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Rightsizing, Rebalancing and Reorienting the Indian Army for Future Wars

AB Shivane

CENTRE FOR LAND WARFARE STUDIES

Field Marshal Sam Hormusji Framji Jamshedji Manekshaw, better known as Sam “Bahadur”, was the 8th Chief of the Army Staff (COAS). It was under his command that the Indian forces achieved a spectacular victory in the Indo-Pakistan War of 1971. Starting from 1932, when he joined the first batch at the Indian Military Academy (IMA), his distinguished military career spanned over four decades and five wars, including World War II. He was the first of only two Field Marshals in the Indian Army. Sam Manekshaw’s contributions to the Indian Army are legendary. He was a soldier’s soldier and a General’s General. He was outspoken and stood by his convictions. He was immensely popular within the Services and among civilians of all ages. Boyish charm, wit and humour were other notable qualities of independent India’s best known soldier. Apart from hardcore military affairs, the Field Marshal took immense interest in strategic studies and national security issues. Owing to this unique blend of qualities, a grateful nation honoured him with the Padma Bhushan and Padma Vibhushan in 1968 and 1972 respectively.



**Field Marshal SHFJ Manekshaw, MC
1914-2008**

CLAWS Occasional Papers are dedicated to the memory of Field Marshal Sam Manekshaw

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New Delhi



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RIGHTSIZING • REBALANCING • REORIENTING

THE ROAD TO FUTURE COMBAT POWER

RIGHTSIZING



Making the force leaner and more agile

- Optimised force structure
- Better manpower utilisation
- Lower administrative overhead
- Resources released for modernisation

REBALANCING



Investing where future wars will be decided

- Precision strike capability
- Artificial intelligence
- Autonomous systems
- Air and missile defence
- Cyber and electromagnetic operations
- Digital communications
- Technology-enabled logistics

REORIENTING



Changing the way the Army prepares and fights

- Updated doctrine
- Multi-domain operations
- Human-machine teaming
- Joint training
- Networked command and control
- Innovation-driven military education

A DIGITALLY CONNECTED, JOINT COMBAT FORCE



SHARED
SITUATIONAL
AWARENESS



FASTER
SENSOR-TO-SHOOTER
CYCLES



INTEROPERABLE
COMBAT ARMS



RESILIENT
COMMUNICATIONS



PREDICTIVE
LOGISTICS



INTEGRATED
DECISION-MAKING

FUTURE COMBAT POWER



FASTER
DECISIONS



GREATER
PRECISION



HIGHER
SURVIVABILITY



SUSTAINED
OPERATIONAL
TEMPO



STRONGER
DETERRENCE



DECISIVE
BATTLEFIELD
EFFECTIVENESS

Rightsizing, Rebalancing and Reorienting the Indian Army for Future Wars

A Strategic Assessment of Force Transformation and Arm-Wise Reorientation in the Era of Multi-Domain Conflict

Abstract

The Indian Army stands at an inflexion point that few institutions of its size and history are asked to navigate at once. For seven decades its force structure has been shaped by conventional confrontation with Pakistan, protracted high-altitude deployment against China, sustained counter-insurgency and the demands of internal security. These missions have not disappeared, and geography has granted India no relief from any of them. What has changed is the character of the contest itself. Artificial intelligence, unmanned systems, precision fires, cyber operations, electronic warfare, space-based sensing and pervasive information networks are converging to compress the time between detection and destruction, and the army that masters this compression will possess a decisive edge over one that merely modernises within its existing architecture.

This paper argues that the question facing Indian land power is not whether it needs a large and capable army, since geography and an unresolved two-front reality make that requirement self-evident, but whether its present organisation, manpower distribution and capability mix are calibrated for the wars it is most

likely to fight in the next two decades. *A force built for yesterday's battlespace cannot be made future-ready merely by grafting new technology onto old structures. It requires three interlocking reforms, each insufficient on its own: rightsizing the force to match future operational requirements, rebalancing resources from manpower-heavy formations towards technology-enabled combat power, and reorienting the army's intellectual culture so that commanders think in terms of decision dominance rather than platform accumulation.* None of these reforms implies a reduction in combat power; together they describe an army that is leaner where leanness serves it, denser in capability where density matters, and agile enough to absorb the next disruption before an adversary does.

Rebalancing, this paper further argues, cannot remain an abstraction pursued solely at the level of budget lines and doctrine documents. It must be executed arm by arm and service by service, redefining what an armoured regiment, an infantry battalion, a gun position or a logistics unit is actually built to do, rather than leaving that redefinition as an implicit hope attached to new equipment. The analysis that follows accordingly moves between the strategic and the institutional, from the changing character of warfare to the specific transformation each combat arm, combat support arm and service must undergo, because a theatre command built on arms still organised for the battlefield of the last three decades will deliver only marginal gains.

Introduction: From Platform Dominance to Decision Dominance

Every generation of warfare has rewarded the side that could see first, understand first and act first. Military advantage has consistently accrued not to the largest force but to the one that converted a technological or organisational change into operational advantage before its rival did. Mechanisation transformed

manoeuvre warfare in the interwar years not because tanks existed, but because Germany built doctrine and command architecture around them faster than France did.¹ Radar altered the contest for air superiority; precision-guided munitions rewrote the relationship between distance and destruction; networked information systems compressed the sensor-to-shooter cycle from hours to minutes. In each case, the decisive shift was not a single weapon but the integration of a new capability into a coherent fighting system.

This pattern has a name in the academic literature on military change, and it is worth borrowing precisely because it disciplines the argument that follows. A revolution in military affairs, as Andrew Krepinevich argued in his influential 1994 essay on the subject, is recognisable only in hindsight, when a confluence of technology, operational concept and institutional adaptation produces a discontinuous jump in combat effectiveness rather than an incremental one.² The distinction Krepinevich drew between the mere existence of a military-technical revolution and the harder achievement of a full revolution in military affairs built around it through new doctrine and organisation is precisely the distinction on which this paper's entire argument rests.³ India today sits within exactly such a confluence: precision fires, autonomous and semi-autonomous platforms, pervasive sensing and artificial intelligence are converging at a pace that outstrips the Army's institutional capacity to absorb them, arm by arm, in isolation, through legacy processes.

The transformation now underway is defined by convergence rather than by any single system. Artificial intelligence, autonomous platforms, cyber capabilities, quantum-adjacent sensing, and space-based surveillance are simultaneously altering the relationship among humans, machines, and information.⁴ The future battlefield will not be settled primarily by who possesses

more tanks, artillery pieces or soldiers under arms, but by who can generate superior awareness of the battlespace, process that awareness into decisions faster than the adversary, and translate those decisions into precise effect before the window for action closes. This is not a claim that mass has become irrelevant; it is a claim that combat power now includes the speed and accuracy of the decision cycle itself.

For India, this transformation carries immediate operational weight rather than abstract theoretical interest. The Indian Army continues to operate in a demanding security environment that spans contested and unresolved borders with both Pakistan and China, high-altitude deployment at extreme cost, a persistent proxy conflict architecture across the Western Front, an accelerating drone threat along multiple axes, and strategic competition extending into the Indo-Pacific maritime commons. The requirement before the Army is therefore not a choice between traditional capability and technological modernisation; India requires both simultaneously, within a defence budget that will remain finite regardless of the pace of threat evolution. What must change is the internal balance between manpower, platforms and technology.

