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IMPROVING INDIA–EUROPE DEFENCE COOPERATION: A NEW ARMS DEAL?

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ANALYSIS

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Executive Summary

India's burgeoning defence trade with the European Union (EU) underscores the need for a comprehensive approach to bridge existing gaps and foster enduring collaboration. The evolving security landscape, coupled with the aftermath of the war in Ukraine, has necessitated reforms in the European defence industry, aligning its focus with diversification and prompting increased interest in India. While the current trajectory relies heavily on government-to-government (GtoG) dealings and bilateral trade, this article advocates for a strategic shift towards Small and Medium Enterprises (SMEs) to establish a more resilient and mutually beneficial defence relationship.

Specific features of the regulatory framework pose a significant hurdle to SME engagement, with divergent policies complicating compliance efforts. Strict standards for export licensing, intellectual property protection and technology transfer controls create financial and operational burdens for SMEs on both sides. European SMEs face additional challenges in offering competitive prices, negotiating technology transfer agreements and fulfilling offset obligations essential to establishing effective partnerships.

To overcome these challenges, this article proposes a multifaceted approach:

Integration within Strategic Initiatives: Incorporate trade and partnership opportunities for SMEs within Security and Defence Consultations, enhancing engagement and exploring mutual growth.

Knowledge Transfer and Regulatory Training: Commission sector-wise studies and SWOT analyses for comprehensive understanding, coupled with specialized training sessions on Indian regulatory frameworks for European SMEs.

Streamlined Technology Cooperation: Propose distinct definitions and categories for use cases to expedite critical technology cooperation clearance, focusing on civilian technologies that support defence preparedness.

Joint Task Force for Intellectual Property: Establish a dedicated joint task force under the India-EU Trade and Technology Council, focusing on safeguarding innovative ideas and technologies, with specific sub-groups for Cyberspace, AI and Quantum domains.

India-Europe Defence Industry Corridor: Create a seamless channel for cooperative ventures with a government-approved database, complemented by category-based offset requirements offering more relaxed offsets for foreign SMEs.

This comprehensive approach will not only address the existing challenges but also lay the foundation for a dynamic and enduring defence collaboration between India and the European Union.

1 Introduction

India's defence trade with the European Union (EU) has grown significantly over the past few years. This growth is driven by several factors, including India's changing security environment, which necessitates the modernization of its military, building a self-reliant defence ecosystem, stresses on traditional defence supply chains, which have relied on the Russian defence industry, and the broadening nature of warfare itself with emerging threats from new technologies. The war in Ukraine and its impact on security assessments across Europe have exacerbated the need for reforms in the European defence industry. to make it more self-reliant and capable. In addition, the EU's expanding focus on the Indo-Pacific has meant that European states are eager to build stronger relations with India across sectors, defence being one of those. In 2022, the EU exported €3.7 billion of defence products to India, including fighter jets, submarines and military transport aircraft.[1]

However, most of this trade volume is a function of government-to-government (GtoG) dealings and bilateral defence trade. The article argues that while the current context calls for reforms to expand existing GtoG defence trade, a long-term, equitable and mutually beneficial India-EU defence relationship requires a bottom-up approach to connect Small and Medium Enterprises (SMEs).

The role of SMEs in the defence sector has become especially relevant in today's context. While large-scale weapon platforms and their development remain the backbone of modern warfare, small-scale technologies have shown their disruptive potential in modern-day conflicts. Several such technologies in the civilian sector benefit the military in supportive roles. In addition to underlining the inherent logic in the critical role of SMEs for defence preparedness, SMEs can also help deepen defence partnerships as they create incentives for both sides. In the India-EU case, a closer relationship among SMEs in the defence sector would help meet the needs of co-production and manufacturing, in line with India's and Europe's push for self-reliance.

The article concludes with recommendations on how India and the EU can encourage collaboration between SMEs.

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[1] pieter d. wezeman, justine gadon and siemon t. wezeman. , "TRENDS IN INTERNATIONAL ARMS TRANSFERS, 2022", : SIPRI Fact Sheet, March 2023, last accessed October 3, 2023, https://www.sipri.org/sites/default/files/2023-03/2303_at_fact_sheet_2022_v2.pdf

2 Indian defence sector needs and current challenges

Since becoming an independent country in 1947, India has had unsettled borders with its immediate neighbors. Among these, border issues with Bangladesh have now been resolved. However, India's borders with Pakistan and China (and, to an extent, Nepal) remain contested, leading to its past and present security predicament. In addition, India's internal security challenges involve a layer of counterinsurgency capabilities that Indian defence forces must maintain and sharpen. India's increasing role as a net security provider or a first responder in the Indian Ocean Region adds to the necessity of maintaining a robust naval capacity. In addition, threats from emerging fields, such as cyberspace, space, Artificial Intelligence (AI) and biotechnology only complement existing security challenges for India. This means that the Indian military needs to be prepared for external and internal threats, some in uncharted domains.

