenges posed by sanctions and establish a more conducive environment for sustained defense cooperation between India and Russia.

Meanwhile, India can explore leveraging its shared concerns with the United States regarding China's increasing assertiveness to mitigate the impact of sanctions. It is worth noting that sanctions could have a significant detrimental effect on India's defense preparedness, as a substantial portion of its weaponry is of Russian origin. The recent waiver granted by the United States signifies the potential success of behind-the-scenes diplomacy in achieving desired outcomes⁵¹.

Furthermore, the ongoing conflict in Ukraine could provide an additional catalyst for India's indigenization program. Various components used in Russian equipment are included in the list of line replacement units (LRUs) and sub-systems outlined in India's updated Defence Acquisition Procedure (DAP) of 2020. These LRUs and sub-systems are part of the "positive indigenization lists" (PILs), with the most recent list being issued on August 28, 2022⁵². These components are utilized in tanks, artillery, ships, helicopters, combat aircraft, assault rifles, missiles, and ammunition.

Arguably, the prevailing trend in the medium and long term points towards achieving greater self-sufficiency while concurrently acquiring and assimilating the best available technology from abroad. It is essential to analyze how Russian equipment compares to competitors in the Indian arms market within this context. Evaluating the performance and competitiveness of Russian equipment will contribute to informed decision-making and the pursuit of India's strategic objectives.

Russia vs competition

In recent years, India has placed significant emphasis on procuring advanced defence technologies and equipment⁵³, leading to increased participation of Western arms manufacturers in the Indian market⁵⁴. Apart from Russia, India's largest defence partners now primarily come from the Western camp, including France, Israel, the United States, Italy, and Germany, all of which are expanding their presence in India⁵⁵.

⁵¹ U.S. House votes for India-specific CAATSA waiver. 2022. *PTI*. 15 July. URL: <https://www.thehindu.com/news/national/us-house-votes-for-india-specific-caatsa-waiver/article65642679.ece> (accessed 21.04.2023).

⁵² Defence Acquisition Procedure's (DAP) 2020. *Department of Defence Production, Government of India*. URL: <https://srija-ndefence.gov.in/DashboardForPublic> (accessed 21.04.2023).

⁵³ In the last decade, India has purchased a plethora of advanced equipment including Rafael fighter jets from France, and C-17 heavy-lifters, Apache attack helicopters, C-130J special operations aircraft and P-8I surveillance aircraft from the US, to name a few.

⁵⁴ Interview of Amb Sujan R. Chinoy, Director General of MP-IDSA and former Ambassador to Japan and Mexico who has also served in India's National Security Council Secretariat (NSCS).

⁵⁵ SIPRI Arms Transfers Database. *SIPRI*. URL: <https://www.sipri.org/databases/armstransfers> (accessed 21.04.2023).

This shift can be attributed to India's rapid economic growth and the aspiration to enhance its defence preparedness in response to a heightened threat environment. The prioritization of qualitative improvements in defence capabilities has somewhat diluted the emphasis on cost factors within India's hierarchy of weapons purchase criteria. Consequently, Russia, which has been most competitive in the medium price segment, has been significantly impacted by this shift⁵⁶.

Furthermore, there has been a growing convergence between India and, particularly, the United States, regarding the threat posed by China in the broader Indo-Pacific region. This alignment of interests has contributed to the deepening defence relationship between New Delhi and Washington, D.C.⁵⁷

Simultaneously, the growing involvement of the Indian private sector in defence manufacturing, particularly through collaborations and technology transfer (ToT) with Western counterparts, aligns with the vision outlined in the Defence Acquisition Procedure (DAP) to establish a dynamic defence ecosystem in India⁵⁸. In contrast, most joint projects, ToT, and offsets with Russian arms manufacturers primarily occur at the government-to-government (G2G) level, reflecting the Russian MIC's greater preference for working with government entities (Raghavan 2020). However, a vibrant defence ecosystem should ideally involve a balanced mix of private and public sector enterprises, fostering robust supply chains.