The question this paper poses is deliberately narrow. It is not a question of whether the existing force has served the nation well; it has, across four wars, sustained high-altitude confrontation and decades of counter-terrorist operations, and no serious analyst disputes this record. The question is whether the structure inherited from that record is the structure best suited to the conflicts India is likely to face between now and 2040. That is a question of organisational design, resource allocation and institutional culture, and it is the question this paper attempts to answer through four connected arguments: rightsizing, rebalancing, arm-wise

reorientation, and the broader reorienting of institutional culture that must accompany all three.

The Changing Character of Warfare

The Return of High-Intensity Conflict

For nearly two decades, a school of strategic thought held that major conventional war between capable states was a diminishing possibility, and irregular contests below the threshold of open war would dominate that future conflict. The Russia-Ukraine war has dismantled that assumption. Industrial capacity, ammunition stockpiles, artillery density, armoured mass, and sustained logistics have reasserted themselves as load-bearing elements of military power in a war that has dragged on for years rather than weeks.⁵ Yet the same conflict reveals an equally important truth: none of these elements now operates in concealment. Persistent drone surveillance, precision artillery, loitering munitions and pervasive electronic warfare have made the modern battlefield more transparent than at any point in the history of land warfare, a transparency that Operation Sindoor confirmed applies with equal force to South Asia's own contested borders.⁶

The correct lesson from Ukraine is not that tanks, artillery or infantry have become obsolete. It is that no platform can any longer achieve decisive effect in isolation. A tank without integrated air defence, electronic protection and battlefield connectivity is a target that announces itself. Artillery without a live targeting network surrenders the initiative to whichever side detects and fires first. Infantry without enhanced situational awareness becomes vulnerable to a drone threat costing a fraction of the soldier it can kill.⁷ Land warfare is therefore moving decisively away from the dominance of individual platforms and towards integrated combat systems, in which a platform's value is a function of its connections rather than its specifications.

For the Indian Army, this requires a genuine shift in institutional thinking rather than an incremental adjustment. The relevant question is no longer how many tanks, guns or battalions the Army fields. The relevant question is how effectively each of those elements is woven into a larger operational system that senses, decides and strikes as a single organism. An army that continues to count platforms while its adversary counts kill-chains will discover, at the moment of contact, that an informational one has neutralised its numerical advantage.

The Drone Revolution and the Democratisation of Battlefield Power

The most visible transformation in recent conflicts has been the near-universal employment of unmanned systems across every level of war, from strategic strikes to section-level patrols. Drones have altered the economics of warfare by allowing platforms costing a few hundred or a few thousand dollars to perform missions that once required expensive manned aviation.⁸ A small unmanned system can now detect movement, designate targets, correct artillery fire and conduct persistent surveillance. Battlefield transparency has consequently increased at a pace that has outrun the doctrine of most conventional armies, reducing the value of static deployment and traditional concealment.⁹

The strategic significance of the drone lies not in its individual lethality but in its compression of the sensor-to-shooter cycle. A formation that can detect, decide and engage before its adversary completes the same sequence possesses a decisive tempo advantage regardless of relative size.¹⁰ This has direct implications for the Indian Army's posture along both the western and northern fronts, where surveillance drones, armed unmanned systems and loitering munitions are already a proven feature of the operational environment rather than a future contingency. Drone capability

cannot remain the preserve of specialised units operating at corps or command level; it must become as fundamental to every soldier as weapon handling and communications discipline. Just as an earlier generation internalised the basics of radio procedure, the coming generation must internalise the employment of unmanned systems and counter-drone survival, because the future soldier will not merely carry a weapon. He will operate as a single node within a dense network of sensors, platforms, and decision loops extending well beyond his line of sight.

The Changing Meaning of Mass

Military power has traditionally been measured in numbers: divisions raised, tanks fielded, artillery tubes available. Mass has not lost its relevance, particularly for a country with India's territorial obligations, but the definition of what constitutes decisive mass is changing. A technologically enabled force with superior information, connectivity and precision can impose disproportionate effects on a numerically larger but poorly integrated adversary.¹¹ This is not a theoretical proposition; it has been demonstrated repeatedly in recent conflicts where smaller, better-networked formations have achieved effects that would previously have required several times their strength.

None of this diminishes the requirement for sustained manpower along India's difficult and lengthy borders, where physical presence continues to carry strategic and diplomatic weight that no sensor network can replace. What it changes is the metric by which manpower should be judged. The objective cannot be a smaller army for its own sake, nor can it be an army that adds technology as an afterthought to unchanged structures. The objective must be an army in which every soldier, unit and formation is measured by the combat effect it generates rather than

by its numerical presence on an order of battle. This swarm era marks a battlespace of precise mass.¹²

Why the Indian Army Must Change: The Case for Rightsizing

The Legacy of the Existing Force Structure

The Indian Army's present structure is not an accident of bureaucratic drift; it is the accumulated product of operational necessity across seven decades of continuous engagement. Three wars with Pakistan have shaped it, one with China, an extended high-altitude deployment at Siachen that has no parallel elsewhere in the world, and a counter-insurgency commitment in Jammu and Kashmir and the Northeast that has run, in various forms, for most of independent India's history. The resulting force is experienced, resilient and demonstrably capable of sustained operations under extreme physical conditions. This is not a criticism of the institution but a description of the environment that produced it.

The environment, however, has moved faster than the structure. Future conflict will demand far greater weighting towards artificial intelligence-enabled decision support, autonomous systems, electronic warfare, cyber resilience, precision fires and networked operations, all of which sit awkwardly within an architecture optimised for an earlier generation of threats. Defence resources remain finite, and every rupee committed to manpower sustainment is a rupee unavailable for the technologies that will define the next conflict. The Government of India's own annual defence reporting acknowledges this resource tension, with revenue expenditure continuing to absorb a disproportionate share of the budget relative to capital modernisation.¹³ Transformation is therefore not a discretionary exercise but a forced choice about where finite resources will generate the greatest military advantage.

None of this argues for abandoning the strengths that the existing structure has built. It argues for ensuring that the force evolves at least as quickly as the threats it exists to counter, a standard the institution has not always met, most notably in the long gap between the 1999 Kargil Review Committee's recommendations and their eventual, partial implementation.

Manpower Optimisation: From Numbers to Capability

The Indian soldier will remain the irreducible core of combat power for as long as war continues to require human judgement, courage and leadership under conditions no algorithm can fully anticipate. Technology enhances this core; it does not replace it. What is changing is the relationship between manpower and the technology that surrounds it. The relevant question is no longer simply how many soldiers a formation fields, but how effectively the systems around him enable each of those soldiers.