2.1 Preparing for India's China Problem

For most of its independent history, India's external security predicament has been defined by threats emanating from its Western borders with Pakistan. However, bloody clashes in June 2020 between Indian and Chinese forces along the disputed segments of the Line of Actual Control (LAC) have effected a fundamental shift in India's threat perception.[2] While successive Indian governments had hoped to manage the border dispute with China through non-escalatory measures, such hopes were finally dashed by the 2020 clashes. China's rapid development of strategic infrastructure along its border with India, forward deployment of its troops and expansion of strategic maritime assets in the Indian Ocean Region (IOR) have all been read by Indian policy actors as threatening.[3] This perception

[2] Vijay Gokhale, "The Road from Galwan: The Future of India-China Relations", CARNEGIE INDIA, March 10th, 2021, last accessed October 3, 2023, https://carnegieindia.org/2021/03/10/road-from-galwan-future-of-india-china-relations-pub-84019

[3] "China ramped up troop presence, infrastructure along LAC in 2022, says Pentagon report" The Economic Times, October 22, 2023, last accessed October 26, 2023, https://economictimes.indiatimes.com/news/defence/china-ramped-up-troop-presence-infrastructure-along-lac-in-2022-says-pentagon-report/articleshow/104624806.cms

has led to a rethink of China's intentions and India's levels of defence preparedness. In response, India has employed both internal and external balancing tactics. At the base of this balancing reside India's attempts to build its defence capacities, pursued through the diversification of strategic partnerships, most evident in India's growing ties with the United States (US) and other Western states, as well as the improvement of its manufacturing capabilities, an expected result of new strategic partnerships.[4]

On the domestic front, several defence reforms[5] indicate this change in posture towards China. Since 2022, two of the Indian Army's four Strike Corps have been focused solely on China[6]; earlier, three of these had been tasked with observing Pakistan. The Indian armed forces are also undergoing their most significant reorganization in history. This is evident from the creation of the post of Chief of Defence Staff to improve cohesiveness between the three forces (Airforce, Army and Navy), the establishment of the Department of Military Affairs (DMA) to improve the defence procurement procedure and align it with the needs of the troops, the announcement of theatre commands, upgrading of strategic infrastructure along the LAC and investment in adoption of new strategic technologies, among other measures. The Indian government has also made a serious push toward self-reliance by opening up its defence manufacturing sector to higher percentages of Foreign Direct Investment (up to a ceiling in share of ownership of 74%) and encouraging innovation from the private sector by establishing specialized agencies such as the Army Design Bureau in 2016 and schemes such as the Innovations for Defence Excellence (IDEX) in 2018.[7]

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[4] Rajesh Rajagopalan, "India's Strategic Choices: China and the Balance of Power in Asia", CARNEGIE India, September 14, 2017, last accessed on October 3, 2023, https://carnegieindia.org/2017/09/14/india-s-strategic-choices-china-and-balance-of-power-in-asia-pub-73108

[5] "Narendra Modi is remaking India's 1.4m strong military" The Economist, November 29, 2023, last accessed December 2, 2023, https://www.economist.com/asia/2023/11/29/narendra-modi-is-remaking-indias-14m-strong-military

[6] "6 Indian Army Divisions shifted from Pak front to tackle China threat" The Statesman, May 15, 2022, last accessed October 4, 2023, https://www.thestatesman.com/india/6-indian-army-divisions-shifted-pak-front-tackle-china-threat-1503072290.html

[7] Department of Defence Production, Innovations For Defence Excellence (iDEX), last accessed October 4, 2023, https://www.makeinindiadefence.gov.in/pages/innovations-for-defence-excellence-idex-

While such reforms are being implemented, Indian policy actors must also deal with the fact that its defence forces remain dependent on imports. India is the world's largest arms importer, with an 11% share of total global arms imports between 2018-2022. India's dependence on the Russian defence industrial complex is a known reality. Despite a drop in defence imports from Russia from 62% to 45% between 2017 and 2022, Russia remains India's largest arms supplier.[8] While the push for self-reliance through establishment of a private defence ecosystem is geared at building long-term resilience, India is seriously trying to diversify its defence import basket in the short term. From 2017 to 2021, defence imports from France, the US and Israel to India have doubled.[9] In 2022, India imported €3.7 billion of defence products from the EU, including fighter jets, submarines and military transport aircraft. Notable defence deals between the EU and India recently include procuring 36 Rafale fighter jets from France,[10] acquiring Scorpène submarines from France1[1] and purchasing 56 C295 military transport aircraft from Airbus.[12]

Hence, India's revised assessments of the China threat have spurred changes in how it plans and prepares for future conflicts. But most of these changes will bear fruit only in the long run as new defence deals will take the next decade to materialize. Currently, the War in Ukraine exacerbates India's defence challenges.

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[8] pieter d. wezeman, justine gadon and siemon t. wezeman. , "TRENDS IN INTERNATIONAL ARMS TRANSFERS, 2022", : SIPRI Fact Sheet, March 2023, last accessed October 4, 2023, https://www.sipri.org/sites/default/files/2023-03/2303_at_fact_sheet_2022_v2.pdf

[9] "India is cutting back its reliance on Russian arms, The Economist, April 15, 2022, last accessed October 4, 2023, https://www.economist.com/graphic-detail/2022/04/14/india-is-cutting-back-its-reliance-on-russian-arms

[10] Dinaker Peri, "France has delivered all 36 Rafale jets to India: French envoy," The Hindu, July 15, 2022, last accessed October 5, 2023, https://www.thehindu.com/news/national/france-has-delivered-all-36-rafale-jets-to-india-french-envoy/article65643887.ece

[11] "India, France seal key pacts in defence, UPI" Hindustan times, July 15, 2023, last accessed October 5, 2023, https://www.hindustantimes.com/india-news/india-and-france-deepen-defence-cooperation-with-submarine-and-engine-deals-101689361237941.html

[12] "Airbus to scale up defence production with Tata arms" Mint, November 26, 2023, last accessed November 27, 2023, https://www.livemint.com/companies/news/airbus-to-scale-up-defence-production-with-tata-arm-11701020205875.html#:~:text=In%202021%2C%20the%20Indian%20Air,Sur%20site%20in%20Seville%2C%20Spain.

