

रक्षा DRISHTI

DEFENCE. STRATEGY. INSIGHT.



FORGING MILITARY MIGHT
INDIA'S DEFENCE MODERNISATION JOURNEY



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Message from the Head of the Institution

The January edition of RAKSHA-DRISHTI engages with the theme of military modernisation and strategic transformation. As a publication of the Amity Institute of Defence and Strategic Studies, the magazine reflects our commitment to serious academic engagement with questions of national security, military reform, and geopolitical change. It demonstrates that our students are not only studying these issues but are analysing them with discipline, depth, and intellectual responsibility.

Publications such as this play a vital role in shaping analytical maturity within an academic community. They encourage structured argumentation, responsible scholarship, and informed debate, qualities essential for future practitioners, scholars, and policymakers in the security domain. The depth of research and clarity of thought reflected in this issue are encouraging indicators of that growth.

I congratulate the editorial team and all contributors for their professionalism and dedication. May RAKSHA-DRISHTI continue to grow as a forum for rigorous inquiry and constructive dialogue, strengthening our academic community and contributing meaningfully to the wider strategic discourse

**Best wishes for continued success
Jai Hind....**



Brig. (Dr.) Anand Kumar Tewari (Retd) brings over 33 years of experience in educational administration through distinguished service in university education and the Indian Army. He held senior appointments, including Additional Director General and Deputy Director General Military Training (Army Education), Chief Instructor and Principal AEC Training College, and Vice Principal of Sainik Schools. He earned a PhD (2013–15) on Chinese geopolitics, developing a prognostic model, and is a Chinese language expert in strategic studies.

Message from the Faculty Coordinator

It gives me immense pleasure to see the release of the Department Magazine, RAKSHA-DRISHTI, a publication that will undoubtedly serve as a vital platform for analysing contemporary geopolitical and security challenges. Our students have actively contributed their insights, perspectives, and talents, making this publication both enriching and inspiring.

As Mentor and Coordinator, I remain grateful to our writers, reviewers, and readers whose intellectual engagement sustains this platform. I encourage you to read with an open yet analytical mind.

On this occasion, I would like to convey my gratitude to Brig (Dr) Anand Kumar Tewari (Retd), Head of Institution for his constant support and guidance, which have been instrumental in motivating us and shaping this achievement.

I congratulate Ms Arushi Anthal and editorial team for their hard work and vision in bringing this issue to life, and I extend my best wishes to all contributors. May this magazine continue to be a platform for expression, knowledge-sharing, and inspiration for future endeavours.

**Best wishes for continued success
Jai Hind....**



Col (Dr) Subodh Kumar Shahi (Retd) is Associate Professor at AIDSS. He was commissioned in Mechanised Infantry (Recce &Sp), has more than 36 yrs of illustrious career in Indian Army. An alumni of Sainik School Amaravathinagar and Defence Services Staff College (DSSC), Wellington. He holds PhD in International Relations from Pondicherry Central University.

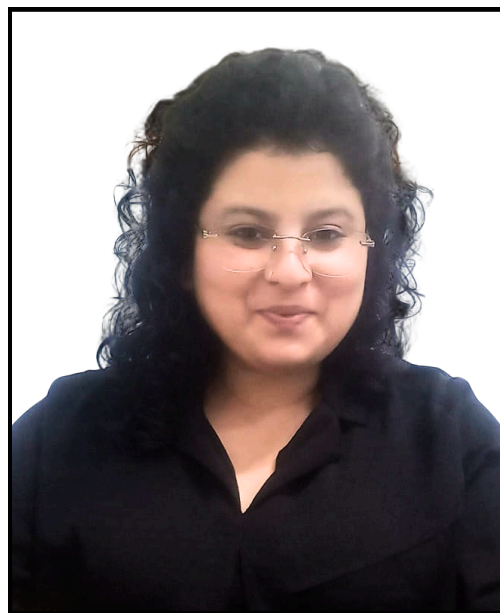
Message from the Editor's Desk

It gives me immense joy and pride to present to you the January 2026 issue of Raksha Drishti – a quarterly magazine by AIDSS. Raksha Drishti is an outcome of shared ideas, commitment and sheer hard work of a wonderful team, without which this would not have been possible.

First and foremost, I would like to thank Brig (Dr) Anand Kumar Tewari (Retd), Head of Institution and Col (Dr) SK Shahi, Faculty Coordinator Raksha Drishti, for their constant trust and encouragement that helped me translate this vision to life. I remain deeply humbled by their faith in me.

I aspire for Raksha Drishti to become more than just a publication which serves as a vibrant platform for students and scholars of AIDSS to showcase their immense potential. I hope that this magazine nurtures curiosity and helps young minds feel empowered to contribute to larger issues on defence and strategic studies. It is with humility that I share this edition with you.

Jai Hind



Arushi Anthal is a PhD Research Scholar at the Amity Institute of Defence and Strategic Studies (AIDSS), Amity University, Uttar Pradesh. She holds a Master's degree in Political Science and an M.Phil. from the Department of Strategic and Regional Studies, University of Jammu. She is also UGC NET JRF qualified in Political Science. In addition to her doctoral research, she serves as a Visiting Faculty at AIDSS, Amity University.

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STRATEGIC ANALYSIS

DEFENCE MODERNISATION

India's Armed Forces and Redefinition of Power



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Military power was once defined in simple terms: the number of soldiers, tanks, ships, and aircraft a country could put into the field. In the twenty-first century, that definition has broadened dramatically. Today, the ability to integrate technology, sustain long supply chains, innovate domestically, and operate across domains has become as important as the hardware itself. For India, this shift is no longer theoretical. Over the past two decades, India's defence capability has begun to change in visible and measurable ways. India's armed forces are still rooted in the legacy of a post-colonial security posture, but the trajectory from dependence on foreign supplies to growing domestic capability is unmistakable.

What was once a force heavily reliant on imported systems is now making a concerted effort to produce, upgrade, and export military platforms. The transformation is visible in defence budgets, production figures, export data, and policy reforms. These trends point to a more robust, future-ready military posture that aligns capability building with strategic autonomy.

Historical Foundations: Inherited Strength, Structural Limits

At the moment of independence in 1947, India inherited the structure and equipment of a colonial army. This force was professional and battle-tested, but its doctrine, training systems, and industrial base were shaped for imperial priorities rather than Indian strategic realities. Defence expenditure rose during wars and fell during periods of relative calm. Licensed production and foreign procurement became the default model. India made its first sustained attempts at self-reliance by expanding public sector undertakings and ordnance factories. Licensed production of aircraft, tanks, and warships became significant, but design autonomy remained elusive. The Defence Research and Development Organisation (DRDO) has existed since the late 1950s, but its work has not translated into widespread production of indigenous systems.



The data captures India's transition from episodic capability building to an industrially anchored model of military modernisation.

Defence exports are another striking indicator of change. From modest figures in the early 2000s and early 2010s, exports have grown significantly. India's defence exports have grown sharply since the early 2010s, reaching ₹23,622 crore by FY 2024–25. These exports now span products ranging from basic gear to aircraft components and electronic systems. A critical part of this shift has been structural reform of procurement policies.

Historically, defence procurement in India was slow, risk averse, and mired in bureaucratic hurdles. Categories were introduced to prioritise indigenous suppliers and require higher local content in major contracts. These policy changes helped tilt procurement away from foreign purchases toward domestic manufacturing. Private sector participation has expanded alongside these reforms. Approximately 75% of capital acquisition is reserved for domestic production, a significant departure from past decades when imports dominated. Once peripheral, private firms now produce subsystems, electronics, ammunition, and platforms in collaboration with both domestic and foreign partners.

The private sector's contribution to defence exports exceeds 60%, showing that competitive capability now extends beyond public sector entities. Structural reforms have also included corporatisation of the Ordnance Factory Board and efforts to make public-sector enterprises more efficient and accountable. The establishment of specialised bodies like the Indigenous Defence Equipment Exporters Association in 2019 was intended to professionalise export promotion and support domestic manufacturers entering global markets. Modern forces require modern manpower structures, not just hardware.

The introduction of the Agnipath recruitment scheme in 2022 marked an attempt to reshape the human capital side of military service. While widely debated, this reform aimed to create a younger, more technically capable force profile and reduce long-term pension liabilities. Critics highlight concerns about retention and continuity, but the policy reflects broader efforts to align personnel structures with contemporary defence needs.

Why Modernisation Looks Different Today

The character of warfare is changing globally. Cyber operations, space, and information-domain competition mean that hard power must be matched with resilient infrastructure and legal, diplomatic, and economic instruments. India's defence modernisation is becoming part of a broader national effort to link technology, manufacturing, and diplomacy into a single posture. Indigenous production values have climbed, reflecting higher domestic content and greater output. Exports have hit new highs, showing that Indian products are finding customers abroad. This does not solve every problem, but it shows clear momentum.

Technology integration is among the most consequential dimensions of modernisation. The Indian armed forces have accelerated adoption of unmanned systems, precision weapons, advanced sensors, and networked command-and-control systems. Drones and counter-drone systems are increasingly standard in surveillance and battlefield awareness. The Defence Research and Development Organisation and emerging private defence innovators are focusing on artificial intelligence, autonomous systems, secure communications, and electronic warfare.

Training institutions have also been upgrading curricula to incorporate technology, joint doctrines, and new warfare domains such as cyber and space. Investments in simulation, data analytics, and combined arms exercises are now regular features of training regimens. These changes help close the gap between equipment capability and operational proficiency.

Space and cyber are new frontiers. India now possesses dedicated military space assets, including reconnaissance and communication satellites, and continues to invest in enhancing space situational awareness. Cyber units have been established across services to counter threats in the digital domain. These developments reflect a broader understanding that future conflict will be multidimensional, requiring integrated capabilities across domains.

Beyond Big Platforms: The Quiet Modernisation of India's Soldier and Unit-Level Capabilities

Military effectiveness is ultimately generated at the level of units and formations. Wars are fought not by budgets or procurement plans, but by soldiers, battalions, and operational formations operating under real-world constraints. This is as true on the Line of Control as it is in future high-intensity conflict. Yet this layer of capability is often overshadowed by the emphasis on high-end platforms.

One way to understand military modernisation is as a layered capability stack. At the top sit strategic platforms that shape deterrence and power projection. Beneath them are operational systems: networks, logistics, surveillance, and command structures that enable sustained operations. At the foundation are tactical and soldier-level capabilities that determine battlefield effectiveness. India's modernisation effort is most visible at the top of this stack, but its most consistent and consequential progress has occurred lower down.

Over the past decade, India has made steady advances in areas that directly affect daily combat readiness. Indigenous production of small arms and infantry weapons has addressed a long-standing vulnerability in force preparedness. Assault rifles, light machine guns, sniper systems, and ammunition are increasingly sourced domestically, improving supply security and logistical resilience. Equally significant is the modernisation of the individual soldier as an integrated combat system. Improvements in body armour, ballistic helmets, night-vision devices, thermal sights, and secure communications have enhanced survivability and situational awareness across a range of operational environments, from counterinsurgency to high-altitude deployment. These developments reflect a shift from platform-centric modernisation to soldier-centric capability building.

Tactical enablers further amplify this transformation. The growing use of small unmanned systems at the platoon and company level, battlefield surveillance sensors, and counter-drone capabilities has compressed decision cycles and improved targeting accuracy. In contemporary conflict, such systems often deliver outsized effects relative to their cost, shaping outcomes without the need for major capital platforms. This dimension of modernisation is quieter and less visible, but it is foundational. It demonstrates that self-reliance under Atmanirbhar Bharat is not defined solely by the acquisition of advanced platforms but by the steady integration of capabilities that improve effectiveness, survivability, and adaptability at the level where wars are actually fought. India's modernisation story is therefore not defined only by what it plans to acquire in the future, but by what it has already begun to integrate at the level of units, formations, and soldiers.



Platforms in Context: Sea, Air, and Strategic Reach

Modernisation is often discussed through the lens of major platforms and capital-intensive acquisitions. Aircraft carriers, fighter aircraft, missile systems, and armoured formations dominate public and strategic discourse because they are visible symbols of power. While these systems are essential for deterrence and power projection, they represent only one layer of military capability. In practice, modernisation is uneven, incremental, and shaped by trade-offs between time, resources, and operational urgency. For a force as large and diverse as India's, comprehensive platform replacement across all services is neither immediate nor necessary.

A modern military depends on competent institutions and adaptable personnel. Training, doctrine development, and a willingness to experiment with new organisational forms will matter as much as the hardware itself. New procurement rules, partnerships with universities and industry, and a focus on cyber and data skills are part of this institutional shift. The Agnipath model is controversial and debated, but it is one example of how India is rethinking manpower models to keep the force lean and technically current. If India wants to convert modernisation into a lasting advantage, the emphasis must be on systems thinking. That means designing platforms to share common components, creating modular upgrades so systems can be modernised without full replacement, and investing in logistics and maintenance to keep equipment mission-ready.

This approach reflects a broader strategic preference. It also means sustaining investment in R&D so breakthroughs made in laboratories can be scaled by industry and fielded by the services. Policy levers, from acquisition rules to export incentives to targeted R&D funding, are aligned to build a durable defence industrial base tied to operational needs. India's armed forces are not just getting bigger or newer. They are changing how they generate power. The focus on technology, self-reliance, and reforms is designing a military that is more adaptable to 21st-century warfare.