Resources must increasingly flow towards the capabilities that will shape the next conflict: advanced intelligence fusion systems, unmanned platforms, electronic warfare, cyber capabilities, precision weapons, and resilient battlefield networks. A soldier operating with superior information and connectivity can generate effects that previously required an entire platoon, and a platoon so enabled can achieve what previously required a company. This is the essential logic behind the IA study on 'Rightsizing, Rebalancing and Reorganising Forces' by the then Perspective Planning Directorate and Shekatkar Committee's original recommendations on rebalancing manpower towards combat-enhancing functions. This logic remains only partially executed nearly a decade after the committee submitted its report.¹⁴ The future army must therefore complete the shift, already begun on paper, from a manpower-centric model of strength to a capability-centric one.

The Imperative of Rightsizing

Rightsizing is routinely misread, both within the institution and in public commentary, as a euphemism for reducing manpower. That reading misses the substance of the exercise. Rightsizing is the disciplined process of aligning organisation, resources and capabilities against future operational requirements, rather than against historical establishment tables that have often outlived the conditions that justified them. A future-ready army cannot be built by overlaying new technology onto structures that have never been re-examined for continued relevance.

Genuine rightsizing requires an honest, formation-by-formation assessment of what must be preserved because it remains operationally decisive, what must be transformed because its function has changed even if its name has not, and what can be replaced through automation or organisational redesign without any loss of combat power. Logistics management, inventory control, predictive maintenance, simulation-based training, and administrative overhead offer the clearest opportunities for this kind of substitution, and the resources freed up by these functions should flow directly into unmanned systems, intelligence capabilities, electronic warfare, and precision fires. Rightsizing done correctly does not shrink the army's combat power. It concentrates that power where it will matter most.

Rebalancing the Indian Army for Future Combat Power

From Manpower Dominance to Capability Dominance

Rightsizing alone cannot produce a future-ready army. A smaller force operating under the same doctrine, structure and employment philosophy as its larger predecessor is merely a reduced version of the existing organisation, not a transformed one. The deeper requirement is rebalancing, which involves deliberately

shifting the centre of gravity of military power away from manpower-heavy structures and towards technology-enabled combat capability.

The armies that dominate future conflict will not necessarily be those with the largest inventory of platforms or personnel. They will be the armies that most successfully integrate human capabilities with advanced technology to produce a faster, more accurate cycle of sensing, deciding, and engaging.¹⁵ This is not a proposal to replace soldiers with machines; it is a proposal to enable every soldier, unit and formation to generate a materially greater combat effect than the same unit generated a decade ago. Modern warfare is moving towards a system-of-systems logic, in which a platform's effectiveness derives largely from its integration with intelligence networks and precision fires rather than from standalone specifications. The organisational implication is a shift from platform-centric to effect-centric structures, in which a tank, gun or battalion is assessed by how effectively it draws upon the wider combat network around it.

Rebalancing the Teeth-to-Tail Equation

The traditional debate on teeth-to-tail ratio requires a more contemporary interpretation than the crude arithmetic of combat units against support units. The objective cannot simply be to shrink support elements and expand combat units, because modern warfare has created an entire category of support capabilities that directly and immediately enhance combat effectiveness. A cyber specialist, an electronic warfare operator, a data analyst or a drone technician does not resemble a traditional infantry soldier. Yet, each of them contributes as directly to battlefield success as the rifleman on the ground, and in some engagements more decisively.

The future force structure must therefore carefully distinguish between manpower that directly generates combat power and manpower whose function can be optimised through technology, automation, or reorganisation without loss of capability. The Indian Army must systematically examine functions where repetitive, manpower-intensive processes can be automated, and the human resources released by this examination must be redirected towards unmanned systems, intelligence, electronic warfare and precision effects rather than eliminated from the establishment. The objective is not a reduction of manpower as an end in itself. It is an increase in the combat value generated by every soldier retained in uniform.

One of the largest concentrations of manpower flab lies in headquarters and logistics institutions. These require a surgical reduction in officer numbers, especially in the junior category, to make the organisation leaner and more effective, with responsibilities realigned with the demands of future warfare rather than with establishment tables drawn up for a different era.

The Imperative of Arm-Wise Reorientation

No army reforms itself by rewriting its command diagram alone. Theatreisation, jointness, and integrated fire support networks will eventually reshape how India employs force, and the debate on unified theatre commands has rightly dominated recent discourse within the higher defence establishment, with the Chief of Defence Staff pressing for a structure that collapses seventeen single-service commands into a smaller, geographically coherent construct.¹⁶ Yet a theatre command built on arms and services still organised, trained, and equipped for the battlefield of the last three decades will deliver only marginal gains if functional restructuring below the command level is treated as an afterthought. The harder, less glamorous work of change lies one level below theatreisation:

the actual redesign of what an armoured regiment, an infantry battalion, a gun position, or a logistics unit is expected to do, and how it is equipped, trained, and commanded to do it.

The case for this arm-wise reorientation rests on the same three convergent pressures that motivate rebalancing at the strategic level, sharpened here into their operational specifics. The first is doctrinal, and it returns to the Krepinevich framework introduced earlier: new instruments of war confer advantage only when doctrine and organisation are rebuilt around them rather than bolted onto existing structures.¹⁷ India today sits within exactly such a confluence of precision fires, autonomous platforms, pervasive sensing and artificial intelligence, converging at a pace that outstrips the Army's institutional capacity to absorb them, arm by arm, through legacy processes alone.

The second pressure is geopolitical and immediate rather than theoretical. Operation Sindoor, the four-day exchange with Pakistan in May 2025, gave the Indian Army and Air Force their first large-scale, real-time experience of drone saturation, layered counter-unmanned aerial system operations, and contested electromagnetic conditions, and the lessons are still being absorbed into training and equipment programmes.¹⁸ The operation validated some existing capabilities, most notably the integrated air defence grid, while exposing gaps in networked sensor-to-shooter timelines and the sheer scale of expendable aerial systems a modern adversary can commit to a single engagement.

The third pressure is technological convergence itself. Robotic and autonomous ground systems, directed-energy weapons, artificial intelligence-enabled command support, and quantum-resistant communications are no longer laboratory curiosities but programmes with fielded prototypes, in India as much as among India's principal competitors.¹⁹ An arm-wise review that treats

these technologies as incremental additions to existing platforms will under-exploit them. An arm-wise review that treats them as the basis for redefining each arm's core function, vision, rationale for existence, and future role stands a far better chance of producing genuine combat overmatch rather than a merely modernised version of the same force.

What follows, therefore, moves arm by arm and service by service through exactly this redefinition, argued not as a wish list of equipment but as a coherent theory of what each part of the land force must become if it is to remain relevant to the wars India is likely to fight over the next two decades.

The Armoured Corps: From Tank Fleets to Manoeuvre Ecosystems

The Armoured Corps has historically defined itself by the main battle tanks it operates, first the Centurion, then the Vijayanta, then the T-55, and now the T-90 and T-72 fleets alongside the indigenous Arjun. This platform-centric self-image has served the Corps well through successive generations of armour. Still, it no longer adequately describes what shock action and manoeuvre will look like in the coming decades. Armour remains, and will remain, a critical component of land warfare; the argument that tanks have become obsolete misreads the operational record, and the tank has weathered every obituary written for it since anti-tank weapons first appeared on the Somme. What has genuinely changed is the assumption that armour can operate independently. Persistent surveillance drones, loitering munitions, precision artillery and pervasive electronic warfare have raised the vulnerability of formations that fight without integration.