Amidst these developments, Western manufacturers have secured several high-profile projects, including joint ventures and not just off-the-shelf purchases. A notable example is the recent agreement between Tata and Airbus for the C-295 transport aircraft, which will replace the Indian Air Force's aging Avro-748 aircraft of British origin⁵⁹. It is worth mentioning that discussions between India and Russia for a similar Multi-Role Transport Aircraft (MRTA) project failed to materialize. Likewise, India's success in developing light utility helicopters as replacements for its aging Cheetah and Chetak helicopters may impact the negotiations for the purchase of Ka-226 helicopters from Russia. Russian arms manufacturers have also faced setbacks in competitions against American Apache attack helicopters, Sig Sauer sniper rifles, French Scorpene submarines, Rafael fighter jets, and have withdrawn from the ambitious P75I submarine project. Similarly, India is exploring options for fighter aircraft beyond the existing MiG-29s, which currently serve on the aircraft carrier INS Vikramaditya, due to reports of their unsatisfactory performance⁶⁰.

⁵⁶ Makienko K. 2015. Military-technical cooperation between India and Russia: Time for radical solutions. Fets K., Unnikrishnan N., Kamalakaran A., Krovvidi E., Pasi R., Zubacheva K. *A New Era: India-Russia Ties in the 21st Century*. Russia Beyond the Headlines. Moscow.

⁵⁷ SIPRI 2021: SIPRI Arms Transfers Database. 2022. *SIPRI*. (accessed 21.04.2023) 17 November. URL: <https://www.sipri.org/databases/armstransfers>

⁵⁸ Cornish C. 2022. Tata defence unit arms itself for bigger slice of Indian market. *FT*. URL: <https://www.ft.com/content/30563821-4eed-4530-9579-824b32faf5f2> (accessed 21.04.2023)

⁵⁹ Peri D. 2022. The C-295 and India's aircraft industry. *The Hindu*. 2 November. P. 6.

⁶⁰ Pandit R. 2022. Marine Rafale score over American Super Hornet in Navy-deal dogfight. *The Times of India*. 8 December. P. 13.

In the highly competitive Indian weapons market, Russian manufacturers have secured significant wins in recent key projects, demonstrating their competitiveness. One notable example is the S-400 deal, which India signed despite the challenges posed by CAATSA. The S-400 air defense system was deemed to be more versatile compared to the American THAAD systems, and it also offered a cost advantage of six times less⁶¹. Additionally, Russia has successfully secured the AK-203 project, which will see Russian rifles become the primary weapons for the Indian army and paramilitary forces. The Igla-S air defense system and continued Russian assistance in India's nuclear submarine project are also noteworthy successes for Russia.

Furthermore, Indian pilots flying the Su-30 MKI have consistently demonstrated their capabilities in joint exercises conducted with NATO counterparts, showcasing the effectiveness of both the pilots and the aircraft. This performance underscores the competence and competitiveness of Russian-manufactured platforms in challenging scenarios⁶².

Prognosis

The ability to adapt and adjust will be crucial for India and Russia to maintain their relevance in each other's defense calculations in the long run. While Russia's position as the top supplier in India's competitive defense market may be diminishing, Russian weapons will continue to form the backbone of India's defense deterrence for the foreseeable future.

It is important to note that India recognizes and values Russia's competitive edge in various areas, as well as its proven track record in technology transfer, joint development, and production—qualities that set it apart from most other global weapons manufacturers. Moreover, the principle of diversification, which India has pursued by procuring Western equipment alongside Russian systems, may have worked to Russia's disadvantage in the past but is likely to work in Moscow's favor as India increasingly acquires Western equipment.