Modernisation is a multiyear task with many dependencies. Yet the combination of record budgets for capital spending, growing indigenous production, identifiable platform successes, and a maturing private sector creates momentum.

The next few years will be decisive: if policy continuity, execution discipline, and investment in people hold, India will have rebuilt its force posture around locally produced, technologically advanced, and operationally integrated capabilities.

Platform modernisation matters most when it supports sustained operations, not symbolic presence. India's maritime strategy reflects its aspiration to be a security provider in the Indian Ocean region and beyond. In recent years, the Indian Navy has expanded its operational footprint with indigenous warships, submarines, and maritime patrol aircraft. The commissioning of platforms such as the indigenous aircraft carrier INS Vikrant demonstrates not only capability but also complex systems integration and shipbuilding scale.

Naval deployments, joint exercises with partner nations, and logistics agreements have increased India's presence across strategic choke points in the Indian Ocean, from the Persian Gulf to the Malacca Strait. This operational posture aligns with India's geopolitical goals of safeguarding sea lanes, protecting trade routes, and contributing to regional stability in cooperation with like-minded partners.



Source:

<https://www.orfonline.org/public/uploads/posts/image/65be0a4f747d9.png>

In the air domain, sustained investments have improved strike, surveillance, and air defence capabilities. Indigenous production of the Tejas light combat aircraft has matured from developmental delays into operational squadrons. Upgrades to legacy platforms such as the Su-30MKI (including indigenous avionics and radar enhancements) will extend their service life and increase indigenous content.

Meanwhile, strategic acquisitions such as the Rafale fighters and advanced missile systems fill capability gaps and enhance deterrence. In 2025, India signed a deal to acquire 26 Rafale jets for its navy to expand its maritime air power, illustrating a hybrid approach that marries foreign acquisition with domestic integration. These platform-level gains are most effective when integrated with improvements at the unit and soldier level. These figures are significant because they show that India's defence industry can deliver at scale – not just in niche segments but across a spectrum of products, from basic gear to complex platforms. More than 16,000 MSMEs are now active in the defence sector, strengthening supply chains and increasing competitive capacity.

The most substantial impact of this evolution is strategic autonomy. During the COVID-19 pandemic and subsequent global supply disruptions, the risks of heavy dependence on foreign suppliers became evident. By developing domestic production capacity and diversifying supply chains, India has built a more resilient defence industrial base. This resilience translates into operational confidence, faster repair and upgrade cycles, and greater control over sovereign capability.

Self-reliance is pursued without isolation. India continues to collaborate with foreign partners on technology co-development, joint production, and interoperability arrangements. This approach allows India to leverage global expertise while maintaining autonomy over critical systems and supply chains. Despite measurable progress, challenges remain. Advanced propulsion systems – especially jet engines and marine gas turbines – are still largely imported, limiting full autonomy on high-value systems. Project execution timelines remain a concern, with delays affecting cost and readiness. India's defence R&D spending, while increasing, remains modest compared to leading military powers, and scaling research ecosystems will be essential to future innovation.

Human capital also remains a constraint. Retaining skilled personnel capable of operating and maintaining advanced systems requires continuous investment in training, career pathways, and incentives. Institutional reform must keep pace with technological evolution to avoid fragmentation and capability gaps.



Source: *The Indian Express*

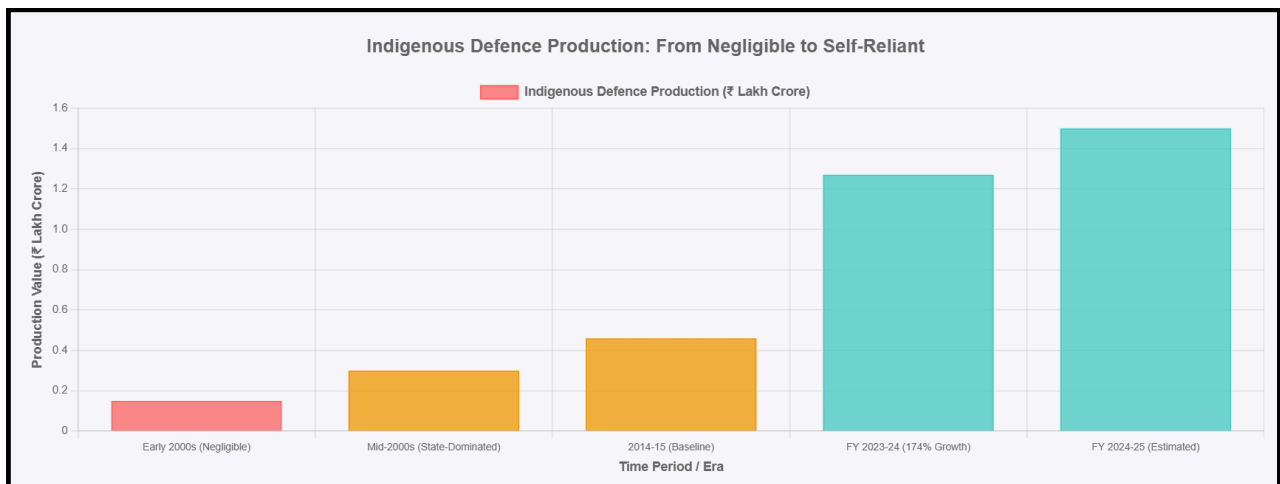
What India’s Modernisation Really Means?

India’s military modernisation story is often told through headlines and big-ticket announcements. The reality is more uneven—and more interesting. Viewed across two decades of steady transformation, India’s military evolution reveals a shift from inherited strength to intentional capability building. Power is no longer defined solely by platform numbers or imported systems but by the ability to sustain operations, integrate advanced technology, innovate under pressure, and project influence beyond borders.

India now ranks among the world’s largest defence spenders, has developed a growing indigenous industrial base, and is steadily increasing exports and global defence engagement. Modernisation is tied to industrial capacity; technology is embedded in doctrine; and reform continues to shape how India prepares for future conflict.



India’s armed forces are still a work in progress. Transformation at this scale takes time, discipline, and strategic continuity. But the foundation is stronger than at any point since independence. Modernisation is now inseparable from industrial capability, and innovation is no longer an aspiration but a necessity. In an era where wars are influenced as much by supply-chain resilience, software integration, and technological edge, as by sheer firepower, India’s evolving defence posture matters. The country is not merely acquiring military power—it is learning how to produce, sustain, and adapt it on its own terms. That seismic shift, above all, defines what it means for India’s military to be future-ready.



Indigenous defence production has transitioned from marginal output to a core pillar of India’s military modernisation strategy.

FEATURE ARTICLE

Modernisation at the Muzzle: Small Arms, Ammunition, and India's Infantry Capability

The Infantry Reality

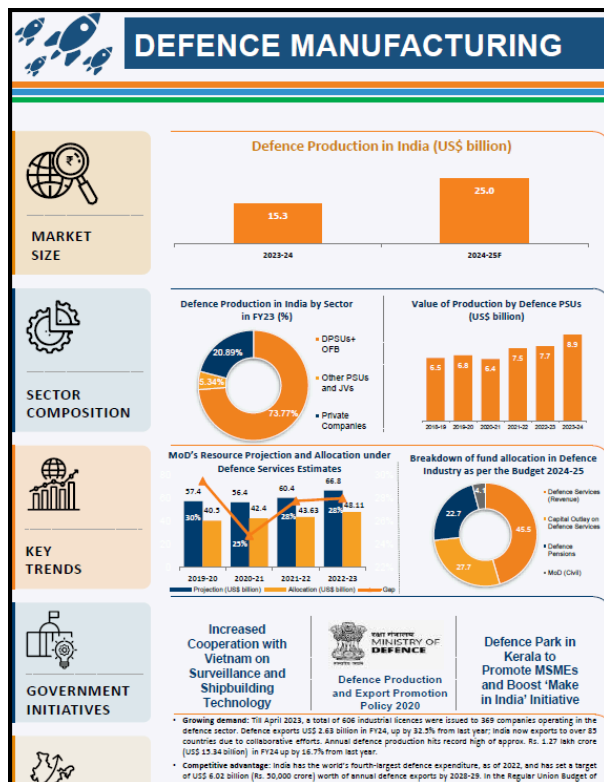
In the forested ridgelines of Jammu and Kashmir, along the frost-bound patrol routes of eastern Ladakh, and across the dense undergrowth of counterinsurgency operations in the Northeast, India's modernisation story begins not with fighter jets or artillery systems, but with the soldier and his rifle. Before satellite-guided munitions strike their targets, before armoured columns manoeuvre, infantry formations must close with and defeat the enemy at ranges measured in metres, not kilometres. The effectiveness of India's armed forces ultimately rests on a simple question: can the individual soldier reliably

engage and neutralise threats in the varied and demanding environments where India fights? Small arms and ammunition modernisation, though less visible than platform acquisitions, fundamentally determines this capability.

Breaking the Procurement Myth

Discussions of India's small arms modernisation frequently devolve into roster recitations: which rifles have been procured, which calibres adopted, which domestic programs have succeeded or stumbled. This misses the essential point. Small arms modernisation is not a single procurement decision but a systemic transformation encompassing weapons reliability, ammunition quality and availability, optical sighting systems, soldier protection, and the logistics architecture that sustains combat effectiveness.

A rifle, however well-designed, becomes ineffective if ammunition supplies are unreliable, if optics fail in harsh conditions, or if the soldier cannot communicate with his section. Similarly, procuring a new weapon system without addressing ammunition production, training infrastructure, and maintenance chains merely substitutes one set of constraints for another. Understanding India's infantry modernisation requires examining the entire system that enables soldiers to fight effectively, not simply cataloguing hardware acquisitions.



Where India Has Actually Improved?

India's small arms modernisation over the past decade reflects a deliberate effort to address systemic capability gaps identified through operational experience. The improvements span multiple domains, each contributing to enhanced infantry effectiveness.

Reliability and Ergonomics: Contemporary procurements emphasise weapons that function reliably across India's extreme operational environments, from sub-zero Himalayan temperatures to tropical humidity and desert dust. Gas-operated systems with fewer moving parts, improved corrosion-resistant materials, and modular designs have demonstrably reduced weapon stoppages during operations. Adjustable stocks, ambidextrous controls, and reduced weight enhance soldier effectiveness during extended operations where fatigue degrades performance.

Calibre Standardisation: The gradual consolidation around 5.56×45mm NATO for standard infantry rifles and 7.62×51mm NATO for designated marksman and support weapons brings India into alignment with international practice while simplifying logistics and enabling interoperability with partner forces. This reduces the complexity of maintaining multiple ammunition types and facilitates ammunition sharing during coalition operations.

Ammunition Quality and Consistency: Perhaps the least visible but most operationally significant improvement has been enhanced ammunition manufacturing standards. Improved propellant consistency, better quality control in projectile manufacturing, and standardised ballistic performance have reduced variations that previously undermined marksmanship. Ammunition that performs predictably enables soldiers to engage targets confidently at extended ranges; a critical capability in Himalayan terrain where engagement distances often exceed 400 metres.

Optics and Night-Fighting Capability: The progressive fielding of optical sights, holographic sights, thermal weapon sights, and image intensification devices has fundamentally transformed infantry engagement capabilities. Where iron sights limit effective engagement to daylight and moderate ranges, contemporary optics enable rapid target acquisition, accurate fire in low-light conditions, and extended effective ranges. Night vision devices, once held only at company level or higher, now equip infantry sections, enabling genuine 24-hour operations particularly valuable along the Line of Control and in counterinfiltration operations.

Soldier Protection: Concurrent with weapons modernisation, improvements in body armour, helmets, and load-bearing equipment have enhanced soldier survivability without unduly compromising mobility. Contemporary ballistic helmets protect against both fragmentation and handgun-calibre threats, while modular body armour systems balance protection against weight constraints. These enhancements reduce casualties from fragmentation, historically the greatest cause of battlefield casualties and improve soldier confidence during close combat.

Tactical Communications: The fielding of software-defined radios at section level fundamentally enhances infantry effectiveness. The ability to coordinate fire, call for support, and maintain situational awareness transforms dispersed infantry elements into networked forces capable of concentrating effects rather than merely massing forces.

Ammunition: The Forgotten Enabler

Small arms ammunition represents the critical, yet chronically underexamined, foundation of infantry capability. India's annual small arms ammunition consumption during peacetime training exceeds several hundred million rounds; wartime consumption would increase by an order of magnitude. Without adequate ammunition production capacity, storage infrastructure, and distribution systems, even the finest weapons become ineffective.

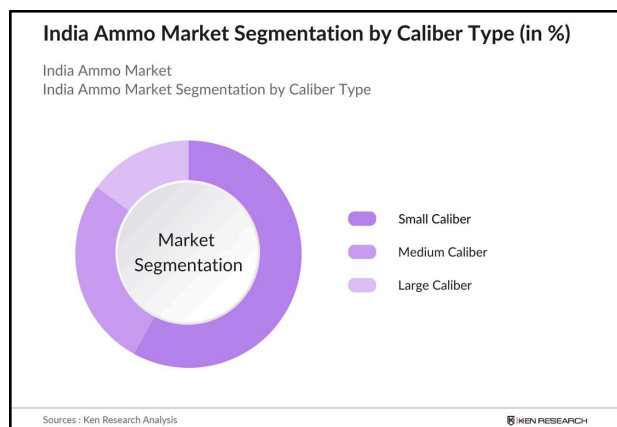
India's ammunition modernisation encompasses several dimensions. Expanded domestic production capacity (both through ordnance factories and private sector manufacturers) has reduced dependence on imports while improving ammunition availability for training. Enhanced storage facilities with climate control and proper inventory management have extended ammunition shelf life and reliability. The development of specialised ammunition types, barrier-blind rounds for counterinsurgency, armour-piercing ammunition for vehicle threats, subsonic ammunition for suppressed weapons provides infantry with options tailored to specific operational requirements.