The correct response is not to abandon armour but to transform it into a manoeuvre ecosystem: a mix of crewed main battle tanks, light tanks suited to high-altitude terrain, robotic combat vehicles,

loitering munitions organic to armoured formations, and an overlay of artificial intelligence-enabled command support that compresses the sensor-to-shooter cycle within the manoeuvre battle itself. To fight tomorrow's war, the Corps must reimagine combat through the lens of invisible geometry, precision disruptions, aerial threats that may emanate beyond visual range, drone warfare, and mission continuity under digital siege.²⁰

The United States Army's experimentation with robotic combat vehicles, and the broader DARPA-originated concept of mosaic warfare, in which smaller, more numerous and more disaggregated systems replace a handful of exquisite platforms to confound an adversary's targeting logic, offer a useful reference point, even though India's terrain, threat profile and industrial base demand a distinct implementation.²¹ The mosaic argument, that losing a single node should not be operationally significant because the network as a whole retains coherence, has direct relevance for an armoured formation operating under the drone-dense, sensor-saturated conditions that Operation Sindoor previewed.

In the Indian context, this translates into four concrete shifts. First, the Corps must accelerate the induction of light tanks for the northern high-altitude sectors, where the existing main battle tank fleet is constrained by weight, fuel consumption, and mobility corridors, while retaining the heavier fleet for the western plains and desert sectors, where mass and protection still dominate. Second, robotic combat vehicles, whether teleoperated or increasingly autonomous, should be raised as an organic sub-unit within armoured regiments rather than as a separate experimental cadre, so that breakthrough and exploitation operations are planned from the outset around a mixed crewed-and-uncrewed force package. Third, counter-armour doctrine must assume that the adversary's manoeuvre forces will be similarly networked and sensor-rich, which places a premium on active protection systems,

signature management, and dispersed logistics rather than on armour thickness alone. Fourth, deep operational manoeuvre, the classic Soviet-derived concept that has long informed Indian armoured doctrine, needs to be re-examined in an environment where persistent aerial surveillance makes it increasingly difficult to conceal large armoured concentrations, favouring smaller, faster-moving battle groups over corps-sized armoured thrusts.

This has direct consequences for crew composition. The traditional crew of commander, gunner and driver was designed for an era in which the tank's principal function was direct engagement with an opposing platform. Future armoured warfare will demand commanders capable of managing a much larger battlefield picture, including unmanned systems and continuous information flow, making the evolution of the existing loader or operator role towards a dedicated drone-operator function an operational necessity rather than an optional add-on, a point Indian armoured commanders with direct operational experience have made with particular force.²² Training pipelines must reflect this at every level: soldiers need technical proficiency, junior leaders need tactical integration, and officers need the ability to employ manned and unmanned capability as one combat system. The future tank commander will not merely command a vehicle; he will command a battlefield ecosystem, and the Corps' future should be understood less as the custodian of a particular platform and more as the Army's principal integrator of crewed and uncrewed manoeuvre capability.

The Infantry: Adaptive Combat Power for a Networked Battlefield

The Infantry's core function, to seize, hold and dominate terrain, has not changed in essence since the arm's founding, and no amount of precision fire changes that underlying reality. What

has changed decisively is the operating environment in which that function must be discharged. The Indian infantryman today fights in a battlespace where a section-level patrol can be observed by commercial-grade satellite imagery, tracked by a quadcopter costing a few hundred dollars, and targeted by a loitering munition guided from a position many kilometres away. Operation Sindoor starkly demonstrated this reality, with formations along the western front conducting live validation of tactical drone employment and counter-drone response within months of the actual conflict, an unusually rapid feedback loop between operational experience and training reform.²³

Adaptive combat power, as a vision, requires the Infantry to internalise three simultaneous transformations. The first is human-machine teaming at the section and platoon levels, where small tactical drones for reconnaissance, and increasingly for precision strike, become organic equipment rather than attachments from a specialist unit; Indian Army exercises following Operation Sindoor have already begun testing this integration, with drones employed for supply delivery in high-altitude sectors and for offensive and defensive manoeuvres in simulated force-on-force conditions. The second transformation is the shift from purely kinetic close combat to information-enabled operations, in which the infantryman's situational awareness is fused with higher-echelon intelligence feeds in near real time, reducing the traditional fog that has always attended close-quarter engagements. The third is preparation for hybrid and grey-zone contingencies that blend conventional combat with information operations, a dimension that Operation Sindoor's accompanying disinformation campaign against Indian public morale made unmistakably clear.²⁴

The infantry battalion of the future must operate with integrated tactical drones, counter-drone capability, advanced surveillance and precision weapons woven into its standard tables

of organisation rather than issued as specialist attachments. The battlefield will increasingly reward smaller teams possessing greater situational awareness and lethality; a section or platoon equipped with superior sensors may achieve effects that previously demanded a much larger formation. Technology must be designed to improve survivability, not to be an additional burden on an already heavily loaded soldier, and the soldier of the future must transition from being primarily a weapon carrier to being an intelligent node within a larger combat network.

Urban warfare and mountain or high-altitude warfare remain the two terrain sets in which the Indian Infantry is most likely to be decisively tested, given the nature of the western and northern fronts. Urban combat doctrine must now assume contested electromagnetic conditions and the presence of low-cost aerial threats even in built-up terrain, which argues for organic counter-drone capability down to company level rather than centralisation at brigade or higher. High-altitude doctrine, meanwhile, must reconcile the enduring physiological and logistical burden of operating above four thousand metres with the opportunities that autonomous resupply and persistent surveillance now offer to reduce it. Distributed operations, in which smaller, more self-sufficient sub-units operate with greater autonomy across a wider frontage, are increasingly viable precisely because networked situational awareness and precision fire support reduce the risk that dispersion once implied.

Counter-hybrid warfare deserves particular emphasis. The Infantry has spent three decades honing counter-insurgency and counter-terrorism skills in Jammu and Kashmir and the Northeast, and that institutional memory should not be discarded in the rush towards high-technology conventional preparedness. The arm should instead treat hybrid-warfare competence, the ability to operate simultaneously against irregular and conventional threats,

as a comparative advantage that few adversary infantries possess to the same extent, and build future doctrine to exploit that advantage rather than treat it as a legacy burden.

Mechanised Infantry: Integrating Mobility, Protection and Autonomy

Mechanised Infantry sits at an uncomfortable inflexion point. Its core platform, the BMP-2 infantry combat vehicle, has been in service since the early 1980s and has been the subject of an unresolved replacement programme, the Futuristic Infantry Combat Vehicle, for close to two decades. A retired Director General of Mechanised Forces has publicly warned that even on an optimistic timeline, complete fleet replacement would not be achieved before 2040. By that point, the first inducted vehicles would themselves be approaching mid-life and require further upgrades, a sobering illustration of how procurement delays compound capability risk over time.²⁵ This is not a peripheral acquisition problem; it is a structural vulnerability, given that the mechanised force is central to any proactive conventional strategy on the western front and to rapid reinforcement along contested sectors of the northern border.