Competition in the arms trade encourages states to enhance their capabilities. While arms trade is interchangeable, it also brings additional benefits beyond strengthening national defense and generating revenue. These include bolstering strategic autonomy, which is crucial in a world characterized by uncertainty and shifting alignments. If Russia relies more on China to navigate its challenging international

⁶¹ Mohanty K. 2021. 'EXPLAINED: High On Versatility, More Bang For Buck. What Russian S-400 Triumph Brings To India's Air Defence'. *News 18*. 15 November. URL: <https://www.news18.com/news/explainers/explained-high-on-versatility-more-bang-for-buck-what-russian-s-400-triumf-brings-to-indias-air-defence-4445399.html> (accessed 21.04.2023).

⁶² Roblin S. 2018. 'U.S. Jet Fighters Are Back in India For Wargames (The Last Two Times, the Indian Air Force Won). *The National Interest*. 07 December. URL: <https://nationalinterest.org/blog/buzz/us-jet-fighters-are-back-india-wargames-last-two-times-indian-air-force-won-38232> (accessed 21.04.2023).

environment, it could complicate India's external calculations. Conversely, a robust bilateral strategic relationship between India and Russia strengthens their respective balance of power calculations in regional and global contexts. Both countries have demonstrated their determination not to allow third countries to dictate the terms of their longstanding partnership. It is worth noting that India and Russia share concerns about China's rise, although open discussions are necessary regarding Russia's arms sales to China.

Effectiveness in weapons systems depends not only on the hardware itself but also on how it is deployed and operated by personnel. Thus, the outcomes achieved by systems such as the S-400, possessed by both India and China, will depend on the capabilities of both the operators and the equipment itself, with human factors playing a significant role in shaping outcomes.

In light of the changing circumstances, both India and Russia need to make qualitative adjustments to their defense cooperation. One way forward could be to enhance their focus on technology transfer (ToT) and joint development and production, particularly in niche areas such as strategic systems. Collaborative projects that involve risk sharing can create a mutually beneficial situation, aligning with India's goal of greater self-sufficiency in defense manufacturing and Russia's aspiration for technological parity with the West. The setbacks Russia has faced in Ukraine are likely to motivate it to expedite the development of advanced weapons. However, overcoming financial constraints, dual-use technology embargoes, and the challenges posed by the ongoing economic crisis may prove difficult for Russia.

In this context, it is crucial for Russian research conducted by skilled scientists and engineers to yield tangible results. India, with its increasing emphasis on investment in research and development (R&D) and its evolving entrepreneurial ecosystem, can offer cooperative synergies. Notably, India has allocated a significant amount, close to Rs 1,200 crores, for academic defense research in the Union Budget for the financial year 2022-23⁶³. Furthermore, the diffusion of military technology into the civilian sphere can complement their defense cooperation. This aligns with both India and Russia's aspirations to modernize their societies by harnessing the full human potential of their populations. Notably, some noteworthy designs found in Russian platforms left in Ukraine include satellite navigation antennas the size of a postage stamp in cruise missiles (see note 12).

Joint projects have the potential to offer financial benefits by allowing the exploration of expensive and innovative cutting-edge projects. Russia's early involvement in India's *Make in India* program is advantageous, particularly considering its willingness to share the blueprints of its key technologies, a characteristic not often seen among Western countries. Furthermore, unlike the Western countries, particularly the United

⁶³ Union Budget 2022-23. 2022. *Press Information Bureau*. 29 November. URL: <https://pib.gov.in/newsite/PrintRelease.aspx?relid=231242> (accessed 21.04.2023).

States, Russia has refrained from imposing conditions on how India deploys its weapons. This marks a significant departure and provides India with more autonomy in utilizing its equipment.

It is important to acknowledge that the *Make in India* program will require a significant amount of time to fully materialize. Currently, the focus is on prioritizing domestic manufacturing of basic components such as nuts, bolts, washers, and pipes. However, this presents an opportunity for Russia to assist India in progressing up the value chain and meeting its critical defense requirements.

Another advantage Russia brings to the table is its track record of integrating systems from other countries into its own robust platforms designed for India. This approach ensures a balance between durability and continuous upgrading, thus avoiding the need for complete cyclical replacement, which can be financially burdensome.