Perhaps most critically, India has developed surge production capability enabling rapid expansion of ammunition manufacturing during conflict. This capacity, involving pre-positioned machinery, trained workforce reserves, and secured raw material supplies, ensures that protracted conflict does not exhaust ammunition stocks. The 1999 Kargil conflict revealed significant ammunition shortfalls; subsequent reforms have addressed these systemic vulnerabilities, though continuous investment remains necessary to maintain readiness.

Ammunition compatibility across platforms ensuring that 5.56mm ammunition functions reliably across different rifle types prevents the logistical fragmentation that plagued earlier procurement approaches. This interoperability proves operationally decisive when units equipped with different weapons systems must share ammunition during extended operations.

Limits and Trade-offs

India's infantry modernisation confronts inherent constraints that temper the pace and scope of capability improvements. With an army exceeding 1.2 million personnel, simultaneous modernisation of all infantry units remains financially and logistically infeasible. Consequently, India has adopted phased modernisation, prioritising units deployed in operationally demanding sectors counterinsurgency forces, high-altitude formations, rapid reaction units while accepting that second-line and reserve formations operate with less contemporary equipment. This approach reflects rational resource allocation rather than institutional failure. Training personnel on new weapons systems, establishing maintenance chains, building ammunition stockpiles, and developing tactics suited to enhanced capabilities require time and sustained investment. Attempting to modernise all forces simultaneously would strain training infrastructure, dilute technical expertise, and potentially compromise operational readiness during the transition period.



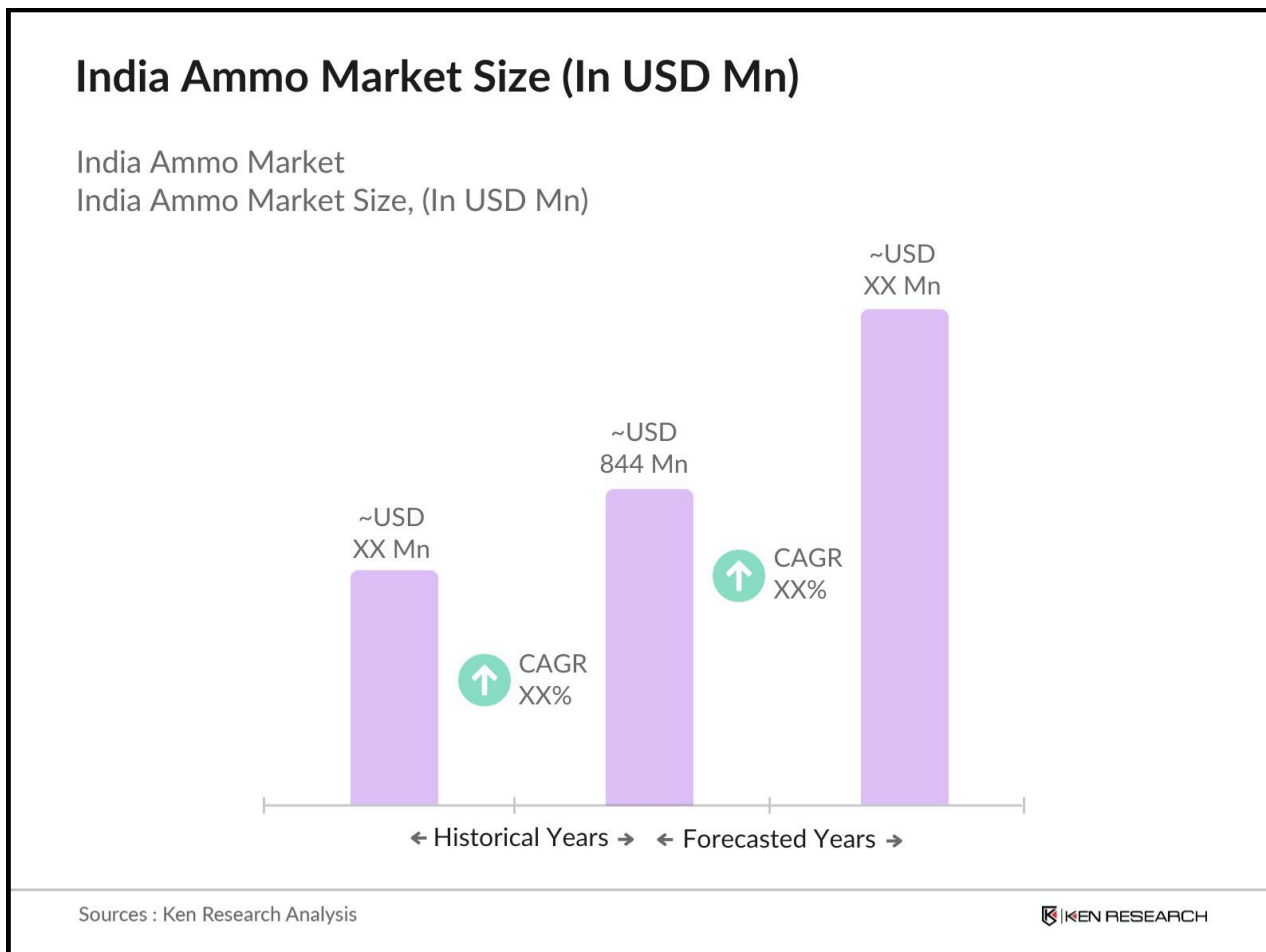
Furthermore, small arms modernisation must balance individual weapon performance against system-level considerations. A rifle might offer superior accuracy, but if it requires proprietary ammunition, complex maintenance, or specialised training, its operational value diminishes. India's modernisation choices increasingly reflect this systems thinking, prioritising reliability, maintainability, and logistical sustainability over marginal performance advantages.

Conclusion: Quiet but Decisive Modernisation

India's small arms and ammunition modernisation proceeds unevenly and incompletely, yet meaningfully enhances infantry capability where it matters most

in the hands of soldiers facing adversaries in demanding operational environments.

This modernisation, less visible than aircraft acquisitions or naval platform inductions, fundamentally determines whether India's armed forces can effectively employ the sophisticated capabilities that dominate defence headlines. This modernisation below the waterline ensures that India's investment in advanced platforms translates into battlefield effect. As India's broader military modernisation unfolds, the quiet transformation of infantry small arms and ammunition systems provides the essential foundation upon which more sophisticated capabilities rest. Wars may be enabled by technology, but they remain decided by infantry and India's infantry is progressively better equipped to prevail.



FEATURE ARTICLE

India's Special Forces: Strategic Value, Evolution, and the Future of Jointness



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“Special Forces represent the best of human resources of any armed forces and operate in all domains of conflict with daring and self-sacrifice. They provide the seamless link between unconventional and irregular warfare. Their employment offers a nation exponential strategic gains, along with deniability.”

***Lt Gen H.S. Lidder, PVSM, UYSM, YSM,
VSM (Retd)***

India's Special Forces represent a unique and highly valuable component of national military power. Designed to operate across the full spectrum of conflict, they bridge the gap between conventional military operations and unconventional or irregular warfare. Their strategic value lies not merely in tactical success, but in the ability to deliver disproportionate strategic effects—often under conditions of secrecy, deniability, and political sensitivity.

Origins: The Strategic Shock of 1962

The origins of India's modern Special Forces can be traced to the geopolitical shock of the 1962 conflict with China. In the aftermath of that defeat, India recognised the need for unconventional capabilities to operate deep behind enemy lines. With assistance from the United States, a covert force was established at Chakrata, a small village near the Himalayan foothills. Initially known as Establishment 22, this unit later evolved into the Special Frontier Force (SFF).

Recruiting largely from the Tibetan community, the SFF was designed to conduct intelligence gathering, sabotage, and guerrilla operations in the event of renewed Chinese aggression. Over time, this nucleus—sometimes referred to as the “Meghdoot force”—expanded into a more sophisticated organisation capable of executing complex, high-risk missions that would shape India's national security architecture for decades.



Strategic Roles and Operational Functions

India's Special Forces today perform a wide range of strategic tasks across domains:

- **Counter-Terrorism Operations:** Units such as the Para (Special Forces), MARCOS, and Garud are trained for rapid response to terrorist threats, hostage rescue, and precision strikes against insurgent networks.
- **Covert and Denial Operations:** These forces conduct clandestine missions involving intelligence collection, sabotage of enemy infrastructure, and targeted strikes deep inside hostile territory.
- **Mountain and High-Altitude Warfare:** Given India's geography, Special Forces are extensively trained for operations in extreme cold and high-altitude environments, particularly along the Himalayan frontier.
- **Joint and Inter-Agency Operations:** Special Forces often operate alongside intelligence agencies such as R&AW and conventional military formations, ensuring coordinated strategic planning and execution.
- **Rapid Deployment and Mobility:** Emphasis is placed on speed and surprise, enabled through airborne insertions, helicopters, maritime platforms, and special operations craft.

- **Intelligence-Driven Precision:** Operations are intelligence-centric, relying on surveillance, reconnaissance, and signals intelligence to minimise collateral damage.
- **Adaptability and Continuous Training:** Special Forces train across urban, jungle, desert, and maritime environments to remain adaptable to evolving threats.
- **Integration with Modern Warfare:** Increasing emphasis is placed on cyber, electronic warfare, loitering munitions, and advanced surveillance technologies

Principles Governing Special Forces Employment

As highlighted in Future of Land Warfare by CLAWS, certain principles underpin the effective use of Special Forces:

- Special Forces are a strategic national asset that requires sustained investment, time, and careful development.
- They are not designed for large-scale conventional tasks, and rapid expansion can degrade quality.
- Special Forces derive effectiveness from integration with non-SF assets, including intelligence, air support, logistics, and diplomatic backing.



Above all, quality over quantity remains the universal truth governing Special Forces capability.

Para SF, Parachute Regiment, and Structural Ambiguity

India presents a unique organisational model in which Para (Special Forces) and conventional Parachute units coexist within the same regiment. This structure emerged due to historical manpower challenges, as early SF units did not draw exclusively from airborne forces.

To address this anomaly, a separate Special Forces Regiment was formally created in 1994, consolidating 1, 9, and 10 Para (SF). Headquarters Special Forces was established to oversee strategic tasking, intelligence integration, training, equipping, and capacity development. The appointment of a Deputy Director General Military Operations (Special Forces) at Army Headquarters further institutionalised SF planning and employment.

While this structure has produced capable units, it has also generated ongoing debate about role clarity and strategic depth—particularly in comparison to countries with fully distinct Special Operations Commands.

MARCOS: The Maritime Edge

The evolution of India's maritime Special Forces offers a compelling case study in institutional innovation. Against the backdrop of amphibious and island security challenges, the Indian Navy sent officers to the U.S. Navy's BUD/S course. Among them were Lt Arvind Singh and Lt Shamsher Singh Deopa, who endured one of the most demanding training pipelines in the world. Singh graduated at the top of his course.

On returning to India, both officers formed the nucleus of a covert project to establish a maritime special operations capability comparable to the U.S. Navy SEALs. This initiative led to the creation of the Indian Marine Special Forces (IMSF), which later evolved into the Marine Commandos—MARCOS.

IMSF units saw active combat during the Indian Peace Keeping Force (IPKF) operations in Sri Lanka, particularly in the Jaffna peninsula. One notable operation involved the destruction of a jetty at Jaffna, where commandos swam over 10 kilometres with full combat loads, executed the mission undetected, engaged hostile fire, and successfully exfiltrated without casualties. Lt Arvind Singh was later awarded the Maha Vir Chakra for his gallantry.

As Chief of Defence Staff General Anil Chauhan noted, the doctrine articulates a unified philosophy encompassing principles, capabilities, and employment strategies across land, maritime, and air domains. It is intended to guide joint planning, execution, and capacity building in line with the demands of 21st-century warfare. While institutional reform and jointness shape how Special Forces are employed today, emerging technologies will increasingly define the conditions under which they must operate tomorrow.



FEATURE ARTICLE

AI and India's Military Modernisation under Atmanirbhar Bharat



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Artificial Intelligence and the Modernisation of India's Armed Forces

Today, military power is no longer measured solely by the number of platforms a country operates, but by how effectively those platforms function on the battlefield. Combat effectiveness increasingly depends on the speed of decision-making, the quality of information available, and the ability to integrate operations seamlessly across domains. Artificial intelligence (AI) has emerged as a critical enabler of this transformation. In India, modernising military platforms under the vision of Atmanirbhar Bharat increasingly hinges on the indigenous development and integration of AI capabilities, which strengthen both strategic autonomy and operational effectiveness.

Historically, military modernisation focused on acquiring high-end platforms fighter aircraft, armoured vehicles, warships, submarines, and missile systems which were often sourced from external suppliers. While hardware remains indispensable, contemporary warfare demands platforms that are adaptive, networked, and capable of processing vast data streams in real time. AI enables this shift by transforming conventional platforms into intelligent combat systems suited to complex and information-dense operational environments.