The reorientation of Mechanised Infantry must therefore proceed on two tracks simultaneously. The acquisition track requires the Army and the Ministry of Defence to treat the Futuristic Infantry Combat Vehicle programme as urgent, given a critical capability void, rather than as a routine procurement case, since current assessments place the earliest induction in 2026 or 2027, with full fleet replacement more than a decade beyond that.²⁶ The doctrinal track, which is within the Army's own control regardless of acquisition timelines, requires Mechanised Infantry to redefine itself as the integrator of mounted combat power, robotics

and battlefield networking, rather than simply as infantry that happens to ride into battle in armoured vehicles.

Practically, this means designing the next-generation infantry combat vehicle from the outset for swarm integration, so that a mechanised infantry company operates with a package of accompanying uncrewed ground and aerial systems for reconnaissance, obstacle breaching, and even direct fire support, rather than receiving such systems as later add-ons. It means treating tactical reconnaissance as a networked function shared across the mechanised battle group rather than the preserve of a single reconnaissance element, and building battlefield networking capacity into the vehicle architecture itself, so that the combat vehicle functions as a mobile node in the Army's wider digital battle network rather than as an isolated platform. It also means accepting that combined-arms integration with the Armoured Corps, Artillery, and Army Aviation must be exercised routinely at the unit level, not only in formation-level command post exercises, if the mechanised force is to achieve the rapid manoeuvre and decisive combat power its vision statement promises.

The Mechanised Infantry's dilemma illustrates a broader truth about Indian defence modernisation: doctrinal reorientation can proceed independently of, and indeed ahead of, equipment modernisation. The Army should not wait for the Futuristic Infantry Combat Vehicle to arrive before rebuilding the training, organisation and tactical concepts the new vehicle will eventually need to exploit.

The Regiment of Artillery: From Massed Fires to Networked Precision

Artillery's transformation is arguably the most advanced among any Indian combat arm at the platform level, even as its doctrinal transformation remains incomplete. The induction of the

indigenous Advanced Towed Artillery Gun System, the Dhanush howitzer, and the K9 Vajra-T self-propelled gun has given the Regiment a genuinely modern equipment profile for the first time in decades, with the government clearing further tranches of these systems even as this paper is written.²⁷ The Advanced Towed Artillery Gun System's burst-fire capability and its demonstrated range exceeding 48 kilometres place it among the more capable towed systems fielded anywhere. Parallel work on ramjet-assisted and precision-guided shells, being developed jointly by the Indian Institutes of Technology at Madras and Kanpur with the Armament Research and Development Establishment, promises to extend engagement ranges well beyond seventy kilometres for some platforms while reducing the circular error probable from several hundred metres to around ten metres.

The importance of artillery has grown rather than diminished in recent conflicts, even as the nature of its employment has changed fundamentally. The traditional measure of artillery power rested on the volume of fire a battery could deliver; future artillery effectiveness will increasingly depend on accuracy, range, mobility, survivability, and integration with intelligence networks rather than on the sheer number of rounds fired. The vision for Artillery should therefore move decisively beyond shaping the battle through massed indirect fire, towards a role better described as the Army's principal precision-strike and deep-fires arm, fusing sensor data, whether from tactical drones, satellite reconnaissance or forward observers, directly into an automated fire-control loop.²⁸ This requires the Regiment to treat itself as a networked system of systems rather than a collection of gun batteries, with digital fire-control integration extending down to individual gun positions and target acquisition increasingly performed by organic unmanned aerial systems rather than by traditional observation posts alone.

A drone that detects an enemy artillery position should not initiate a long chain of reporting through successive headquarters before a fire mission is authorised. It should trigger a coordinated response within minutes, ideally seconds, through a networked kill chain that treats detection and engagement as a single continuous process rather than as two separate functions handed off between organisations. In a contested environment where counter-battery radar and loitering munitions can locate and strike a firing position within minutes, survivability now depends on shoot-and-scoot speed, dispersed positioning and rapid target handoff rather than on static, mass-concentrated gun lines; the Advanced Towed Artillery Gun System's design, which permits transition from towing to firing configuration in roughly two minutes, reflects this survivability logic, and future doctrine should be built to exploit that speed rather than treat it as an incidental feature.

Counter-fire and counter-battery competence, historically a secondary Artillery function, deserves elevation to a primary mission given the proliferation of long-range rocket artillery and loitering munitions on both the western and northern fronts. Equally, the arm's growing precision-strike range increasingly overlaps, in effect though not in doctrine or command arrangements, with the deep-strike missions traditionally associated with the Air Force. This overlap needs to be resolved through joint targeting protocols rather than left to informal deconfliction, particularly as theatreisation proceeds. The future artillery regiment must therefore be redesigned as part of this networked kill chain rather than as an independent firepower element that waits for targets to be handed to it.

The Corps of Signals: Becoming the Army's Digital Battlespace Force

The Corps of Signals has traditionally been judged by the reliability of the networks it provides, rather than by the contest it

must now win to keep those networks alive. That judgement can no longer stand. Renaming the Corps as the Corps of Information Warfare and Networks is not a cosmetic exercise; it is an acknowledgement that the arm's centre of gravity has shifted from providing communications support to owning the Army's digital battlespace outright. The theoretical foundation for this shift was laid a generation ago, when Vice Admiral Arthur Cebrowski and John Garstka argued in their seminal 1998 essay that a fundamental transformation was underway from platform-centric to network-centric warfare, one they judged likely to prove among the most consequential revolutions in military affairs in two centuries.²⁹ Their core hypothesis, later elaborated at length by David Alberts, Garstka and Frederick Stein, held that a robustly networked force generates superior shared situational awareness, which in turn enables self-synchronisation, the capacity of a well-informed force to organise and adapt its actions from the bottom up rather than waiting for centrally directed command.³⁰ Three decades on, that hypothesis has been substantially validated, even if its full realisation has proven harder than its original proponents anticipated.

Every major engagement over the past three years has shown that C5ISR networks are not a backdrop to combat but a primary target, with jamming, spoofing and network intrusion routinely employed to blind a formation before the first round is fired.³¹ For the Indian Army, the practical translation of network-centric theory is a Corps that designs and operates secure digital battle networks as its primary function, with communications transmission as one component rather than the entire function. The Indian Army's static and tactical communication backbones, including the Army Static Switched Communication Network and the Network for Spectrum programme, provide a necessary foundation. Still, a foundation is not the same as resilience. Cyber defence and expeditionary cyber

operations must move from a specialised, semi-detached capability to a core competence exercised at the formation level, requiring software-defined radios with built-in frequency agility at the section level, communication architectures that degrade gracefully rather than catastrophically under jamming, and signallers trained to recognise intrusion and spoofing as readily as they once learned to recognise a faulty circuit.