2.2 India's Russia problem

The ongoing war between Russia and Ukraine has increased India's concerns and efforts towards diversifying its defence imports. Due to the war, Russia's defence industry has been struggling to meet the needs of its own forces. As a result, Russia has had to put some of its defence importers, including India, on hold. In a statement made to the Standing Committee on Defence of the Indian Parliament, a senior official of the Indian Air Force stated that the projections for the 2023 allocation of expenditure were reduced because Russia could not honour existing contracts. For instance, in 2018, India and Russia signed a $5.43 billion deal for five squadrons of the S-400 anti-aircraft systems, with delivery scheduled by mid-2024.[13] However, due to Western financial sanctions on Russian banking entities and related payment difficulties, the delivery of these systems stands delayed.[14]

Additionally, India had planned to procure 48 Russian Mi-17 V5 helicopters, but last year it decided to cancel the procurement to produce them locally.[15] The Indian Air Force has also halted the proposed upgrade of 85 Su-30MKI multi-role fighter aircraft due to concerns that potential sanctions against Russia could cause delays in the supply of necessary spare parts.[16] Delays are expected in existing contracts for Grigorovich-class stealth frigates, Kalashnikov AK 203-7.62x39mm assault rifles, spare supplies for Kilo-class submarines, MiG-29 fighters and Kamov Mi-17 military transport helicopters.[17]

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[13] Suhasini Haidar and Dinaker Peri, "India, Russia sign $5.43 billion S-400 missile deal," The Hindu, October 5, 2018, last accessed October 6, 2023, https://www.thehindu.com/news/national/india-russia-sign-543-billion-s-400-missile-deal/article25137177.ece

[14] Dinaker Peri, "Payment crisis leads to uncertainty over India-Russia defence deals," The Hindu, August 20, 2023, last accessed October 6, 2023, https://www.thehindu.com/news/national/payment-crisis-further-delays-defence-deals-with-russia-around-3-billion-held-up/article67216698.ece

[15] Manjeet Negi, "To boost Make in India, IAF cancels plans to buy 48 Mi-17 choppers from Russia," India Today, April 16, 2022, last accessed October 6, 2023, https://www.indiatoday.in/india/story/make-in-india-iaf-mi-17-choppers-russia-1938341-2022-04-16

[16] "Su-30MKI upgrades postponed; Deal to license build 12 more jets also deferred" Hindustan Times, July 18, 2022, last accessed October 6, 2023 https://www.hindustantimes.com/videos/su30mki-upgrades-postponed-deal-to-license-build-12-more-jets-also-deferred-101658150885827.html

[17] Ranjit Bhushan, "crucial russian defence supplies to india delayed," Money Control, November 18, 2022, last accessed October 10, 2023, https://www.moneycontrol.com/news/business/economy/crucial-russian-defence-supplies-to-india-delayed-9559881.html

India's dependence on Russian weaponry is high: over 90% of its armoured vehicles, 69% of combat aircraft and 44% of surface warships and submarines are Russian-made or made under Russian license.[18] This means that India imports nearly ten thousand spares and line replacement units annually from Russia to keep up these platforms. Since the war, India has attempted to produce its own spare parts and replacement units and even explored the production of sub-assemblies and spares for Soviet and Russian weaponry in collaboration with Ukroboronprom, the umbrella corporation of Ukrainian defence companies. Unfortunately, both these endeavours have failed to produce the desired results.[19]

Given that the war rages on with no end in sight, India is looking for solutions to meet its immediate security needs. There is growing concern that even if the war ends in 2024, the Russian defence industry will need time to recover and reach its pre-war export levels. In addition, the security establishment in India believes that a post-war world order will continue to punish Russia for its actions in Ukraine through sanctions, thereby complicating any trade. Hence, India's Russia problem in the defence sector is here to stay, and so are India's efforts to find short- and long-term solutions.

2.3 The problem of uncharted territories

A recent RAND study[20] that examines the effects of new technologies on deterrence has noted that "collections of emerging technologies—especially in the realms of information aggression and manipulation, automation, hypersonic systems, and unmanned systems—hold dramatic implications for both the effectiveness and stability of deterrence." The Indian security establishment is acutely aware of these implications and increasingly focuses on augmenting its deterrence capabilities vis-à-vis threats from these technologies.[21]

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[18] James Hackett, "The Military Balance 2023," The International Institute for Strategic Studies, last accessed October 10, 2023, https://www.iiss.org/en/publications/the-military-balance/

[19] Vivek Raghuvanshi, "India braces for sanctions on Russia to delay weapons programs, deliveries," DefenseNews, March 2, 2022, last accessed October 10, 2023, https://www.defensenews.com/global/asia-pacific/2022/03/02/india-braces-for-sanctions-on-russia-to-delay-weapons-programs-deliveries/

[20] Mazarr, Michael J., Ashley L. Rhoades, Nathan Beauchamp-Mustafaga, Alexis A. Blanc, Derek Eaton, Katie Feistel, Edward Geist, et al. "Disrupting Deterrence: Examining the Effects of Technologies on Strategic Deterrence in the 21st Century." RAND Corporation, April 14, 2022, last accessed October 10, 2023, https://www.rand.org/pubs/research_reports/RRA595-1.html.