Smart Weapons and AI-Enabled Firepower

One of the most significant applications of AI in military modernisation is in smart weapons and fire-control systems. AI-enabled fire-control solutions integrate data from sensors, radars, and surveillance platforms to rapidly detect, classify, and prioritise targets. This capability significantly compresses sensor-to-shooter timelines, enhances accuracy, and improves decision-making under high-pressure combat conditions.

Embedded AI is also redefining precision-guided munitions, loitering weapons, and air defence systems by enabling adaptive guidance and real-time threat assessment. Crucially, such capabilities allow existing platforms to be upgraded through software and algorithmic enhancements rather than complete structural replacement.

This approach enables cost-effective modernisation while aligning with Atmanirbhar Bharat by prioritising indigenous upgrades over continued reliance on foreign acquisitions.

Networked Platforms and Battlefield Management Systems

AI-driven modernisation extends beyond individual weapon systems into the domain of network-centric warfare. AI-supported battlefield management systems integrate multi-domain data from land, air, maritime, cyber, and space assets to generate a unified operational picture. These systems provide commanders with real-time situational awareness, predictive analytics, and decision-support tools, significantly enhancing command and control effectiveness.

In an air defence scenario, AI-enabled command systems can fuse radar feeds, airborne sensor data, and satellite inputs to identify hostile aircraft or missile threats within seconds. By prioritising targets and recommending interception solutions in real time, such systems allow commanders to respond faster than traditional, manually coordinated air defence networks, often determining success or failure in high-tempo engagements.

India's Integrated Air Command and Control System (IACCS) represents a foundational step toward such networked operations. By linking sensors, airborne platforms, and command centres, the IACCS improves air defence responsiveness and joint coordination.

As AI integration deepens, such systems are likely to support automated threat assessment and dynamic resource allocation, strengthening interoperability and advancing the objectives of Integrated Theatre Commands.

Autonomy and the Future of Military Platforms

Autonomy represents the next phase in platform modernisation. AI-powered unmanned aerial, surface, and underwater systems are becoming essential for surveillance, reconnaissance, logistics, and high-risk missions. These platforms enhance operational reach, scalability, and resilience while reducing risks to human operators.

India's emphasis on indigenous autonomous systems is evident in initiatives led by the Defence Research and Development Organisation (DRDO), including AI-enabled counter-drone systems, unmanned combat platforms, autonomous underwater vehicles, swarm drones, and intelligent naval vessels. When integrated with manned forces, autonomous systems expand operational flexibility while preserving human oversight, reinforcing India's commitment to self-reliant and technologically advanced modernisation.

Human-Machine Teaming and Operational Effectiveness

AI-driven modernisation does not seek to replace human judgment but to augment it. The concept of human-machine teaming positions AI as an enabler that enhances situational awareness, processes large volumes of information, and recommends courses of action, while humans retain command authority and ethical control.

The Indian Air Force's use of AI-based predictive maintenance systems illustrates this approach. By analysing aircraft health and performance data, AI enables early detection of component failures, improves platform availability, and reduces lifecycle costs. Such applications demonstrate how AI can enhance operational efficiency while strengthening readiness and sustainability.

Atmanirbhar Bharat and Indigenous Defence Innovation

The success of AI-enabled military modernisation is closely linked to the strength of India's indigenous defence innovation ecosystem. Initiatives such as Innovation for Defence Excellence (iDEX), the growing defence start-up sector, and DRDO's AI-focused research programmes reflect a deliberate effort to build sovereign technological capabilities. Control over algorithms, software architectures, and operational data has become a strategic imperative, as dependence on foreign digital systems can introduce long-term vulnerabilities.

Under Atmanirbhar Bharat, modernisation is increasingly viewed as a sustainable, secure, and innovation-driven process. Indigenous AI development not only enhances autonomy but also allows solutions to be tailored to India's unique operational and geographical requirements.

Challenges and the Way Forward

Despite its transformative potential, AI-enabled modernisation presents significant challenges. Issues related to data integrity, cybersecurity, system interoperability, and skills development remain pressing. The ethical implications of autonomous systems require clearly articulated principles, robust governance frameworks, and effective oversight mechanisms.

Addressing these challenges will require sustained institutional coordination, investment in human capital, and close collaboration between the armed forces, industry, and academia. Without such alignment, the full benefits of AI-driven modernisation may remain unrealised. Artificial intelligence is reshaping India's military modernisation and has become a central pillar of Atmanirbhar Bharat. Smart weapons, autonomous platforms, and AI-assisted command systems are transforming traditional platforms into intelligent force multipliers.

In the years ahead, India's military strength will be measured not only by the platforms it fields, but by the intelligence embedded within them. By advancing indigenous AI capabilities, India is laying the foundation for a technologically sovereign, future-ready, and resilient armed force.

FEATURE ARTICLE

India's Drone Warfare Moment: Rising Power in the Unmanned Age



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From Policy Reform to Battlefield Validation: India's Drone Revolution

Ukraine's effective use of drones in the ongoing conflict in Eastern Europe has significantly challenged traditional military thinking. Cost-effective, precise, and highly manoeuvrable, unmanned systems have demonstrated their ability to strike targets with speed and accuracy while imposing disproportionate costs on adversaries. Ukraine's success marked a turning point in how modern warfare is increasingly understood.

This transformation did not go unnoticed in New Delhi. Indian policymakers and strategic planners recognised that drones and unmanned aerial vehicles (UAVs) were not merely force multipliers but could serve as integrated platforms combining intelligence, surveillance, and precision strike capabilities within a single unmanned architecture.

This realisation emerged at a critical juncture, as India faced mounting security challenges along both the western and northern borders. Pakistan began augmenting its capabilities through the acquisition of Turkish-made Bayraktar drones, while China deployed high-altitude Wing Loong series UAVs across Tibet and Xinjiang.

For India, this development underscored the need for timely policy and capability responses.

Policy Foundations: Enabling an Unmanned Ecosystem

To prepare India for 21st-century warfare, the government introduced the Drone Rules, 2021. These reforms significantly lowered barriers to entry by reducing fees, simplifying licensing requirements, and encouraging experimentation by start-ups and private firms. The new framework enabled drone developers to scale research and development while balancing innovation with security imperatives.

The reforms also rationalised drone regulation through the creation of a single digital platform, Digital Sky, for registration and approvals, alongside clear demarcation of green, yellow, and red operational zones. Select foreign collaboration was permitted where necessary, enabling technology absorption without undermining strategic control.

During this phase, India acquired MQ-9B High Altitude Long Endurance UAVs from the United States and deepened cooperation with Israel to jointly develop indigenous unmanned platforms. Together, these measures created a regulatory environment that encouraged innovation while safeguarding national security.

Comparative Perspectives: India, China, and Pakistan

India's approach to drone warfare differs in important ways from that of its regional adversaries. Pakistan's drone doctrine has largely focused on acquisition-led capability building, relying on imported systems such as Turkish Bayraktar platforms with limited domestic integration. China, by contrast, has pursued large-scale, state-driven deployment of unmanned systems as extensions of its network-centric and informationised warfare doctrine. India's emerging model occupies a distinct middle ground; emphasising indigenous development, private-sector innovation, and operational experimentation. Rather than mass deployment alone, India has prioritised integration, adaptability, and precision, aligning unmanned systems with broader joint-force objectives.

From State-Led Development to Private Innovation

Within the defence sector, the establishment of a supportive legal framework catalysed a shift in how unmanned systems were developed. Early state-led programmes such as DRDO's TAPAS-BH-201 were designed for intelligence, surveillance, and reconnaissance missions. However, the platform fell short of key Joint Services Qualitative Requirements for Medium Altitude Long Endurance UAVs, particularly in terms of operational altitude and endurance.

This gap highlighted a broader reality: military drone development would increasingly be driven by private industry and start-ups rather than by government laboratories alone. India's drone ecosystem began to mature as firms integrated advanced technology development with scalable production and operational deployment. Policy support was reinforced through financial incentives such as the Production Linked Incentive (PLI) scheme and partnerships with government innovation bodies.



Companies like ideaForge collaborated with DRDO through the Defence Innovation Organisation to develop tactical ISR drones, while Alpha Design Technologies partnered with Israel's Elbit Systems to manufacture loitering munitions such as SkyStriker. Within three years, India's drone sector evolved from a limited domain into a more structured defence innovation ecosystem

Battlefield Validation: Operation Sindoor

In early 2025, India's unmanned warfare ecosystem underwent its first major test. Operation Sindoor provided a clear demonstration of how years of policy reform, innovation, and experimentation translated into operational capability.

For the first time, drones and UAVs were employed not only for intelligence and surveillance but also as precision strike weapons targeting terrorist infrastructure and hostile positions. The Indian Armed Forces deployed a mix of indigenous and jointly developed unmanned systems to conduct calibrated strikes against terror hubs. Indian-Israeli loitering munitions, including SkyStriker, were instrumental in damaging key infrastructure in areas such as Bahawalpur and Muridke, while minimising collateral damage.

Simultaneously, Israeli-origin Harop drones were used to neutralise adversary radar installations and strike airbase infrastructure at locations including Lahore and Rahim Yar Khan. These operations underscored the effectiveness of unmanned platforms in delivering precision effects while maintaining escalation control.

Strategic Implications of Unmanned Warfare

Operation Sindoor represented more than a tactical success; it marked the operational validation of India's unmanned warfare ecosystem. The integration of policy reform, indigenous innovation, and joint operational planning demonstrated that drones can function as central instruments of coercion rather than auxiliary assets. The operation also highlighted India's ability to calibrate force, achieve precision effects, and maintain escalation control key attributes in contemporary limited-conflict scenarios. This maturation signals a doctrinal shift in how India views and employs unmanned systems within its broader military strategy.

Counter-UAS Capability and Defensive Integration

The effectiveness of any weapons system is ultimately measured by its performance in contested environments. During Operation Sindoor, India demonstrated an integrated approach to unmanned warfare by deploying DRDO-developed D4 anti-drone systems. These systems combined electronic jamming, spoofing, and directed-energy capabilities to neutralise hostile UAVs and aerial threats.

The D4 system played a crucial role in intercepting and disrupting multiple enemy drone incursions, reinforcing the importance of pairing offensive unmanned capabilities with robust counter-UAS defences. This layered approach highlighted India's growing sophistication in managing both sides of the unmanned warfare spectrum.

Conclusion

India's drone revolution, from regulatory reform to battlefield validation illustrates how a carefully nurtured ecosystem can deliver meaningful military outcomes. Operation Sindoor demonstrated that indigenous innovation, when supported by coherent policy and operational integration, can yield precision effects at the right place and time.

Unmanned systems are no longer peripheral assets but central instruments of modern warfare. By leveraging domestic capability, selective foreign collaboration, and operational experimentation, India has positioned itself to master unmanned warfare and shape the evolving character of conflict along its borders and beyond.

Drones have shifted the balance between visibility and vulnerability on the modern battlefield.

Unmanned systems matter not because they are unmanned, but because they reshape the economics of force and escalation.





SCHOLARLY DISCOURSE

COMMENTARY

Naval Modernisation and Atmanirbhar Bharat: Progress and Persistent Gaps



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Modernisation, technology, and self-reliance are reshaping India's defence landscape with a clarity and purpose not seen in previous decades. Within this broader transformation, the Indian Navy occupies a central position. As India's maritime environment becomes more competitive and strategically sensitive, the Navy's ability to field a future-ready force is increasingly tied to the success of the Atmanirbhar Bharat initiative. While progress across India's shipbuilding ecosystem points to an encouraging trajectory, persistent delays in critical underwater and carrier capabilities continue to constrain the pace and depth of naval modernisation. India's contemporary maritime strategy is grounded in the recognition that credible naval power cannot be built solely on imported platforms.

Long-term effectiveness depends on domestic manufacturing supported by stable industrial capacity and technological depth. In this regard, the performance of India's state-owned shipyards offers cautious optimism. Cochin Shipyard Limited, Mazagon Dock Shipbuilders Limited, Goa Shipyard Limited, and Hindustan Shipyard Limited have demonstrated growing competence, improved adherence to timelines, and a stronger ability to absorb and integrate advanced technologies. Their recent outputs stand in marked contrast to the delays and quality concerns that characterised earlier decades.

The success of the Nilgiri-class frigates under Project 17A is emblematic of this shift. These vessels represent a significant advancement in indigenous naval design and construction, incorporating improved stealth profiles, advanced sensor suites, and higher levels of automation. The adoption of modular construction techniques, combined with closer coordination between naval designers, shipyards, and private suppliers, has improved precision and reduced production bottlenecks. Similarly, the Talwar-class follow-on frigates (constructed in partnership with Russia but completed domestically) demonstrate the maturing capacity of India's naval industry. Known for their operational reliability, these ships continue to reinforce the surface fleet at a time when sustained presence in the wider Indo-Pacific is increasingly critical.

These achievements are not isolated successes. They reflect the emergence of a broader ecosystem of domestic suppliers, engineering firms, and technology developers contributing to naval modernisation. The improved performance of state-owned shipyards has been central to stabilising this ecosystem. Their ability to deliver complex platforms with greater consistency strengthens confidence in India's capacity to design, manage, and construct major naval assets at scale. This progress aligns directly with the objectives of Atmanirbhar Bharat by reducing dependence on foreign procurement and preserving strategic autonomy.