Electromagnetic spectrum operations deserve particular emphasis, given Operation Sindoor's evidence that Indian forces successfully jammed and bypassed adversary air defence radar systems as part of a coordinated strike package. This capability will become even more decisive as both sides invest further in electronic warfare.³² Tactical satellite communications and, over the medium term, quantum-secure communications will be necessary to maintain network resilience under contested conditions, since an adversary that can deny or degrade conventional radio frequency links will otherwise be able to undermine the very self-synchronisation advantage that networked forces are meant to enjoy. Finally, the Corps must take ownership of integrating autonomous systems and human-machine teaming across the Army, not because every other arm cannot manage its own robotic and autonomous systems, but because the communications backbone that connects those systems into a coherent whole is properly a Signals function, and fragmenting that responsibility across arms would recreate exactly the interoperability problems that have historically plagued multi-vendor military networks. The future signaller, in short, is not a technician who keeps a network running; he is a combatant who keeps a network alive while an adversary works, in real time, to kill it.

The Corps of Engineers: Mobility and Survivability Under Constant Observation

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The Corps of Engineers has long defined its worth through the classical triad of mobility, counter-mobility and general engineering support, and this triad remains sound. Its transformation is best understood as an expansion of scope rather than a change in core identity. What is changing is the range of tools available to discharge these functions and the speed at which the battlespace now demands they be discharged. Recent conflicts have shown that minefields, obstacle belts and fortified lines, once breached primarily by mass and firepower, are now breached or defended under near-continuous drone observation. This shift has driven breaching costs sharply upward and made engineer casualties disproportionately high wherever camouflage and deception have not kept pace with surveillance.³³

Robotics and autonomous engineering systems, already used elsewhere for route clearance and breaching obstacles under fire, reduce sappers' exposure to the very direct threat that has historically made combat engineering among the most hazardous of infantry-adjacent tasks. Smart combat engineering, incorporating sensor-based mine detection and automated bridging and gap-crossing equipment, allows the Corps to compress timelines that have traditionally been measured in hours into minutes, a critical advantage given the tempo that Operation Sindoor and comparable recent conflicts suggest future engagements will demand. For the Indian Army, this has direct consequences along both the high-altitude northern front and the plains and desert sectors of the western front: engineer support to dispersed, technology-enabled formations must now include rapid, low-signature bridging and gap-crossing solutions that can be executed without exposing a formation to persistent overhead

observation, and protective engineering hardened against loitering munitions rather than artillery alone.

Rapid airfield and bridge construction capability carries added weight, given the infrastructure competition already underway along both borders; closer integration with the Border Roads Organisation is essential to ensure that infrastructure sustaining forward posts in Ladakh and Arunachal Pradesh is built for year-round contested logistics rather than peacetime convenience. Counter-unmanned aerial system engineering support, a newer mission for the Corps, recognises that physical infrastructure, from ammunition depots to command posts, now requires engineered protection against loitering munitions and small drones in addition to traditional artillery and air threats. As the Army's digital battle network and its precision-fires architecture become increasingly reliant on fixed and semi-fixed infrastructure nodes, from data centres to communication relay sites, the Corps' traditional expertise in fortification and hardening regains strategic relevance, provided it is updated to address threats that did not exist when most current fortification doctrine was written. Camouflage, concealment and deception, long treated as a secondary engineering skill, must be restored to a primary one, because in a transparent battlespace, the side that hides best often survives longest.

Army Air Defence: Building India's Land-Based Integrated Air Defence Force

If Operation Sindoor validated any single Indian capability beyond doubt, it was ground-based air defence. On the night of 7 and 8 May 2025, Pakistan attempted to engage a wide array of military targets across northern and western India using drones and missiles; every one of these attempts was defeated by the Integrated Counter-Unmanned Aerial System Grid, working in

concert with legacy and modern air defence systems, including the Akash surface-to-air missile system and long-serving air defence guns, whose earlier delay in replacement turned out, in the words of one assessment, to be something of an inadvertent blessing given their effectiveness against low-cost drone threats.³⁴ At one point during the exchange, more than six hundred hostile drones were reportedly launched in a single wave along the western front, and the layered air defence network, built up over years of incremental investment, absorbed that saturation attempt without a single significant penetration of protected airspace.³⁵

This operational validation should not breed complacency; it should accelerate the transformation implicit in Army Air Defence's vision to secure the skies and protect the force, formalising its evolution into India's land-based integrated air defence force. This role extends well beyond the traditional mandate of protecting field formations to include counter-drone and counter-loitering munition operations as a standing, high-priority mission rather than an emergency response. Army Air Defence has historically been organised to protect high-value assets and formations against manned aircraft and, more recently, ballistic and cruise missile threats. The proliferation of low-cost unmanned systems has created a saturation problem this architecture was never designed to solve, since a single interceptor can cost many times more than the drone it is meant to destroy. No defence budget can sustain that arithmetic indefinitely.³⁶

The Defence Research and Development Organisation's parallel progress on directed-energy weapons is central to this transition. The successful field trial of the Mark II(A) laser-directed energy weapon, codenamed Sahastra Shakti, at Kurnool in April 2025 demonstrated the ability to defeat both fixed-wing unmanned aerial vehicles and drone swarms using a thirty-kilowatt vehicle-mounted system. DRDO has since moved towards developing a

three-hundred-kilowatt-class system intended for engagement ranges beyond twenty kilometres against cruise missiles and loitering munitions.³⁷ The near-zero marginal cost of each laser engagement, which requires only electrical power rather than an expensive interceptor missile, directly addresses the cost-exchange problem inherent in using expensive munitions against cheap drones. This problem will only intensify as swarm tactics mature.³⁸

The correct response is not simply to acquire more of the same class of systems but to build a genuinely layered architecture, integrating indigenous low-cost kinetic interceptors, directed-energy systems as they mature, and networked detection through systems such as the emerging Akashteer air defence control network, so that every brigade and Integrated Battle Group possesses an organic counter-unmanned aerial system bubble rather than depending on air defence assets held several echelons above it. Integration with the Indian Air Force's wider air defence control and reporting architecture must also deepen, since a drone threat detected by an Army sensor and engaged by an Air Force asset, or vice versa, must occur within a single decision loop rather than across two separately administered ones. The future role is best understood along four axes: counter-air, ballistic and cruise missile defence remain the arm's traditional high-value mission and must continue to receive priority; counter-drone and counter-loitering munition operations must be resourced as a distinct, dedicated mission set rather than an extension of counter-air doctrine, since the tactics, sensors and engagement calculus differ substantially at the low, slow and small end of the threat spectrum; directed-energy weapons should be inducted as a complement to, not a replacement for, missile and gun-based systems, given that atmospheric conditions, range limitations and target hardening will continue to favour a layered mix of effectors for the foreseeable future; and artificial intelligence-enabled air defence command,

capable of automating threat prioritisation and engagement sequencing across a dense multi-sensor, multi-shooter network, is no longer optional given the speed at which drone swarm attacks unfold, since human decision cycles alone cannot keep pace with the volumes of simultaneous threats that Operation Sindoor previewed. Air defence in the coming decade will be judged less by how few threats penetrate a defended perimeter and more by how completely a formation denies an adversary any economic means to attack it at all.