[21] Nishant Rajeev,Anit Mukherjee and Rajeswari Pillai Rajagopalan, "A renewed focus on emerging technologies," The Hindu, November 21, 2023, last accessed November 22, 2023, https://www.thehindu.com/opinion/op-ed/a-renewed-focus-on-emerging-technologies/article67554282.ece

The advent of hypersonic weapons has significantly raised the stakes in deterrence strategies. These weapons can surpass most existing defence systems and have fundamentally altered the cost of aggression for adversarial states. Their unmatched speed and evasion capabilities frame aggression as a high-risk endeavour, providing a strategic advantage by making hostile actions more difficult and costly.[22]

Similarly, the integration of AI and autonomous systems has revolutionized decision-making processes, reduced response times and increased precision in targeting. These technologies provide real-time situational awareness, granting military commanders unparalleled insight into adversarial movements. This heightened awareness and rapid response capability sends a powerful message of readiness to counter aggression swiftly, serving as a deterrent against potential adversaries.[23]

However, a new paradigm of non-kinetic deterrence has emerged alongside these advancements. Cyber capabilities have become instrumental in dissuading adversaries through infiltration and disruption of critical infrastructure. Information operations leveraging technology to disseminate disinformation further complicate adversarial decision-making processes, showcasing a capacity to disrupt the information environment.

Despite the promise of these technologies, concerns about weakening deterrence mechanisms have surfaced. Rapid decision-making, especially with hypersonic weapons and autonomous systems, could lead to unintended escalations and miscalculations during crises. Vulnerabilities arising from reliance on cyber capabilities could compromise essential military infrastructures, raising doubts about a state's capacity to counter aggression effectively.

The continuous development of advanced technologies in the military sector could create a competitive dynamic among nations, leading to an arms race, destabilizing global security systems. Additionally, integrating these technologies challenges established norms and legal frameworks governing warfare, leading to debates around accountability and compliance with international humanitarian law.

The advancement and dissemination of military technologies also pose challenges in dealing with inequality and asymmetric threats. While technologically advanced states benefit from strategic advantages, non-state actors can exploit these technologies to pose asymmetric threats, creating a complex and challenging security environment.

To summarize, the introduction of new technologies provides the Indian military with unprecedented opportunities to enhance deterrence capacities. However, these advancements come with inherent challenges and complexities that require a comprehensive reassessment of security strategies to effectively navigate the evolving global security landscape. It is within this context that the Indian defence establishment is looking to expand its defence partnerships to prepare for new forms of warfare in the future. Hence, it is looking beyond traditional suppliers to meet its need for cutting-edge technologies.

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[22] Lt. Gen. Deependra Singh Hooda (Retd.), "From Mountains to Microchips: Technology and India-China Deterrence Stability," Delhi Policy Group, May 23, 2023, last accessed October 10, 2023, https://www.delhipolicygroup.org/publication/policy-briefs/from-mountains-to-microchips-technology-and-india-china-deterrence-stability.html

[23] Lt. Gen. Deependra Singh Hooda (Retd.), "From Mountains to Microchips: Technology and India-China Deterrence Stability," Delhi Policy Group, May 23, 2023, last accessed October 10, 2023, https://www.delhipolicygroup.org/publication/policy-briefs/from-mountains-to-microchips-technology-and-india-china-deterrence-stability.html

3 India's attempts at diversifying defence partnerships

3.1 The groundwork

It is essential to closely examine the policy changes made by India regarding its defence imports. These changes aim to diversify imports to meet immediate needs while increasing self-reliance to secure long-term needs. By doing so, we can identify opportunities and challenges for potential trade partners looking to increase trade with India.

While procurement is one of the critical responsibilities of the Government of India, no single federal law governs defence procurement in the country. In the case of defence capital procurement, a fluid governance structure is regulated by several sets of rules. The most significant are the ones the Ministry of Defence (MoD) stipulates. The latest version of these manuals is the Defence Acquisition Procedure (DAP) 2020 manual, which lays down India's defence procurement rules and procedures. It applies to both domestic and foreign suppliers.[24]

The DAP 2020 is geared towards supporting the growth of an indigenous defence ecosystem; therefore, it offers new incentives for indigenous arms production through preferential treatment for domestic entities. The clearest signal of the indigenization intent is the pecking order that the DAP 2020 lays down for capital procurement of defence equipment.[25] Buying Indigenously Designed, Developed and Manufactured (IDDM) equipment and platforms is at the top of this order, placing the purchase of foreign-designed and manufactured equipment at the bottom.

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[24] Department of Defence Production, Ministry of Defence, "Defence Acquisition Procedure 2020," https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=&ved=2ahUKEwj7xov_x4SDAxXP-jgGHYDGD_MQFnoECBQQAQ&url=https%3A%2F%2Fwww.ddpmod.gov.in%2Fdefence-acquisition-procedure-2020&usg=AOvVaw37EVUI9UvDOe1zk_VYC2_H&opi=89978449

[25] Department of Defence Production, Ministry of Defence, "Defence Acquisition Procedure 2020," https://www.ddpmod.gov.in/defence-acquisition-procedure-2020

Further, the DAP 2020 has introduced the innovative 'strategic partnership model' (SPM), which refers to the participation of private Indian firms along with a foreign Original Equipment Manufacturer (OEM) under 'Make in India' in defence manufacturing. The model aims to act as a global value chain integrator by building an extensive ecosystem of R&D partners, specialized manufacturers and sellers. The focus is on micro, small and medium enterprises (MSMEs).