Despite these gains, India's submarine programmes present a more challenging picture. The long-delayed Project 75(I) remains one of the clearest examples of structural constraints that continue to impede defence modernisation. Conceived as a successor to the Scorpène-class submarines, the programme sought to induct six advanced conventional submarines equipped with modern propulsion, sensor, and combat systems. However, the insistence on a fully proven foreign Air Independent Propulsion system under stringent technology transfer conditions significantly narrowed the pool of potential partners. Original equipment manufacturers, unwilling to commit to extensive technology sharing without assured commercial safeguards, gradually withdrew or limited their engagement. As a result, a programme intended to rapidly strengthen India's underwater deterrence has yielded minimal tangible progress. Project 76, envisaged as an indigenous line of conventional submarines, is often presented as the long-term corrective to these shortcomings. While conceptually promising, it remains at an early developmental stage.

Designing and producing a fully indigenous submarine of this complexity will require sustained funding, strong research partnerships, and the timely maturation of domestic Air Independent Propulsion technology. Without these enablers, timelines risk extending well beyond initial projections. Given the expanding submarine fleets of neighbouring powers, such delays carry clear strategic consequences, potentially widening India's underwater capability gap.

Aircraft carrier development presents another area of concern. The successful commissioning of INS *Vikrant* marked an important milestone, yet it also revealed limitations in industrial readiness and programme management. Progress toward a second indigenous aircraft carrier has been slow, shaped by prolonged debates over size, configuration, and budgetary priorities. While carriers remain central to India's maritime strategy, extended decision-making cycles and planning delays undermine efforts to field a balanced fleet particularly as regional competitors, most notably China, continue to accelerate their carrier programmes at an unprecedented pace.



INS Nilgiri (F33), Himgiri (F34) and Udaygiri (F35) sailing in formation

India's naval modernisation effort therefore reveals a landscape of contrasts. Surface shipbuilding has demonstrated measurable progress, with indigenous frigates and patrol vessels reflecting improved capability and reliability. State-owned shipyards are performing with increasing confidence, supporting the broader defence industrial base. At the same time, submarine and carrier programmes highlight deeper systemic challenges that demand coordinated institutional reform, realistic planning, and closer alignment between strategic ambition and industrial capacity.

Atmanirbhar Bharat provides a guiding framework for addressing these challenges. Its success will depend on sustained investment, predictable procurement pathways, and an uncompromising commitment to technological innovation. If India can replicate the achievements seen in programmes such as the Nilgiri and Talwar classes across the full spectrum of naval capabilities, the vision of a future-ready, self-reliant maritime force will move significantly closer to reality.

Naval modernisation is a generational project; strategic impatience produces gaps faster than shipyards can close them.

Self-reliance at sea is measured not by the number of ships built domestically, but by the ability to design, integrate, repair, and upgrade them without external dependence.



COMMENTARY

The Indian Air Force, Force Structure, and the Fifth-Generation Question



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India's Air Power in Global Perspective

A formidable force with demonstrated strength and steadily accelerating operational capabilities, the Indian Air Force (IAF) currently ranks third globally in air power. According to the 2025 evaluation by the World Directory of Modern Military Aircraft (WDMMA), the IAF has a Total Value Rating (TVR) of 69.4, placing it ahead of the People's Liberation Army Air Force (PLAAF), which is assessed at 63.8. The WDMMA provides a comprehensive analytical overview of global air power, tracking 103 countries, 129 air services, and over 48,000 military aircraft worldwide, offering valuable insight into one of the most decisive domains of modern warfare, the control of the skies.

Since the change in government in 2014, India has significantly increased defence expenditure, enabling the induction of more advanced technologies and weapon systems, particularly for the Navy and the Air Force. Historically, these two services were often perceived as receiving less attention compared to the Army. Today, however, the IAF faces a complex strategic challenge: preparing for a potential two-front conflict involving Pakistan on the western front and China on the eastern front. To address this contingency, the IAF has traditionally projected a requirement of forty-two combat squadrons. This requirement has become even more pressing with the growing emphasis on technology-intensive platforms, particularly fourth-generation-plus (4.5) and fifth-generation aircraft, which offer enhanced survivability, sensor fusion, and networked combat capabilities.

China's induction of fifth-generation fighters such as the Chengdu J-20 and the Shenyang J-35, combined with the possibility of Pakistan acquiring similar capabilities in the future, has intensified India's need to secure its airpower advantage in the subcontinent. In response, India has inducted 36 Dassault Rafale fighters from France and continues to expand the operational footprint of the indigenous HAL Tejas, both significant additions within the 4.5-generation category.

China's induction of fifth-generation fighters such as the Chengdu J-20 and the Shenyang J-35, combined with the possibility of Pakistan acquiring similar capabilities in the future, has intensified India's need to secure its airpower advantage in the subcontinent. In response, India has inducted 36 Dassault Rafale fighters from France and continues to expand the operational footprint of the indigenous HAL Tejas, both significant additions within the 4.5-generation category.

At the same time, attention has increasingly turned toward the Sukhoi Su-57, Russia's fifth-generation multirole fighter, which has emerged as a potential competitor to the American Lockheed Martin F-35, particularly in terms of manoeuvrability and speed. This raises a critical question for the IAF: how does the Su-57 fit into India's long-term force structure and strategic requirements?

India's projected requirement of forty-two combat squadrons remains legitimate. However, meeting this target effectively would require the induction of high-end multirole aircraft with stealth and advanced sensor capabilities, such as the Rafale, F-35, or Su-57 to strengthen the existing inventory and enable sustained operations across either front in a conflict scenario.



Following escalation during Operation Sindoor, earlier tariff-related developments became politically sensitive and strategically significant for the current government. These developments were further complicated by claims made by U.S. President Donald Trump, who publicly asserted a mediating role between India and Pakistan during the crisis. Against this backdrop, and in light of India's requirement for 114 new combat aircraft under the Multi-Role Fighter Aircraft (MRFA) programme, Washington offered the F-35 to New Delhi. The offer was subsequently declined.

India's decision was consistent with its broader Make in India and Aatmanirbhar Bharat vision. New Delhi has demonstrated a clear preference for indigenous platforms or aircraft manufactured domestically under licensed production, as exemplified by the Su-30MKI programme developed by Sukhoi and produced in India by Hindustan Aeronautics Limited (HAL). While the indigenous fifth-generation Advanced Medium Combat Aircraft (AMCA) remains India's long-term solution, it is not expected to enter IAF service before 2034.

In this context, Moscow has reportedly expressed willingness to support the production of the Su-57 in India, including comprehensive technology transfer. Given India's existing experience with Su-30MKI production, the Su-57 could represent a potentially atmanirbhar addition to the IAF's future force structure.

India had previously withdrawn from the Sukhoi-HAL Fifth Generation Fighter Aircraft (FGFA) programme in 2018, citing concerns related to cost, technology sharing, and performance. However, speculation regarding a possible reconsideration of this decision has grown amid renewed discussions surrounding a potential Su-57 deal.

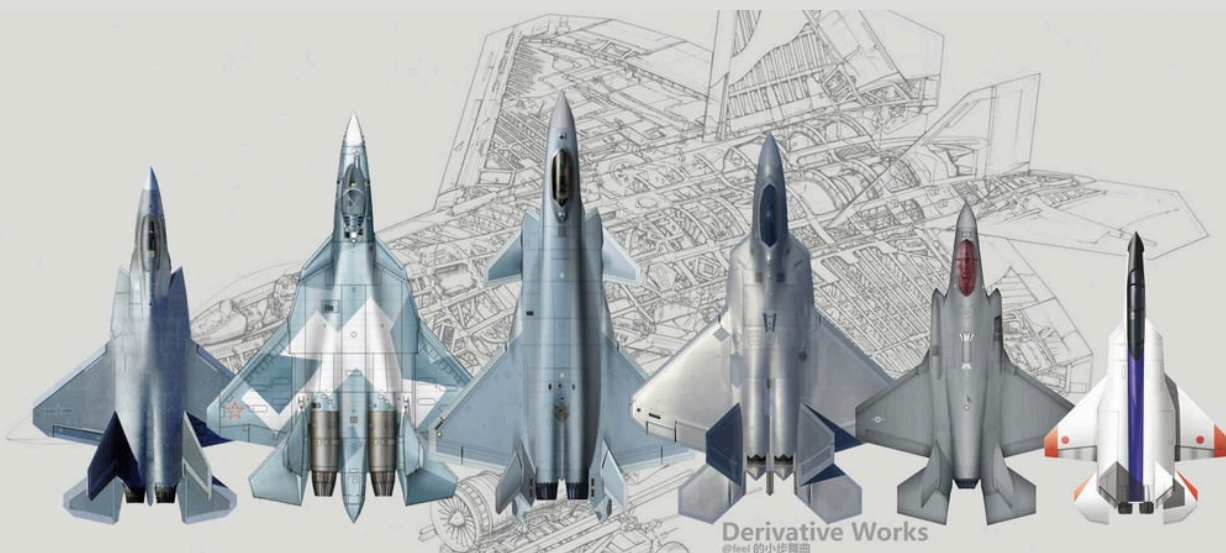
These discussions coincide with External Affairs Minister S. Jaishankar's official visit to the Russian Federation for the Shanghai Cooperation Organisation (SCO) Heads of Government Meeting, during which he also met President Vladimir Putin and Foreign Minister Sergey Lavrov. With the Russian President's forthcoming state visit to India for the annual summit, expectations of renewed defence dialogue have further intensified.

Speculation was reinforced when a senior Rosoboron export official, speaking at the Dubai Air Show 2025, stated that Russia was open to "technology transfer" and "technological learning across several advanced domains," including engines, optics, AESA radars, artificial intelligence elements, low-observable technologies, and modern air weapons. Such an arrangement could significantly benefit India's defence industrial base while enhancing the IAF's operational and strategic posture across the subcontinent and the Indian Ocean Region.

However, the central question remains unresolved: would the Sukhoi Su-57 provide India with greater strategic and operational leverage than the F-35, particularly within the constraints of India's doctrinal preferences, industrial ambitions, and long-term vision for airpower self-reliance?

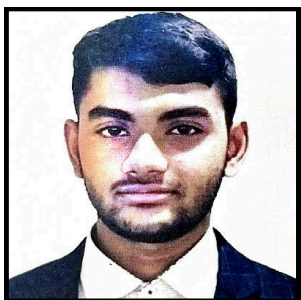
For the IAF, stealth is a force multiplier, not a substitute for mass, readiness, or integration.

Fifth-generation fighters cannot compensate for declining squadron strength; they can only amplify a force structure that already exists.



COMMENTARY

Indigenous Semiconductor Technology and the Indian Armed Forces: A Strategic Assessment



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Semiconductor technology forms a core foundation of modern military capability, enabling secure communications, advanced sensing, autonomous operations, and multi-domain warfare. As a result, the development of an indigenous semiconductor supply chain has emerged as an essential pillar of national security, closely aligned with the principles of self-reliance, quality, and reliability.

As global supply chains become increasingly shaped by geopolitical rivalries, export-control regimes, and high-impact disruptions, secure access to semiconductors has become a critical determinant of defence readiness. For India, these vulnerabilities are particularly acute. Despite possessing substantial design expertise, the country remains heavily dependent on foreign semiconductor manufacturing, even as its armed forces face growing requirements for secure, high-reliability chips.

Recent initiatives that include the development of indigenous processors such as Shakti, the Indian Army's induction of Signalchip-based tactical communication systems, and the government's Bharat Secure Chips programme signal a decisive shift toward technological sovereignty. Positioned at the intersection of national security, industrial capability, and strategic autonomy, indigenous semiconductor technology is no longer merely an economic aspiration but a foundational requirement for India's armed forces in the decade ahead.

Semiconductor Geopolitics and India's Strategic Imperatives

The global semiconductor supply chain is highly concentrated and geopolitically fragile, with disruptions caused by conflict, pandemic-driven shortages, and the emergence of rival strategic blocs. India's semiconductor demand currently stands at approximately USD 24 billion and is projected to reach USD 100 billion by 2025, underscoring a significant dependence on foreign manufacturing. This reliance creates national-security vulnerabilities, as the armed forces depend on high-assurance chips for military networks, radars, electronic warfare platforms, and missile systems.

Semiconductors are integral to combat aircraft, unmanned systems, helicopters, warships, submarines, missiles, and communication networks, with autonomous and networked operations driven directly by embedded chips. The Ministry of Defence has projected a requirement of approximately 500,000 chips for various military applications—a demand India is presently unable to meet domestically.

A 2025 government statement highlights large-scale national investment under the India Semiconductor Mission (ISM) and Digital India programmes, aimed at building strategic self-reliance. As global powers increasingly seek trusted and secure semiconductor supply chains, India's requirement for indigenous capability has become both urgent and strategically existential.

Current Capabilities

India's domestic semiconductor ecosystem is emerging, driven primarily by strength in design rather than fabrication. Notable progress includes the *Shakti* processor, India's first indigenous aerospace-grade chip, developed by IIT Madras in collaboration with ISRO. *Shakti* is a fully indigenous, fault-tolerant, RISC-V-based processor designed for high-reliability defence applications. Its security features and customisability make it suitable for command-and-control systems, AI-enabled data fusion, and hardened strategic platforms. India has also demonstrated progress in tactical communications hardware. The Indian Army has inducted its first indigenous chip-based 4G base station, built entirely around Signalchip's domestically designed processors.