Army Aviation: Manned-Unmanned Teaming in the Third Dimension

Army Aviation has primarily served as a provider of utility lift, reconnaissance, and, more recently, attack helicopter support to ground formations, a role it has performed with distinction across some of the world's most punishing terrain. The next phase of its development must mirror the transformation already argued for in the Armoured Corps: from platforms that operate independently to a genuinely integrated manned-unmanned team.³⁹ Attack helicopters such as the Rudra and the indigenously developed Prachand offer significant firepower and survivability in high-altitude terrain. Still, their effectiveness will increasingly depend on unmanned reconnaissance and targeting systems that extend their sensors well beyond what an onboard crew can observe directly.

Army Aviation should therefore be structured around composite manned-unmanned formations in which attack helicopters, tactical unmanned aerial vehicles, and, over time, loitering munitions operate under a single tactical commander rather than as separately tasked assets coordinated only at the planning stage. High-altitude performance, already a demanding design constraint for rotary-wing platforms operating along the northern front, must be treated as a baseline requirement for every

future aviation acquisition rather than a specification to be negotiated downward for cost or schedule convenience.

Logistics: Toward a Corps of Integrated Combat Sustainment

Logistics has traditionally been treated within the Indian Army as an enabling function, essential but administratively subordinate to the manoeuvre arms it supports. Recent prolonged conflicts have made clear that this hierarchy of importance no longer reflects operational reality, since ammunition consumption rates, equipment attrition and the demand for rapid battlefield repair have repeatedly outstripped what peacetime logistics planning assumed, exposing sustainment rather than manoeuvre as the actual limiting factor in extended combat.⁴⁰ The case for merging the Army's currently fragmented logistics ecosystem, spanning the Army Service Corps, Army Ordnance Corps, Electrical and Mechanical Engineers, and related functions, into a single Corps of Integrated Combat Sustainment rests on a simple operational observation: modern sustainment increasingly depends on predictive, data-driven decision-making that cuts across the boundaries these separate corps currently maintain.

Artificial intelligence-driven logistics and predictive maintenance are no longer experimental concepts. Defence logistics organisations worldwide are already demonstrating measurable reductions in equipment downtime and unplanned maintenance events by fusing sensor data from vehicles and equipment with machine learning models that forecast component failures, enabling proactive rather than reactive maintenance scheduling.⁴¹ The financial and operational case is compelling enough that the global market for artificial intelligence in defence logistics is projected to grow at a compound annual rate exceeding eighteen per cent through the remainder of this decade, driven precisely by

the adoption of predictive maintenance, automated inventory management, and autonomous logistics vehicles.⁴²

For the Indian Army, whose logistics burden across high-altitude, desert and riverine terrain is unusually severe by international standards, this shift carries particular weight. Predictive maintenance for armoured and mechanised fleets could materially reduce the readiness gaps that have historically constrained deployable strength, particularly for platforms like the BMP-2, whose age already imposes elevated maintenance burdens. Autonomous logistics and drone resupply, already being tested in high-altitude sectors where traditional mule- and porter-based resupply remains slow and casualty-prone, should be scaled from pilot programmes into a standing capability, particularly given that drones were already used during Operation Sindoor-related exercises for exactly this purpose across formations of the Western Command.⁴³ Additive manufacturing, or three-dimensional printing, offers a further structural advantage, since a merged logistics corps is better positioned to exploit forward-deployed spare-parts production than fragmented service branches, reducing dependence on long, vulnerable supply chains stretching back to depots in the plains.

Digitising logistics tracking and predictive maintenance also ensures that the administrative manpower this paper has elsewhere argued should be released through automation is, in fact, released and redirected towards combat-enabling roles rather than absorbed elsewhere in the establishment. Forward logistics nodes must additionally be hardened and dispersed against the same drone and precision-strike threats that now hold manoeuvre formations at risk, since a sustainment base that cannot survive contact is not a sustainment base at all. Retaining legacy corps identities during a transitional period is a sensible concession to institutional continuity and morale. Still, the functional integration of planning,

data architecture and predictive analytics should proceed without waiting for that identity question to be fully resolved, since the operational benefits of integrated, predictive sustainment do not depend on cap badges. Logistics, in short, must be planned by the same officers who plan manoeuvre, and to the same standard of rigour.

Counter-Drone Warfare: A Formation-Level Responsibility

The rapid proliferation of low-cost unmanned systems has created a genuinely new category of threat that traditional air defence architecture, designed primarily to counter manned aircraft and ballistic or cruise missiles, is not optimised to address. Small, numerous, and inexpensive drones pose a saturation problem that conventional air defence economics cannot sustainably solve, since the cost of interceptors frequently exceeds that of the threats they destroy.⁴⁴ The future battlefield will therefore involve a continuous contest between drone employment and counter-drone capability rather than a one-time technological fix.

India's operational environment makes this an immediate rather than a speculative concern. Deployed formations along both the western and northern borders already regularly face surveillance drones, armed unmanned systems, and loitering munitions. The challenge extends beyond the physical destruction of drones to their detection, identification and neutralisation before they achieve their operational purpose, which may be reconnaissance rather than a kinetic strike. Counter-drone capability cannot remain the preserve of specialised air defence units. It must become a layered responsibility distributed across every brigade and battalion, each able to detect, disrupt and defeat unmanned threats at its own level before escalating what it cannot handle. Just as an earlier generation internalised camouflage as a

matter of course, the coming generation must internalise signature management as a basic professional competence rather than a specialist subject.

Synthesis: The Common Thread Across These Reorientations

Read individually, the eight arm-wise transformations set out above might appear as separate modernisation stories, one for each arm and service. Read together, they describe a single underlying transformation: the Indian Army is moving, however unevenly and incompletely, from a force organised around distinct platforms and functions to one organised around a shared digital and sensing architecture that every arm both feeds and draws upon. Artillery's precision fires depend on sensor data that increasingly originates outside the Regiment itself. Army Air Defence's automated engagement sequencing depends on a communications backbone that only a reoriented Corps of Signals can reliably provide. Mechanised Infantry's swarm-integrated combat vehicles and the Armoured Corps' crewed-uncrewed manoeuvre teams both depend on the same underlying network resilience that Engineers must help physically protect and that Logistics must sustain through predictive, data-driven sustainment.

This interdependence is precisely why arm-wise reorientation cannot proceed as eight parallel, independently managed modernisation programmes. It requires an integrating authority, whether vested in Army Headquarters directly or in a dedicated transformation command, with the mandate and resources to enforce common data standards, network architecture and experimentation protocols across all arms and services simultaneously. Without such integration, each arm will optimise its own reorientation in isolation, producing eight technically impressive but poorly interoperable modernisation efforts rather

than the single coherent combat system the geopolitical and technological environment now demands, a requirement this paper returns to below in proposing a standing Army Transformation Command.

Artillery and Army Air Defence are furthest advanced at the platform level, as validated in the crucible of actual combat during Operation Sindoor. Mechanised Infantry remains constrained by a procurement programme that has taken longer to mature than the threat environment can comfortably accommodate. The Corps of Signals faces the most conceptually demanding transformation, since becoming the Army's digital battlespace force requires not merely new equipment but a fundamental reconception of the arm's institutional purpose. Engineers and Logistics, less visible in public discourse than the combat arms, carry transformations that are no less consequential for the Army's ability to sustain high-tempo operations against a peer or near-peer adversary. What unites all of them is a single strategic judgement: that the vocabulary of vision, rationale and future role, applied rigorously and specifically to each arm rather than left as a generic aspiration, is the necessary intermediate step between the Army's stated ambition for jointness and theatreisation and the actual combat power it will be able to generate in the wars it may be called upon to fight. Structural reform at the top, without functional reorientation at the arm level, risks producing a joint command architecture with little genuinely joint or future-ready capability to command.