India and Russia have the opportunity to build upon their longstanding partnership by exploring new areas of collaboration. One such area is the development of Artificial Intelligence (AI) for the emerging intelligentized theater, as AI is increasingly becoming a crucial element of modern warfare. Falling behind in AI capabilities could leave a state at a disadvantage. In parallel, Indian and Russian incubation agencies have been working on developing these niche capabilities. Russia's Advanced Research Foundation (ARF), Elite Russian Army Academy, and All Research Institute of Radio Electronics have made progress in developing neural networks, including the Shturm automated command and control system, and extensively utilizing AI for war-gaming purposes.

Another frontier in weapons technology is hypersonic weapons, and both India and Russia have shown interest in this field. However, Russia seems to be ahead in this area with its functional Tsirkon missile⁶⁴, while India is eager to join the hypersonic weapons bandwagon⁶⁵.

Missile defense and the development of modern tanks are potential areas of joint collaboration for India and Russia. In the ongoing conflict, Russian air defense systems have shown vulnerabilities in countering low-flying, slower-paced drones. Therefore, there is an opportunity for both countries to strengthen existing Russian platforms or develop new ones with a focus on enhancing anti-jamming capabilities. Strengthening systems like the S-400 could address concerns about their effectiveness as they are being inducted into the Indian armed forces.

Collaboration in the development of modern tanks is also worth exploring. Reports have highlighted vulnerabilities in the Soviet-designed T-72 and T-90 tanks, which form a significant part of India's frontline artillery. There is an urgency to fortify

⁶⁴ Putin V. 2022. Meeting of Defence Ministry Board. *President of Russia*. 21 December. URL: <http://en.kremlin.ru/events/president/news/70159> (accessed 21.04.2023).

⁶⁵ Sagar P. 2022. How India is gearing up for its own hypersonic ballistic missile. *India Today*. 26 July. URL: <https://www.india-today.in/india-today-insight/story/how-india-is-gearing-up-for-its-own-hypersonic-ballistic-missile-1980239-2022-07-26> (accessed 21.04.2023).

defenses and design new tanks. The Russian Armata tanks have been touted as a new generation of tanks⁶⁶. While India has developed its indigenous tank, Arjun, its deployment in the border areas with Pakistan is hindered by the fact that most bridges in the are unable to support its 70 ton weight⁶⁷. Russian tanks, weighing 30 percent less, may offer advantages in this regard. To address the vulnerabilities of the T-72 and T-90 tanks, short-term and long-term measures have been suggested, including installing steel structures on top of turrets, strengthening ammunition storage compartments, and implementing other design modifications (Bakshi 2023).

In assessing the performance of Russian weapons, it is essential to rely on first-hand observations rather than being swayed by media reports in the context of information warfare. It is crucial to objectively evaluate the capabilities and potential of Russian weapons through direct examination.

Furthermore, there is potential for collaboration between India and Russia in various areas. Russia's expertise in medium and heavy lift helicopters, as well as fighter jet engines, aligns with India's efforts to develop these capabilities domestically. Collaboration in the nuclear field, similar to Russian assistance in developing India's naval nuclear triad, could also be explored, considering that certain technologies have been refused to be shared with India by other countries.

Amidst Russia's current focus on Ukraine, India could offer its best practices in maintaining Russian equipment to other end-users of Russian defense platforms. India has extensive experience in locally producing Russian equipment, and its flexibility in sharing designs with Russia could help address concerns about Russia's reputation as a reliable defense partner to other nations.

Given the high-altitude border standoffs with China and Pakistan in Galwan and Siachen, respectively, India could benefit from Russian assistance in developing warm weather clothing. Russia's expertise in this field, particularly in the revamping of its Arctic Command, could contribute to the India-Russia defense partnership.

In addition, enhanced interaction between the armed forces of India and Russia, including the long-pending reciprocal logistics agreement, would significantly strengthen the defense partnership between the two countries.