Known as the Sahyadri Network-in-a-Box, the system enables secure audio, video, and data transmission in both standalone and cellular modes. The induction of the first 20 mobile units marked the first operational deployment of a complex battlefield communication system running entirely on an Indian-designed chip.

Despite these achievements, India does not yet possess a modern semiconductor fabrication facility. Even indigenous processors such as those developed by Signalchip must be fabricated overseas, indicating continued dependence on foreign foundries.

Defence Requirements and Gaps

The Indian military's semiconductor requirements span a wide spectrum, from low-end embedded controllers to high-performance computing systems. In 2022, the Ministries of Electronics and Defence jointly issued a tender for 500,000 secure system-on-chips (SoCs), with approximately 10 percent earmarked for defence applications. These chips under the Bharat Secure Chip (BSC) programme are intended for use across platforms ranging from embedded systems to server-class computing.

India remains heavily dependent on imports for chips used in indigenous drones, communication networks, missile systems, warships, and aircraft. Senior military officials have noted that such foreign dependence restricts future upgrades and limits long-term operational flexibility. As India's military networks increasingly adopt IoT, AI, and 5G/6G architectures, demand for secure, domestically controlled semiconductor solutions is expected to grow exponentially.

SWOT Analysis and Strategic Policy Synthesis

Strengths

India possesses a world-class semiconductor design workforce. Indigenous initiatives such as the Shakti processor provide sovereign control over intellectual property in strategic domains. The Bharat Secure Chips programme ensures Indian ownership of processor architecture, secure boot mechanisms, and security IPs, guaranteeing a minimum of 50 percent indigenous value addition. Recent Army deployments of Signalchip-based systems further demonstrate India's ability to field secure communication platforms built on domestic hardware.

Weaknesses

India's most significant constraint remains the absence of advanced domestic fabrication capability. Even strategically critical indigenous chips require fabrication at overseas wafer foundries. At present, the Defence Research and Development Organisation (DRDO) is the primary Indian entity developing military-grade chips, yet a majority of semiconductors used in indigenous defence equipment continue to be imported, creating serious supply-chain vulnerabilities.

Critical material dependencies such as silicon, tungsten, boron carbide, and carbon fibre also pose structural challenges and require substantial long-term capital investment. Additionally, the Ministry of Electronics and Information Technology estimates that India will require 10,000–13,000 specialised semiconductor professionals by 2027, many of whom may initially need to be sourced from abroad.

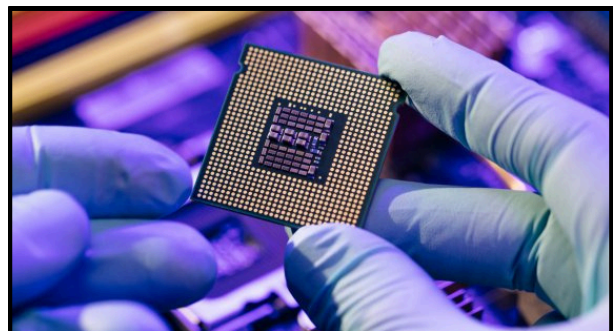
Opportunities

India can benefit from global efforts to diversify semiconductor supply chains away from single-point dependencies. The Design-Linked Incentive (DLI) and Production-Linked Incentive (PLI) schemes offer up to 50 percent financial incentives for semiconductor and display fabrication, reflecting an unprecedented policy commitment. Compound semiconductor manufacturing in particular silicon carbide (SiC) and gallium nitride (GaN) offer India a potential leapfrog opportunity in radars, power electronics, electronic warfare equipment, and space systems. Participation in Quad-led supply-chain resilience initiatives may further help address intellectual property constraints and attract strategic investment.

Threats

Geopolitical conflict poses a direct threat to the availability of foreign semiconductors for military systems, with immediate implications for combat readiness. Export controls on lithography equipment, electronic design automation (EDA) tools, and advanced packaging technologies could further constrain India's ambitions.

Hardware backdoors in imported chips represent severe cybersecurity risks. In the context of China's growing technological assertiveness, continued dependence on foreign semiconductor supply chains could expose India to asymmetric vulnerabilities in future conflict scenarios.



Policy Recommendations

- Establish a defence-exclusive secure fabrication ecosystem, even if initially limited to legacy process nodes.
- Prioritise secure processors, radiation-hardened chips, and GaN/SiC power devices for strategic and combat platforms.
- Expand DRDO–ISRO–private sector co-development, with clear pathways for start-ups through iDEX.
- Provide long-term procurement guarantees for indigenous semiconductor design and fabrication firms.
- Develop a Trusted Foundry certification framework for both domestic and foreign fabrication partners

Conclusion

India stands at a pivotal moment in its semiconductor journey. While weaknesses in fabrication capacity and materials supply chains remain significant, initiatives such as the Shakti processor, the Bharat Secure Chips programme, and Signalchip-based tactical communication systems demonstrate tangible progress. The armed forces’ projected demand for secure indigenous semiconductors underscores the urgency of sustained strategic investment.

Semiconductor sovereignty is not merely an industrial objective; it is the foundation of India’s defence autonomy and its ability to deter and respond to next-generation threats. With coordinated policy support and deeper defence–industry integration, India can build a secure and resilient semiconductor ecosystem that is essential for long-term national security.



COMMENTARY

Deepfakes, Information Warfare, and the Cognitive Domain



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There is little disagreement that technological proliferation has accelerated at a vertiginous pace, with particularly potent spillovers in the domain of information technology. As contemporary conflicts increasingly involve contests over “truth,” the metastasising menace of synthetic information demands urgent and unsparing scrutiny.

While emerging technologies have reshaped the geopolitical order in significant ways, it is imperative to examine the attendant risks especially those technologies that combine deep civilian integration with strategic and military implications.

One such domain is information warfare, where the weaponisation of generative artificial intelligence, particularly through the creation and dissemination of deepfakes has emerged as a protean threat. The capacity of these tools to penetrate deeply into the information ecosystem gives them strategic salience far beyond their apparent simplicity. While information warfare is now widely recognised as a distinct avenue of conflict, the deployment of deepfakes is neither superficial nor episodic. It represents a layered and evolving challenge that requires careful, systematic appraisal. Understanding this rapidly morphing landscape is essential to appreciating the necessity of a whole-of-the-nation approach to the cognitive domain of warfare.



This commentary does not seek to provide an exhaustive analysis of deepfake technologies or mitigation strategies. Instead, in the interest of analytical clarity and brevity, it focuses on outlining key domains within cognitive warfare where deepfakes pose the most immediate and disruptive risks.

One of the most significant aspects of cognitive warfare is the deliberate spread of misinformation among civilian populations. This trend is particularly alarming in the Indian context, where smartphone penetration has reached approximately 85.5 percent. Algorithmically amplified deepfakes that achieve rapid circulation and high engagement across social media platforms have the potential to trigger widespread disruption. Such content can be deployed across a range of techniques, from inciting unrest and violence against state institutions to spreading fabricated narratives designed to inflame communal tensions. Past incidents like the circulation of inflammatory and false messages following security incidents in Delhi, demonstrate how rapidly misinformation can escalate into public disorder.

The risks are not confined to social cohesion alone. The spread of financial misinformation presents a serious threat to India's economic stability, particularly given the scale and speed of digital transactions in an increasingly cashless economy. False information targeting financial institutions or digital payment systems can cause irreversible damage if not countered swiftly. In an environment where intervention even hours too late can have cascading effects, deepfakes pose a unique challenge to crisis response mechanisms.

The abundance of publicly available media content featuring political leaders and senior officials further compounds this threat. With extensive audio-visual material of heads of state, ministers, and senior administrators readily accessible, generating convincing deepfakes has become relatively trivial. Such fabrications have already surfaced during electoral campaigns, underscoring that falsifying official statements or orders is no longer a technically prohibitive task. Precedents for this phenomenon can be traced back to the COVID-19 pandemic, when the circulation of false information led to mass panic and the large-scale movement of migrant labourers in cities such as Mumbai.

Beyond civilian contexts, deepfakes carry serious strategic and military implications. One emerging concern is the use of synthetic audio or video in spear-phishing operations targeting defence personnel. By mimicking trusted voices or authorities, adversaries can manipulate decision-making processes, extract sensitive information, or disrupt command structures.

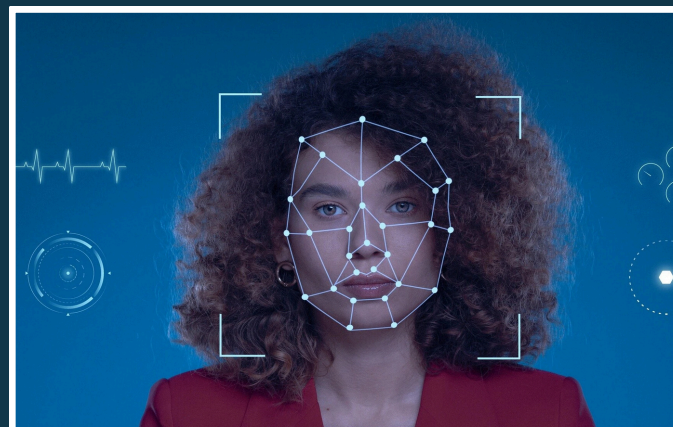


<https://www.orfonline.org/expert-speak/the-essence-of-cognitive-warfare-focusing-the-lens-toward-chinese-strategies>

These risks extend beyond national borders, as deepfake content can be disseminated internationally to influence global opinion and damage a state's narrative position during crises. Pakistan's information operations during periods of heightened tension following Operation Sindoor offer a pertinent example of how such tactics can be employed in narrative warfare.

These facets collectively underscore the salience of deepfakes within cognitive warfare and psychological operations. While the Government of India has taken steps to address this challenge, including amendments to the Information Technology Act aimed at increasing accountability for the transmission of synthetic content, particularly on social media platforms; it is essential to recognise that this is not merely a civilian public-order issue. It is a strategic challenge of the highest order, demanding the same urgency and seriousness accorded to conventional defence and security crises.

Safeguarding India's cognitive frontiers will require coordinated responses that extend beyond regulation alone. Only by recognising deepfakes as instruments of strategic disruption and by responding with institutional, technological, and societal resilience can India protect the integrity of its information environment and resist efforts to corrode the very foundations of truth.



In the information domain, speed now often matters more than verification, creating vulnerabilities that traditional security institutions are not designed to manage.

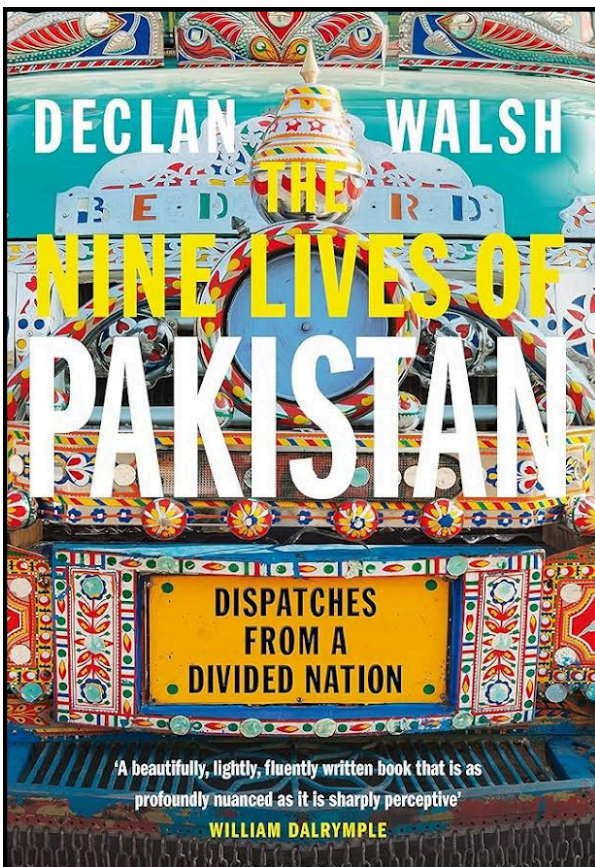
Deepfakes shift information warfare from persuasion to disruption, targeting trust rather than belief.

BOOK REVIEW

Nine Lives of Pakistan: Despatches from a Divided Nation by Declan Walsh



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The Islamic Republic of Pakistan was born on 14 August 1947 through a bloody and painful partition of what was then united India. It comprised the western half of Punjab, Sindh, Balochistan, the North-West Frontier Province, and East Bengal (now Bangladesh). By 1951, Pakistan was home to roughly 76 million people across 365,000 square miles. Since independence, the country has experienced decades of turbulence marked by intermittent economic growth and prolonged periods of military rule. During this period, Pakistan has fought five major conflicts with India—three full-scale wars and two smaller engagements—and has lost all of them, most significantly the 1971 war that led to the country's bifurcation and the creation of Bangladesh.

Pakistan's complex history has attracted sustained attention from scholars, journalists, and students of political science. Numerous books often bearing sombre titles have examined its politics, military establishment, and society. Declan Walsh's *The Nine Lives of Pakistan* stands apart from much of this literature. Walsh, an Irish journalist, served as *The Guardian's* Pakistan–Afghanistan correspondent from 2004 to 2012 and later as head of *The New York Times'* Pakistan bureau until his expulsion from the country in 2013. Rather than offering a conventional chronological history, Walsh structures the book around a series of personalities and episodes that together illuminate Pakistan's contradictions.