3.2 Push for Self-Reliance

The Atmanirbhar Bharat Abhiyaan, also known as the Self-reliant India campaign, is a major initiative of the Indian government to foster self-sufficiency and independence in all relevant domains by promoting indigenous processes, products and solutions.[26] The campaign seeks to bolster the global supply chain markets by encouraging the use of Indian goods and services. In the field of defence manufacturing, the Indian government is increasingly involving the private sector and inviting foreign companies to partner with domestic firms to create innovative and advanced platforms that public companies are unable to develop due to their limited resources and capacities.

To develop robust supply chains for critical materials, components and equipment, the government is enhancing opportunities for private companies. It has introduced several incentives to encourage in-house research and development investments and urges domestic firms to establish transfer of technology agreements with their foreign counterparts. Additionally, the government has simplified bureaucratic procedures to facilitate effective decision-making by implementing single-window clearances (an online portal known as National Single Window System is active). The defence ordnance factories have been corporatized, and a Project Management Unit has been established to aid in contract management.

[26] "Self-reliance is not an option, but a necessity: Rajnath Singh" The Economic Times, June 17, 2023, last accessed October 15, 2023 https://economictimes.indiatimes.com/news/defence/self-reliance-is-not-an-option-but-a-necessity-rajnath-singh/articleshow/101065487.cms

The government has also issued four 'positive indigenization lists' of weapons or platforms prohibited from imports that must be procured domestically.[27] Earlier, in the 2018-19 budget, two Defense Industrial Corridors (DICs) were announced, one in Uttar Pradesh and the other in Tamil Nadu. The government aims to attract investments worth USD 1.31 billion through each DIC. In several conversations with serving senior officers of the IAF, senior officials from Defence Public Sector Undertakings (DPSU) and the Ordnance Factory Board (OFB) and other high-ranking retired officials from the Defence Research and Development Organization (DRDO), it became evident that the Indian government and armed forces are prioritizing the indigenization of the Indian defence ecosystem.[28]

3.3 Push for innovation and role of MSMEs

Closely connected with the Indian government's push for self-reliance is the drive for innovation. For the latter, Micro, Small and Medium Enterprises (MSMEs) are being seen as a key player. These MSMEs are, in general, seen as the future of innovation that can fuel India's growth over the following decades. Hence, as far back as 2012, the Indian government released a public procurement policy that mandated a minimum of 20% procurement from MSMEs for all government needs. The MoD has followed these guidelines in the defence and aerospace sector and is now pushing for even higher percentages of defence procurement from MSMEs. There are close to 10,000 MSMEs in India's defence and aerospace sector, and the MoD aims to increase its engagement to double this number in the next decade. Several policy changes have been implemented to encourage MSMEs' participation in the defence and aerospace sectors.[29]

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[27] Ministry of Defence, "4th POSITIVE INDIGENISATION LIST," last accessed October 15, 2023, https://mod.gov.in/sites/default/files/4th-PIL_comp.pdf

[28] PIB, Ministry of Defence, "Self Reliance in Defence Sector," August 4, 2023, last accessed October 15, 2023, https://pib.gov.in/PressReleaseIframePage.aspx?PRID=1945710#:~:text=During%20the%20last%20three%20financial,capital%20procurement%20of%20Defence%20equipment.

[29] PIB, Ministry of Defence, "Promotion of MSMEs in Defence Sector," March 28, 2022, last accessed October 15, 2023, https://pib.gov.in/PressReleasePage.aspx?PRID=1810448

The Indian government has tried integrating the Indian defence industry with global supply chains. This has resulted in global OEMs, particularly Western companies, integrating India into their supply chains and significantly increasing sourcing from India. As a result, Indian companies, both DPSUs and private, have expanded their presence in the supply chains of major defence and aerospace manufacturers, providing a variety of components, systems and sub-systems over the past two decades.

For instance, Boeing sources products worth USD 1 billion annually from India, with over 60% of this manufacture occurring through a network of over 300 supplier partners. More than 25% of these partners are MSMEs. Tata has formed joint ventures with Boeing, Lockheed Martin and Airbus and has been expanding its expertise in this field. In a joint venture with Boeing, Tata manufactures aero-structures for the former's AH-64 Apache helicopter, including its fuselage, secondary structures, vertical spar boxes for the fuselage, Crown and Tail-cones for Boeing's CH-47 Chinook helicopters and vertical fin structures for the 737 family of aircraft.

Similarly, Lockheed Martin has joint ventures with Tata Advanced Systems Limited (TASL) in Hyderabad, manufacturing over 180 empennages for the C-130J Super Hercules transport aircraft and delivering 157 S-92 helicopter cabins. It has also started manufacturing fighter aircraft wings, with over 70% of parts produced in India. According to Lockheed, the joint ventures have clocked exports worth USD 600 million and generated over USD 200 million in Indian industry revenue. Airbus states that their commercial aircraft are partly designed and made in India. The company purchases parts and engineering services worth USD 650 million annually from over 45 Indian suppliers.

These are just some examples of how foreign OEMs can benefit from a changed policy context in India. To push such collaborations to the next stage, the Indian government seeks to promote Joint Ventures between MSMEs in India and abroad. This is viewed as consequential due to the need for innovation, for which a nascent MSME sector needs support and expertise from across the world. While most of these technologies are from the military domain, there is increasing interest in the adoption of civilian technologies for

military use, especially in domains such as logistics, maintenance, imaging, human resource management, semiconductors, quantum computing, etc. The thinking in India is that MSMEs are ideally poised to explore the military implications of such technologies as they are independent of the path dependencies suffered by government undertakings and large private companies in the defence sector.