Conclusion

The enduring strength of the Indo-Russian defense partnership is facing challenges due to three key factors: India's diversification of imports, its pursuit of greater indigenization, and the evolving situation in Ukraine. The conflict in Ukraine will serve as a critical test for managing the immediate consequences, such as potential shortages

⁶⁶ Pukhov R. 2021. India Looking for Substantial Make in India Content in T 90 Tanks. CAST. URL: <http://cast.ru/eng/comments/india-looking-for-substantial-make-in-india-content-in-t-90-tanks.html> (accessed 21.04.2023).

⁶⁷ Chandra A. 2021. Pressure on the Ground: Arjun Mk-2 offers enhanced firepower, but it's too heavy to go where the Army wants it. Force. URL: <https://forceindia.net/old-editions/pressure-on-the-ground/> (accessed 21.04.2023).

of spare parts, delivery delays, completion of important projects, the impact of Western sanctions, and concerns regarding outdated Russian technology. It is evident that Russia has fallen behind the Western technology curve in certain sectors, but it still maintains a competitive edge in other areas. This is reflected in instances where India has chosen Western arms over Russian equipment, and vice versa. However, there is a recognition in India of the competitive advantage that Russia possesses. In this context, innovative measures are necessary to overcome the looming threat of CAATSA (Countering America's Adversaries Through Sanctions Act).

Amidst the evolving dynamics, it is expected that Russia will remain a significant contributor to India's defense capabilities, although its overall share in India's defense portfolio is likely to decline in the future. However, recognizing the mutually beneficial nature of their defense partnership, it is essential for India and Russia to adapt their relationship to the changing times. This includes a greater emphasis on joint production, development, and transfer of technology, areas where Russia has a competitive advantage over most Western manufacturers. Collaborative projects that involve risk sharing can be advantageous for both countries, as they promote India's goal of achieving self-sufficiency in defense manufacturing while supporting Russia's pursuit of technological parity despite financial and dual-use technology embargoes. The setbacks experienced by Russia in Ukraine are expected to stimulate the expedited development of advanced weapons. Furthermore, there are opportunities for synergy between Russian research capabilities and India's vibrant entrepreneurial ecosystem in the development of futuristic defense platforms.

The significance of a robust India-Russia defense relationship should not be underestimated. Defense collaboration between the two countries fosters a deeper understanding and sensitivity to each other's core concerns, while also strengthening their strategic autonomy, which is a defining characteristic of their strategic partnership. In light of their shared concerns regarding China's rise, it is crucial to engage in frank discussions regarding Russia's provision of arms to China. However, it is important to note that it is not unprecedented for a weapons manufacturer to supply both India and its rivals. Despite India being designated as a Major Defense Partner by the United States, the US continues to supply weapons to Pakistan. Therefore, the focus should be on enhancing the substance of the bilateral relationship to insulate it from external developments and ensure its resilience.

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Взаимовыгодное сотрудничество в оборонной сфере, продолжающееся уже более полувека, – одна из наиболее устойчивых опор стратегического партнёрства России и Индии. За это время произошёл, в том числе, качественный сдвиг от простого импорта Индией российских вооружений до совместной разработки и производства современных систем. Как следствие, советские и российские системы вооружений составляют значительную долю индийского парка. Однако, в связи с политикой Индии по диверсификации источников импорта оружия и увеличению доли внутреннего производства, статус России как главного партнёра в оборонной сфере постепенно сходит на нет. Негативно на этом партнёрстве сказываются и последствия конфликта на Украине. Кроме того, если раньше Индия была единственным в своём регионе импортёром современных российских военных технологий, что давало ей качественное преимущество перед конкурентами, то сегодня Россия поставляет вооружения также и Китаю. Таким образом, индийско-российское партнёрство в оборонной сфере сейчас проходит важнейшее испытание на прочность. В статье анализируются текущие тенденции в данной области и оцениваются их вероятные последствия.

Ключевые слова: индийско-российские отношения, оборонное сотрудничество, торговля оружием, санкции

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