The book opens with a prologue recounting the days following his expulsion order, including his meeting with Information Minister Arif Nizami and his forced departure within three days. This personal rupture is set against the backdrop of the 2013 general election, contested by Nawaz Sharif, dubbed the “Teflon Tiger” by supporters and Imran Khan.

Across eleven chapters, from *The Inshallah Nation* to *A House on the Hill*, Walsh offers vivid portraits of Pakistan’s political and social life. He describes a “sleepy Islamabad,” the habits of elite Pakistani society where Murree beer and Chianti wine disguised as “special tea” circulate discreetly and encounters ranging from a madrasa student chastising him for chewing gum during Ramzan to shifting attitudes toward foreigners during fluctuations in Pakistan–US relations. The narrative includes meetings with Benazir Bhutto and a disturbing encounter with a businessman who supplied cocaine to politicians.

Walsh provides a firsthand account of the 2007 Lal Masjid siege, which he observed from the Holiday Inn in Islamabad. He details the operation in which SSG commandos cleared the mosque of radicalised students, leaving dozens dead. He follows this with reflections on Abdul Rashid Ghazi, the cleric who led the standoff and whom Walsh had previously interviewed. The book ranges widely in scope. Walsh examines the cult surrounding Muhammad Ali Jinnah, the circumstances of Partition, and Pakistan’s fragile ideological foundations once described by contemporary commentators as a “slick political trick” contrasted with India’s mass movement.

He draws on conversations with Jinnah’s biographer Zawwar Zaidi and references Saadat Hasan Manto’s haunting literary depictions of Partition. Subsequent chapters profile figures such as Anwar Marwat Khan, a Pashtun politician opposing Taliban influence; Asma Jahangir, the prominent human rights activist interviewed while under house arrest; and Salman Taseer, Punjab’s governor assassinated by his own bodyguard for supporting Asia Bibi, a Christian woman accused of blasphemy. Walsh also explores Pakistan’s security establishment through the story of Sultan Amir Tarar, or “Colonel Imam,” a legendary ISI officer later executed by the Tehrik-e-Taliban Pakistan.

In *Minimum City: Faith in God and Glock*, Walsh turns to Karachi’s underworld through SSP Chaudhry Aslam Khan, an “encounter specialist,” drawing parallels with Mumbai’s organised crime networks. He also documents the Baloch insurgency through his interactions with Nawab Akbar Bugti and accounts of enforced disappearances in Balochistan.

The final chapter shifts to Mumbai, where Walsh visits Jinnah’s former residence at Malabar Hill, observing it only from outside. He reflects on Pakistan’s economic decline, India’s rise, and the enduring antagonism between the two states.

Overall, *The Nine Lives of Pakistan* is a compelling and insightful work. Walsh’s narrative, grounded in reportage and personal encounters, demonstrates a deep understanding of Pakistan’s contradictions. The book is highly recommended for both newcomers and advanced readers seeking a nuanced, human-centred exploration of the country.

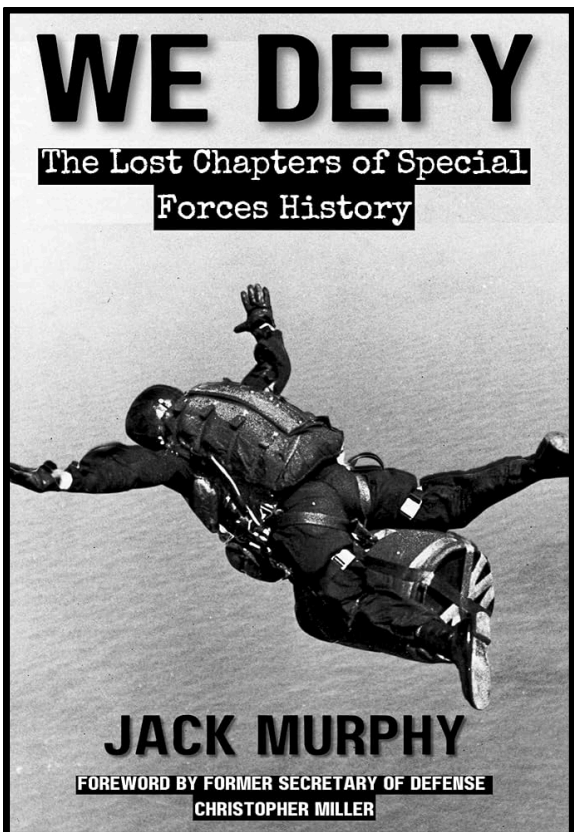
BOOK REVIEW

We Defy: Lost Chapters of Special Forces History by Jack Murphy



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Recently, I completed the book *We Defy: Lost Chapters of Special Forces History* by Jack Murphy, which provides an account of the history of the US Army Special Forces, the Green Berets. The book is divided into five chapters, each focusing on a specific part of the operational engagement of units under the Special Forces Groups (SFG) across different periods and locations. It covers missions ranging from the Green Berets’ Cold War nuclear contingency roles to their long-standing engagement with the South Korean Army. Murphy does real justice to the history and the operators involved by covering these “lost chapters”, the less-discussed aspects of the unit’s legacy. He vividly describes engagements, the evolution of training, and how these practices shaped the force as a whole.



The opening chapter focuses on Special Forces Detachment A, deployed in Berlin during the Cold War as a stay-behind force in the event of a third world war. Tasked primarily with foreign internal defence and sabotage missions, the unit had a unique composition that included a significant number of foreign nationals recruited under the Lodge Act. Notably, some members were former Nazis, including veterans of the Waffen SS, reflecting the extraordinary operational compromises of the era. Over time, Detachment A’s role expanded into counter-terrorism following the Munich massacre, including cooperation with European units such as GSG-9.

The unit's experience proved valuable during Operation Eagle Claw, before it was ultimately disbanded in 1984 after media exposure and US counter-terror restructuring. The second chapter examines Special Forces Detachment Korea, placing it within the broader context of US–South Korean relations after the Korean War. Murphy traces the evolution from early airborne Ranger units to the establishment of Detachment K, highlighting the harsh operational environment and the challenges posed by North Korean infiltration tactics, including tunnel warfare. The chapter illustrates how the Green Berets transitioned from purely training roles to active participation in counter-infiltration operations alongside South Korean forces. It also provides insight into the long-term evolution of South Korean Special Operations Forces, underscoring the durability and strategic value of this partnership.

The third chapter covers the Blue Light program, a stopgap initiative created while Colonel Charlie Beckwith raised Delta Force. Developed in response to the lack of a US hostage rescue capability after high-profile Israeli and German counter-terror successes, Blue Light drew experienced Vietnam-era veterans through informal networks rather than a formal selection process. Murphy highlights the program's lasting contribution through tactical innovation, particularly at Mott Lake, where purpose-built facilities enabled experimentation in close-quarters battle. Although Blue Light was eventually disbanded and overshadowed by Delta Force, its influence on US Special Operations doctrine endured. This evolution continued with the development of the Commander's In-extremis Force (CIF), the subject of the fourth chapter.

Murphy explains how CIF units emerged to provide regional commanders with an organic, rapid-response precision strike capability, distinct from national-level assets such as Delta Force. Trained for direct action and counter-terrorism, these units represented a shift toward unilateral operations within the Green Berets, traditionally focused on unconventional warfare and partner force development. The chapter traces their demanding training culture and their eventual transformation into today's Critical Threat Advisory Companies (CTAC).

The final chapter explores the Green Light program, one of the most extraordinary Cold War missions assigned to the Green Berets. Tasked with deploying Special Atomic Demolition Munitions behind enemy lines to destroy critical infrastructure in the event of war with the Soviet Union, the mission required physical activation of nuclear devices, effectively making it a near-suicidal assignment. Murphy suggests that despite the technical ambition, the program functioned as much as a psychological deterrent as a realistic war plan, given its complexity and risks. Murphy's research draws on archival sources, existing literature, and interviews with veterans, striking a balance between narrative storytelling and institutional history. His writing is accessible and vivid, making the book approachable for beginners while still offering depth for experienced readers. Overall, *We Defy* is an excellent effort at documenting the "lost chapters" of Special Forces history and preserving an often-overlooked institutional legacy. It is a gripping and informative read that will appeal to military professionals, historians, and serious enthusiasts alike, and it stands as a valuable contribution to the public understanding of Special Operations Forces.



REGIONAL WATCH

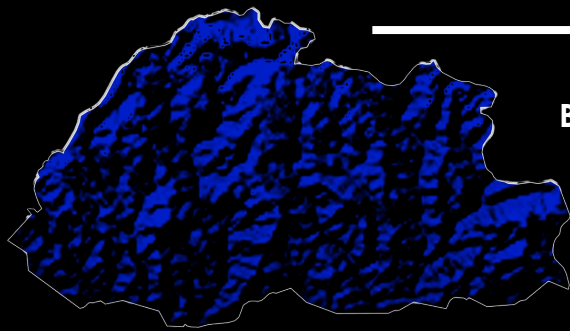


The Maldives saw political, economic, and social developments. Anti-corruption protests in Malé led to arrests, while President Muizzu secured approval for ward separation in Addu City and oversaw national events amid protests. Infrastructure and investment advanced with Hanimaadhoo Airport's reopening and a Trump Organization hotel announcement. Marking two years in office, Muizzu highlighted economic reforms, India-backed initiatives, and long-term planning, alongside regional aid efforts, tougher anti-drug laws, and record-setting civic activities.

MALDIVES

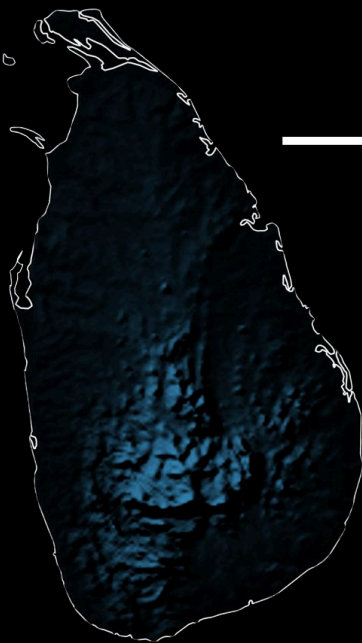


India's 2025 featured PM Modi's coalition pushing 7.2% GDP growth via GST reforms. Militarily, Operation Sindoor targeted Pakistan threats post-Pahalgam attack. Economically, Chabahar expansions and Bhutan hydro projects launched, alongside Adani's Sri Lanka LNG. Socially, floods displaced millions with major relief; women's reservation bill rolled out in states. Quad summits bolstered maritime security, Nepal aid countered China influence.



BHUTAN

Bhutan's October 2025-January 2026 stayed calm post-Tobgay election win, with hydro projects advancing. Politically, border pacts resolved. Economically, power exports peaked. Militarily, routine training. Socially, festivals like National Day (December 17) celebrated. The Bhutan-Thailand Free Trade Agreement, signed April 4, 2025, was poised for January 2026 effect, boosting exports and investments in Gelephu Mindfulness City—a sustainable hub with new airport and rail extensions.



SRI LANKA

Sri Lanka's October-January 2026 period emphasised economic recovery under President Dissanayake's NPP, with debt restructuring deals finalised with creditors. Politically, local election gains solidified anti-corruption drives. Economically, LNG plant operations expanded energy output by 15%, aiding exports. Militarily, joint naval patrols with regional partners occurred, building on Mitra Shakti 2025. Socially, Tamil community dialogues progressed amid Human Rights Council reviews. Internationally, tourism rebounded with 2 million visitors by December 2025. No major unrest reported, marking a stable quarter post-Aragalaya legacy.



NEPAL

Nepal focused on stabilising after September's Gen Z protests and parliament storming, which led to PM Oli's resignation and Justice Sushila Karki's interim leadership. Political efforts centered on preparing for March 2026 elections amid coalition talks and youth demands for anti-corruption reforms. Economically, hydropower exports grew despite floods, with festivals like Tihar (late October 2025) and Chhath Puja boosting local trade. Militarily, no major deals, but border security patrols increased. Internationally, constitutional dialogues with neighbours advanced. These events highlight Nepal's turbulent transition to youth-led governance.



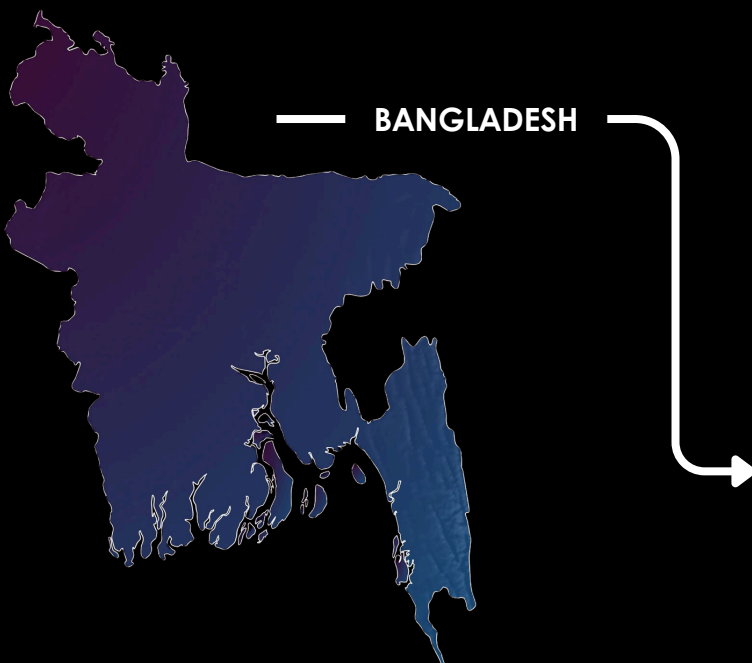
PAKISTAN

Pakistan faced economic strain October 2025-January 2026, with IMF tranche releases tied to fiscal reforms amid 25% inflation . Politically, Sharif's coalition battled PTI protests and Baloch unrest. Militarily, operations in Khyber Pakhtunkhwa curbed militants, but cross-border incidents rose. Economically, floods caused \$5 billion damage. Socially, blasphemy clashes in Jaranwala echoed tensions. Internationally, CPEC phase II talks with China progressed. Instability defined the period.