Therefore, MSME promotion is a critical pillar in India's bid towards self-reliance and capability development for national security. Even as India is diversifying its defence partnerships, MSMEs are being seen as an avenue where such exploration can be expanded and actualized. These lessons are learned from the role played by MSMEs in other countries such as the US, UK, Israel, South Korea, etc.

4 A New Defence Context in Europe

Russia's war on Ukraine has severely disrupted the existing security order in Europe. While the war has raised security concerns across Europe, similar concerns were raised in 2014 when Russia annexed Crimea. However, during that period, the EU rallied around NATO, and its intentions to improve self-reliance for security withered.

Questions about Europe's defence are now leading to very different answers. While former US President Trump's policies and Brexit have much to contribute to this process, European governments are beginning to question their overdependence on security guarantees from the US. This is evident from a 30 percent increase (compared to 2013) in defence spending by Central and Western European countries. Additionally, within Europe, divisions have emerged between Central and Eastern European states that are on the frontlines of the Ukraine conflict and Western European states that are supporting Ukraine's war effort. Overall, the need to become self-sufficient in defence preparedness, at the individual level as well as at the Union level, is felt more starkly in Europe today than ever before.

Hence, European states are in a similar situation (with respect to Russia) as India vis-à-vis China. The European Union is now invested in building a bureaucratic defence infrastructure that can leverage the EU's mandate to establish an effective defence industrial policy, reminiscent of the reforms India initiated to build its defence capabilities.[30]

The driving force behind this policy direction is the need for rearmament and a solid defence industrial base. While defence budgets have increased[31] drastically across Europe since the beginning of the war, ensuring these increases lead to a self-reliant and cohesive security architecture remains challenging. The EU also needs to ensure that defence spending and preparedness for the future is based on a proactive policy that benefits frontline

states in Central and Eastern Europe equally. Such a policy is bound to complement NATO's deterrence in a post-war Europe. This new direction is being matched with required funding at the EU's level.

The European Defence Industry Reinforcement Through Common Procurement Act, or EDIRPA, has been brought in to encourage cooperation in procurements to make them more efficient and cost-effective. With a total budget of nearly 500 million Euros[32] until 2024, the initiative is focused on meeting immediate needs and requires consortium-led procurement. A defence innovation scheme announced in 2023 has been allocated two billion Euros for the next five years to build long-term capabilities.[33] These are good signs and indicate a fundamental shift in Europe's priorities and concerns. Experts argue that the current thinking also indicates a change from using regulatory sticks to prevent defence market fragmentation to using financial carrots to encourage defence cooperation.[34]

However, historical challenges exist in the easy implementation of this new direction. Policies and initiatives such as the establishment of Permanent Structured Cooperation (PESCO) in 2017, the European Defence Fund (EDF) in 2019 and the Directorate-General for Defence Industry and Space (DG DEFIS) in 2021 have led to the emergence of the European defence technological and industrial complex (EDTIC).[35] However, a closer look at initiatives such as the European Defence Industrial Development Programme (EDIDP), a precursor to the EDF, shows that progress has been restricted to a few actors.

For instance, large corporations such as Leonardo, Thales, Indra Sistemas, Airbus and Dassault Aviation are delivering projects worth 75% of the total funding awarded by the EDIDP. Furthermore, most of these companies represent the industrial interests of just four countries – France, Spain, Italy and Germany.[36] This concentration of manufacturing power will have to be tackled to meet the challenges of Europe's new security environment and build the capacities of smaller European states. This, again, is comparable to the Indian defence ecosystem, where government-controlled Public Sector Undertakings (PSUs) have hitherto been at the forefront of defence innovation and production, creating and sustaining a monopoly. In India as well as in Europe, the manufacturing environment demands

policies that encourage horizontal expansion of their defence technological and industrial complexes. This is precisely where Small and Medium Enterprises can play a crucial role in meeting domestic demand, co-development and manufacturing and, most importantly, enhancing collaborative defence.[37]

[30] Sofia Besch, "EU Defense and the War in Ukraine," CARNEGIE Endowment for International Peace, December 21, 2022, last accessed November 16, 2023, https://carnegieendowment.org/2022/12/21/eu-defense-and-war-in-ukraine-pub-88680

[31] European Defence Agency, "European defence spending surpasses €200 billion for first time," December 8, 2022, last accessed November 20, 2023, https://eda.europa.eu/news-and-events/news/2022/12/08/european-defence-spending-surpasses-200-billion-for-first-time-driven-by-record-defence-investments-in-2021#:~:text=Brussels%2C%208%20December%202022.,the%2026%20EDA%20Member%20States.

[32] European Council Council of the European Union, Press Release, "EU defence industry: Council reaches general approach on boosting common procurement," December 1, 2022, last accessed November 25, 2023, https://www.consilium.europa.eu/en/press/press-releases/2022/12/01/eu-defence-industry-council-reaches-general-approach-on-boosting-common-procurement/

[33] European Union, "EU Defence Innovation Scheme (EUDIS) ", last accessed November 1, 2023, https://eudis.europa.eu/index_en

[34] Sofia Besch, "EU Defense and the War in Ukraine," CARNEGIE Endowment for International Peace, December 21, 2022, last accessed December 4, 2023 https://carnegieendowment.org/2022/12/21/eu-defense-and-war-in-ukraine-pub-88680

[35] Raluca CsernatonI, "The EU's Defense Ambitions: Understanding the Emergence of a European Defense Technological and Industrial Complex," CARNEGIE Europe, December 5, 2021, last accessed November 14, 2023, https://carnegieeurope.eu/2021/12/06/eu-s-defense-ambitions-understanding-emergence-of-european-defense-technological-and-industrial-complex-pub-85884

[36] Ana Curic, Paulo Pena and Manuel Rico, "Small group of big arms producers profit most of EU defence funding," Investigate Europe, March 28, 2022, last accessed December 5, 2023, https://www.investigate-europe.eu/posts/money-for-eu-defence-development-went-to-a-small-group-of-arms-producers

[37] Collaborative defence is a concept by scholar Michael Raska whereby the military partners with scientists, academics, technologists, entrepreneurs, and the wider industry to incorporate emerging technologies effectively.

5 Small and Medium Enterprises: opportunities for a new framework

Small and Medium-sized Enterprises (SMEs) are a crucial part of the European defence industry, playing a significant role in defence supply chains. They comprise over 90% of all European defence companies and employ approximately 1.2 million people. SMEs also contribute significantly to the European defence industry's research and development (R&D) spending. Currently, around 2,000 SMEs are operational in this sector.[38] They manufacture diverse products and services, such as aircraft and spacecraft components, land vehicles and weapons, naval systems, electronic systems, software and IT systems, security and surveillance systems and training and simulation systems.

One of the main characteristics of SMEs is that they primarily operate nationally, which limits cross-border collaboration. The European Commission has launched several initiatives to support small and medium-sized enterprises (SMEs) in the defence sector to improve their collaboration across borders.

Backed by the EDF, initiatives such as the Enterprise Europe Network and the European Network of Defence-related Regions, recommendations on cross-border market access for sub-suppliers, the Defence Transfers Directive, etc., have been implemented to ease SMEs' access to funds and markets in Europe and abroad. As a result, SMEs constitute up to 37% of the total number of entities receiving funds from EDIDP.

Furthermore, the EDF's opening to third-country-controlled subsidiaries is a positive development for SMEs. This allows them to collaborate with foreign companies on defence projects, which can help them access new markets and technologies. Supporting research and innovation on disruptive technologies is also essential for SMEs, enabling them to develop new and innovative products and services. This helps them stay ahead of the competition and meet evolving needs of the global defence sector.

[38] Xinyue Xue, "Small and Medium-sized Enterprises (SMEs) and EU Defence Procurement Law," Sapiensnetwork, July 27, 2023, last accessed December 8, 2023, https://sapiensnetwork.eu/smes-eu-defence-procurement-law/

6 A new Defence deal between India and Europe

In light of the ongoing war between Russia and Ukraine and Europe's increasing interest in the Indo-Pacific region, India and the EU have been working to improve their security and defence cooperation. Both parties held their first Security and Defense Consultations in 2023 in Brussels. In June 2023, the EU appointed its first Defense Attaché to India, indicative of growing cooperation between the two sides. Additionally, the first joint naval exercises between India and the EU were held in October.

These initiatives demonstrate the importance of improved security cooperation between India and the EU, even while India maintains a relationship with Russia that prevents it from publicly criticizing Russia's aggression towards Ukraine. As both sides continue to work towards a stronger partnership, they should consider adopting a new approach to increasing defence trade that benefits both parties. Collaboration between small and medium-sized enterprises in this sector could be crucial, as these organizations have the potential to contribute to the horizontal expansion of their respective defence industries. However, they require greater support from their governments to do so effectively.

6.1 Areas of cooperation

Several needs of the Indian Armed Forces can be fulfilled by small enterprises in Europe, either through end-to-end contracts or as manufacturers of sub-components, in partnerships with Indian small and medium enterprises. Based on an analysis of Requests for Proposals put forth by India's Ministry of Defence over the past five years, trends in procurement data, expert interviews and analysis of Innovations For Defence Excellence (iDEX) awards, some potential areas that overlap with the capabilities of European SMEs include:

- Autonomous systems, where diverse ground-based Unmanned Ground Vehicles (UGVs) take centre stage. This includes applications ranging from countering illegal drones and AI-driven mine marking to armed drones and maritime Unmanned Aerial Vehicles (UAVs). Collaboration opportunities extend to system integrators, remotely piloted airborne vehicles and collision avoidance systems for UAVs.

- Command, Control, Communications, Computers, Intelligence, Surveillance and Reconnaissance (C4ISR) offers potential collaboration in long-range surveillance, augmented reality and addressal of physical security challenges across land, ocean and air. Additionally, joint efforts can be directed towards AI-based satellite image analysis and development of long-endurance aerial surveillance platforms.

- Data analytics emerges as a pivotal area for collaboration, focusing on efficiently sifting through vast databases to aid decision-making processes.

- Survivability technologies, such as individual protection systems, active defence mechanisms and real-time health monitoring offer avenues for shared advancements in security and personnel well-being on the battlefield.

- Collaboration in communication and electronic warfare can explore next-gen communication technologies, foliage penetration radar and tactical Local Area Networks (LAN).

- Robotics, including amphibious crawling and underwater robotics, invite partnerships for research, development and testing.

- Logistics, supply chain and mobility solutions present collaborative opportunities in aerial delivery, Artificial Intelligence (AI) in supply chain management and advanced infrastructure development, such as rapid foldable infantry assault bridges.