AFGHANISTAN

Taliban's rule October 2025-January 2026 saw ISIS-K bombings kill dozens, deepening humanitarian woes. Politically, Haqqani enforcements banned women from parks. Economically, aid cutoffs worsened famine. Militarily, Panjshir skirmishes persisted. Socially, migration surged. Internationally, UN pleas ignored. Crisis persisted .



BANGLADESH

Bangladesh's interim Yunus government from October 2025 to January 2026 delayed elections to mid-2026 amid protests, focusing on reforms. Politically, student leaders pushed for constitutional changes. Economically, garment exports rose 10% with new trade pacts, despite floods displacing thousands. Militarily, border forces managed refugee flows. Socially, minority protection laws advanced after 2024 violence. Internationally, aid inflows hit \$2 billion for recovery. These steps aimed at restoring order in a polarised landscape.



DEFENCE INSIGHTS

October 2025 – January 2026

The period from October 2025 to January 2026 marked a phase of accelerated militarisation, intensified great-power rivalry, and expanding defence industrial ecosystems. For India, the focus remained firmly on self-reliance, export growth, and strategic partnerships, while globally, ongoing conflicts and alliance pressures reshaped procurement priorities and force postures.

Major Procurement Decisions and Agreements

On 23 October 2025, India's Defence Acquisition Council approved defence procurements worth approximately ₹79,000 crore, with a strong emphasis on indigenous platforms. Among the notable approvals was the Nag Missile System (Tracked) Mk-II, reinforcing India's commitment to domestically developed precision strike capabilities. Under the emergency Foreign Military Sales (FMS) route, the United States approved sales worth \$92.8 million, including Javelin anti-tank guided missiles and M982A1 Excalibur precision artillery munitions. In parallel, India and the United States signed a landmark 10-year defence cooperation framework in October, providing long-term strategic continuity across interoperability, co-production, and advanced technology collaboration. India also expanded defence-industrial cooperation with Israel, signing a Memorandum of Understanding in November 2025 to broaden joint production of military systems, particularly in sensors, air defence, and precision weapons.



IDEX
Innovating Defense Ecosystem

Overview

- o Launched in 2018, Driving Defense Innovation Empowering startups, MSMEs to modernize Indian military technology

Key Initiatives

- o Defence India Startup Challenge (DISC)
- o Open Challenge.Thematic Challenge.ADITI Challenge

Funding Opportunities

- o Grants up to 1.5 Cr (10 Cr under IDEX Prime)
- o Supporting projects through SPARK Framework

Management

- o Managed by Defence Innovation Organization (DIO), founded by HAL and BEL



Innovation, Industrial Growth, and Exports

India's defence sector saw strong momentum in indigenous manufacturing, with domestic sourcing dominating new contracts. The Defence Research and Development Organisation (DRDO), supported by the IDEX framework, accelerated innovation across unmanned systems, counter-UAS technologies, artificial intelligence, robotics, and precision-guided munitions. Defence exports reached a record ₹23,622 crore, marking a 34-fold increase over the past decade, with Indian systems supplied to over 100 countries. Key exports included radars, missiles, torpedoes, and electronic warfare equipment. Meanwhile, defence industrial corridors in Uttar Pradesh and Tamil Nadu attracted sustained public and private investment, reinforcing supply-chain resilience and long-term industrial capacity.

Exercises and Regional Context

Regionally, exploratory discussions between Pakistan and Bangladesh regarding a potential defence pact raised strategic concerns in South Asia, particularly amid reports of China seeking expanded logistics access in the region. Pakistan completed delivery of 36 J-10C fighter aircraft from China by May 2025, significantly enhancing its air combat capability.

Escalating Conflicts and Strategic Tensions

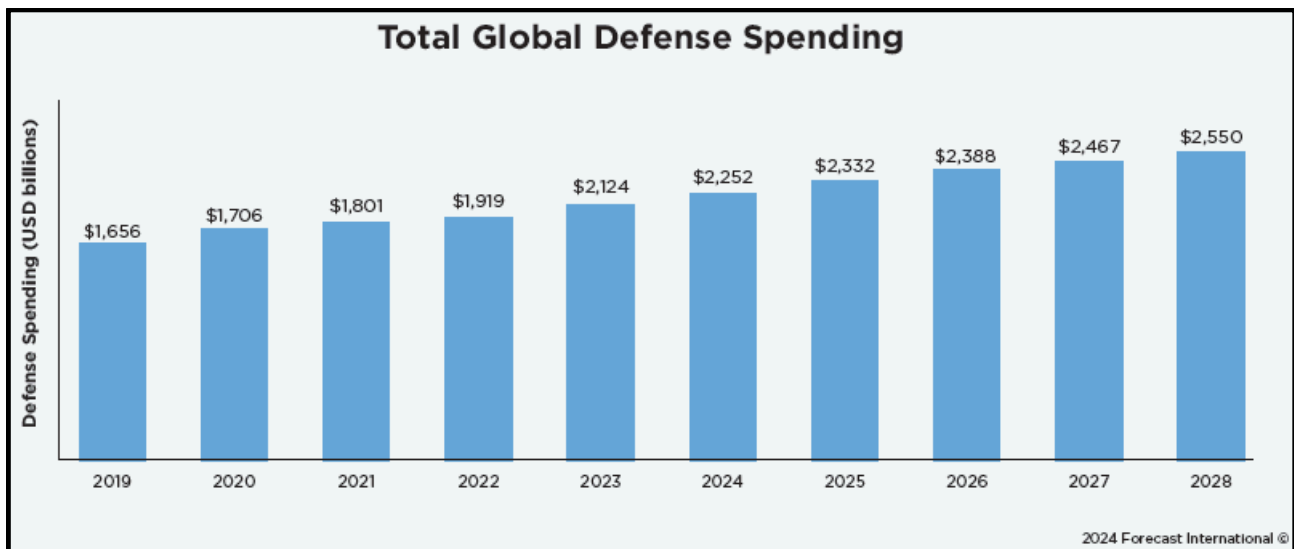
Global security tensions intensified as Russia deployed the Oreshnik ballistic missile in Ukraine, accelerating NATO air defence upgrades. China conducted large-scale live-fire drills around Taiwan, while North Korea continued missile tests. Middle Eastern tensions rose amid Iranian warnings, and Europe remained divided over long-term security guarantees for Ukraine.

Major Defence Budgets, Procurements, and Platforms

Global defence spending surged, with procurement priorities focused on missiles, fighters, and armoured systems:

- Spain ordered four Patriot GEM-T batteries valued at €2.8 billion to strengthen NATO air defence.
- Turkey approved a 30% increase in its 2026 defence budget to \$27.34 billion, allocating over \$5 billion to its KAAN fifth-generation fighter programme.
- Australia confirmed acquisition of MC-55A ISR aircraft, reinforcing intelligence and surveillance capabilities in the Indo-Pacific.
- Taiwan received US approval for an \$11.1 billion arms package in December 2025, the largest in its history.

Technologically, uncrewed naval systems, mass-produced drones, and AI-enabled battle management systems gained prominence. The F-35 programme reached record delivery milestones, while European defence firms expanded armoured vehicle and artillery production. Global arms revenues hit a record \$679 billion, reflecting sustained demand driven by conflict and deterrence requirements.



Strategic Outlook

From India's export-oriented defence industrial surge to NATO's urgent force modernisation and China's expanding military posture, the October 2025–January 2026 period underscored a decisive shift toward long-term military preparedness and industrial mobilisation. Defence cooperation, supply-chain resilience, and technological autonomy emerged as defining priorities in an increasingly contested global security environment.

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DEPARTMENT BRIEF

VIJAY DIWAS 2025

**VIRTUAL SEMINAR ON VIJAY DIWAS
INDIAN VICTORY IN 1971 INDO-PAK WAR**
ON TUESDAY, 16 DECEMBER 2025

Dr. Ashok K. Chauhan
Founder President
Ritnand Balved Education Foundation
Chairman, AKC Group of Companies

Prof. (Dr.) Balvinder Shukla
Vice Chancellor
Amity University Uttar Pradesh

Prof. (Dr) Nirupama Prakash
Director AISS, AUUP

Dr. Atul Chauhan
Chancellor
Amity University Uttar Pradesh

Lt Gen Dharam Vir Kalra
PVSM, AVSM (Retd)
PhD Scholar at AIDSS & Former
Director General Ordnance Services

Maj Gen Rajan Kochhar
VSM (Retd)
Advisor UPSC, Vice Chairman
NCNB, Strategic and Defence Expert

Rear Adm Sanjay Misra
VSM (Retd)
Member of the Board,
Baltovents Quantum Mechanics Pvt. Ltd.

Prof. (Dr) Dinesh Kumar Pandey
Senior Fellow, CAPSS

Brig (Dr) AK Tewari (Retd)
Professor & Director, AIDSS

Mr Barshan Karmakar
PhD Scholar, AIDSS

Ms Isha Singh
PhD Scholar, AIDSS

Col (Dr) Rajan Bakshi (Retd)
Director ACDSA, Associate Professor
AIDSS & Deputy Commandant AIET

ORGANISED BY: AMITY INSTITUTE OF DEFENCE & STRATEGIC STUDIES (AIDSS)

The Amity Institute of Defence and Strategic Studies (AIDSS), Amity University Uttar Pradesh, Noida, organised a virtual seminar on the occasion of Vijay Diwas on 16 December 2025 to commemorate India's historic victory in the 1971 Indo-Pak War. The programme featured a distinguished panel of military veterans, strategic experts, academicians, and scholars, including Lt Gen Dharam Vir Kalra, PVSM, AVSM (Retd), Maj Gen (Dr) Rajan Kochhar, VSM (Retd), Ms Isha Singh, Prof. (Dr) Dinesh Kumar Pandey, Mr Barshan Karmakar, and Rear Adm Sanjay Misra, VSM. Through a series of thematic sessions, the seminar examined the land, air, and naval dimensions of the war, politico-military synergy, India's diplomatic and political initiatives, and the liberation of Bangladesh. The deliberations highlighted the strategic, military, and diplomatic significance of the 1971 conflict and reinforced its enduring relevance for India's national security and strategic thought.

FAREWELL TO OUR DIRECTOR GENERAL



LT. GEN. (DR.) S K GADEOCK, AVSM

“LEADERSHIP IS NOT ABOUT COMMAND — IT IS ABOUT COMMITMENT.”

Amity Institute of Defence and Strategic Studies (AIDSS) expresses its sincere appreciation to Lt Gen Gadeock for his distinguished tenure as Director General. His leadership was characterised by strategic clarity, institutional discipline, and a sustained commitment to academic and professional excellence. During his tenure, the Institute strengthened its academic orientation, reinforced organisational processes, and advanced its engagement with contemporary defence and strategic discourse. His guidance ensured alignment between institutional objectives and broader national security priorities, fostering a culture of rigour, accountability, and purposeful growth.

The Institute acknowledges his contributions with deep respect and extends its best wishes for his continued service to the nation.

— AMITY INSTITUTE OF DEFENCE AND STRATEGIC STUDIES

CONFERENCE SPOTLIGHT



@ CLAWS EVENT



@ MANEKSHAW CENTRE

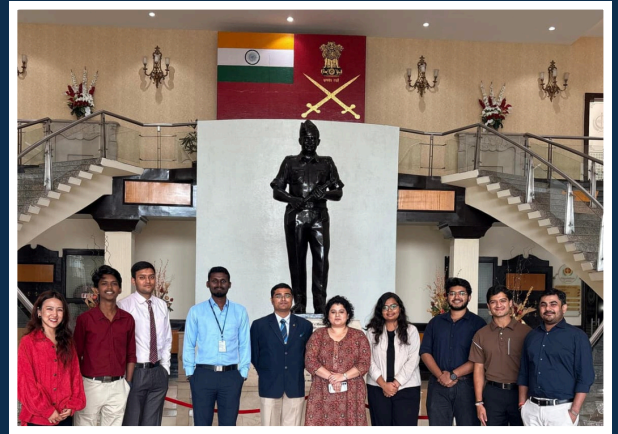


@ IPRD 2025



@ CHANAKYA DEFENCE DIALOGUE

CONFERENCE SPOTLIGHT



AIDSS LOOK BOOK



Raksha Drishti Special Edition Launch



Student Forum



Freshers Party 2025



Convocation 2025



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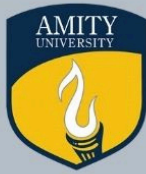
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SCAN FOR MORE INFO!



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