- Manufacturing, preventive maintenance and automation present collaboration prospects in producing UAV components, environmental testing and predictive machine monitoring.

- Border security needs call for shared efforts in geospatial intelligence, video analytics and Unmanned Ground Vehicles (UGVs) integration for enhanced surveillance.

- Quantum computing and cybersecurity, vital for secure communication and data protection, provide further grounds for mutual collaboration.

- Lastly, a miscellaneous category encompasses a wide range of technologies, from AI-driven robotics to wearable devices, nanotechnology and specialized components for aircraft.

These diverse areas of cooperation underscore the multifaceted landscape of technological advancements, presenting opportunities for collaborative research, development and implementation between European and Indian SMEs.

7 Challenges and recommendations

Divergent regulatory frameworks between India and Europe create a significant challenge for defence trade. India's defence procurement policies and export control regulations differ greatly from its European counterparts'. This variation makes it complicated for EU SMEs to comply with regulations, requiring a thorough understanding of different rules and procedures. Further, both sides impose strict compliance standards on defence trade, including export licensing, intellectual property protection, technology transfer controls and stringent quality assurance criteria. SMEs often find it financially burdensome and operationally complex to meet these standards, leading to delays in transactions and increased overhead costs.

In addition, European SMEs struggle to offer competitive prices due to higher labour costs, stringent regulations and expensive research and development costs. The cost of developing cutting-edge defence technologies significantly impacts pricing strategies, making it difficult to match the competitive pricing offered by larger OEMs, which might have lower operational expenses. Therefore, European SMEs may need help aligning their pricing strategies with the stringent cost demands of these procurement procedures, impacting their competitiveness in bidding processes and contract awards.

Negotiating technology transfer agreements between Indian and European SMEs involves navigating complex intellectual property rights and safeguarding against technology leakage or misuse. Balancing the need for technology transfer with stringent IP protection regulations poses a persistent challenge, impacting collaboration and hindering knowledge exchange.

The DAP 2020 mandates foreign OEMs to meet offset obligations as a condition for defence contracts. These obligations demand investing in local industries, technology transfer or skill development, which can be financially challenging for small companies, affecting

their profitability and operational capabilities. Further, finding suitable partners to fulfil offset obligations in a mutually beneficial manner can take time due to differences in technological capabilities, cultural practices and operational procedures. Such differences often complicate the establishment of effective partnerships, leading to challenges in fulfilling offset requirements.

Limited access to comprehensive market information is another challenge that can prevent European SMEs from making informed decisions and developing effective market strategies, leading to missed opportunities or misaligned business approaches. Therefore, navigating complex logistics in defence trade, including transportation, customs clearance and managing intricate supply chains presents additional hurdles. Addressing these logistical challenges requires careful planning and robust operational capabilities, which only larger companies usually possess.

To overcome these challenges, fostering collaboration, promoting dialogue between governments, enhancing market intelligence sharing and creating support mechanisms for SMEs can facilitate smoother defence trade relations between India and Europe.

7.1 Recommendations

- Cooperation between Indian and European defence SMEs can significantly improve through a multifaceted approach as part of existing strategic initiatives. First, integrating trade and partnership opportunities for these SMEs within Security and Defense Consultations can enhance engagement. By including SME interests in these discussions, opportunities for mutual growth and collaboration can be explored, fostering a more robust partnership.

- To facilitate knowledge transfer and best practice sharing between industry bodies from Europe and India, sector-wise studies and comprehensive SWOT analyses can be commissioned and widely disseminated to relevant stakeholders to understand each other's strengths, weaknesses, opportunities and threats. Similarly, to help European SMEs navigate the regulatory landscape in India, the Indian Ministry

of Defence can offer specialized training sessions on Indian regulatory frameworks. This will equip European entities with the knowledge and understanding to overcome regulatory hurdles effectively.

- Critical technology cooperation clearance needs to be expedited to catalyze innovation and progress. The introduction of separate definitions and categories for use cases, distinct from dual-use technologies, which are heavily regulated by the EU, is proposed. Several civilian technologies hold the potential to support defence preparedness. These technologies can be selected on the basis of specific cases to accelerate the understanding and utilization of technology for defence purposes.

- Establishing a dedicated joint task force to manage intellectual property related to defence technologies will indicate a clear commitment from both sides to safeguard innovative ideas and technologies. Further, specific sub-groups focusing on the Cyberspace, AI and Quantum domains can be created under this task force to address the evolving technological landscape, ensuring that collaborative efforts remain at the forefront of innovation. The India-EU Trade and Technology Council could host such a task force.

- Like the defence corridors established in India, an India–Europe defence industry corridor can be established to create a seamless channel for cooperative ventures. A government-approved database can complement this corridor for convenient access and mapping to facilitate efficient networking and collaboration. Additionally, the Indian government could consider category-based offset requirements, which offer more relaxed offsets for foreign SMEs.

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Dr. Gaurav Saini co-founded New Delhi-based think tank, the Council for Strategic and Defense Research (CSDR). At CSDR, he leads on strategy, product design, and partnerships. He is a member of the Quad Think Tank Leaders Network, wherein he collaborates across Quad nations to shape the narrative on the Indo-Pacific. Dr. Saini's expertise and interests span foreign policy, geopolitics, strategic culture, defense industry, regionalism and conflict resolution. He earned his PhD in International Politics from the Jawaharlal Nehru University, New Delhi.