Reorienting the Indian Army for Future Warfare

From Modernisation to Transformation

The challenge before the Indian Army has outgrown modernisation in its conventional sense of replacing older platforms with newer ones. Modernisation traditionally meant

better tanks, artillery, aircraft and communications equipment. These remain necessary, but future conflict will be determined by a far broader transformation that spans doctrine, organisation, training, leadership philosophy and the institutional capacity to absorb emerging technology into operational practice rather than acquire it.

Military history offers a consistent lesson on this point: technology alone has never created lasting battlefield advantage. Advantage emerges when technology is integrated into a larger system comprising doctrine, organisational structure, trained personnel and adaptive leadership. The tank did not transform warfare in the twentieth century merely because it existed as a platform; it transformed warfare because certain armies developed new concepts of manoeuvre and combined-arms cooperation around it faster than their rivals did.⁴⁵ Artificial intelligence, autonomous systems and advanced networks will follow the same pattern, creating advantage only when integrated into how the Indian Army thinks, trains and fights, and remaining expensive curiosities if purchased and appended to unchanged structures.

This requires the Army to move beyond the traditional understanding of capability development as primarily a procurement exercise. The future force must be designed around the operational effects it needs to generate. A formation equipped with superior technology but constrained by outdated command structures or slow decision cycles will not realise the advantage that technology promises. In contrast, a force that combines capable soldiers, appropriate technology and adaptive leadership can generate effects disproportionate to its size. The transformation must begin with a change in institutional mindset, shifting the Army's central question from how many platforms it possesses to how effectively it can sense, decide, and act within a contested battlespace.

Artificial Intelligence and the Compression of Decision Cycles

One of the defining features of future warfare will be the accelerating speed of decision-making. Modern battlefields generate an overwhelming volume of information through satellites, drones, ground sensors and battlefield communications, and the genuine bottleneck is no longer acquiring information but converting it into a usable decision before the adversary acts on the same data. Artificial intelligence will increasingly assist commanders in analysing patterns, identifying threats and refining operational planning. Still, it should be understood strictly as an aid to military judgement rather than a substitute for it.⁴⁶ Its value lies in reducing uncertainty and accelerating the decision cycle, not in replacing the commander who must ultimately own the decision and its consequences.

The future commander will operate within an environment where data-driven insight complements, rather than replaces, professional military judgement built on experience and intuition. A useful framework here treats the kill chain as the fundamental unit of competitive advantage in modern warfare: the side that closes its sensor-to-shooter loop faster, with greater confidence in the data feeding it, will consistently outperform a numerically superior force that cannot match its tempo.⁴⁷ The Indian Army must begin preparing for this now, embedding artificial intelligence literacy into military education at every level. Officers need not become software engineers, but they must understand the operational possibilities and genuine limitations of these technologies with sufficient depth to employ them correctly and to recognise adversarial manipulation of the same data streams.

Reforming Professional Military Education for the Future Battlefield

The future battlefield will demand commanders capable of operating under conditions of uncertainty, technological

complexity and severely compressed decision timelines. Traditional military education in India has successfully produced leaders capable of commanding in conventional and counter-insurgency environments across generations, and this record should not be understated. However, the complexity of future warfare requires an additional layer of intellectual preparation that most staff college and war college curricula have only begun to address.

Military education must increasingly incorporate artificial intelligence, cyber operations, electronic warfare, space systems, and information warfare as core subjects rather than elective additions, to create commanders who understand how these capabilities shape operational outcomes. A welcome development in this direction is the growing institutional emphasis on professional military education as a distinct discipline, one that treats the officer as a scholar-practitioner capable of engaging technologists and industry on equal intellectual footing while retaining the ability to decide under pressure.⁴⁸ The gap between India's military and technological communities must narrow considerably because future wars will be fought through their integration. The system must therefore reward curiosity and critical analysis over rote procedural mastery.

Jointness and Multi-Domain Operations as the Foundation of Future War

Future wars will not be contained within the traditional boundaries of a single service. The distinction between land, air, maritime, cyber, space and information domains has already blurred to the point of near irrelevance in operational planning, and a ground formation today may depend as heavily on space-based surveillance, cyber protection, air defence and precision effects delivered by other services as it does on its own organic weapons.

For the Indian Army, genuine jointness must move beyond institutional coordination between service headquarters and become a fundamental operational philosophy embedded at the planning stage of every campaign.

The ongoing reorganisation of India's higher defence architecture into integrated theatre commands represents an important structural step in this direction, but structural reform alone will not create jointness.⁴⁹ The deeper requirement is a change in operational thinking, in which commanders plan campaigns around national military objectives rather than around service-specific force elements and budgets. The future Army formation must understand itself as part of a larger national combat system. A battalion, brigade or division will increasingly depend on capabilities beyond its own control, including satellites, cyber networks and precision-strike assets held by other services, and its planning must account for that dependency rather than treat those capabilities as an occasional bonus.

The institutional difficulty here runs deeper than doctrine and deserves to be named directly. Theatreisation redraws not only geography but also authority, requiring resolution of command and administrative control between Service Headquarters and theatre commanders, of budgetary ownership of assets a theatre commander must employ even though a service continues to raise, train and sustain them, and of career management for officers whose progression has always run through single-service channels. This is not a novel observation; the Kargil Review Committee first recommended integrated theatre commands and a Chief of Defence Staff in 1999, and the Shekatkar Committee revisited the same requirement in 2016. Yet implementation has taken more than two decades precisely because the harder problem was never structural but institutional, changing mindsets built around single-service planning rather than redrawing a map. Secondary reports in May

2026 state that the proposals have been submitted and that a three-command structure was under discussion.

As has been acknowledged, structural reorganisation is the easier half of the task; reconciling the Indian Air Force's concern about the dilution of centralised air power with the Army's requirement for assured close air support, and resolving resource allocation across theatres operating under a single commander for the first time, will determine whether integrated theatre commands deliver the operational advantage this paper assumes or merely a new organisational chart.⁵⁰ The more pressing requirements are sequencing and laying the foundation through interoperability, modernisation and integration of critical capabilities through functional commands for Cyber, Space and Air Defence. The Indian Army's own reorientation cannot be sequenced independently of this resolution, since several of the arm-wise transformations recommended above, particularly the Army Air Defence and Army Aviation reorientations, presuppose a settled division of command authority that does not yet exist.

Creating an Indigenous Defence Innovation Ecosystem

Future military advantage will depend heavily on technological resilience and the institutional capacity to innovate faster than a potential adversary. Recent conflicts have demonstrated that prolonged warfare is determined not only by the quality of frontline platforms but by industrial capacity, repair infrastructure, ammunition production and the speed of technological adaptation under wartime pressure. India's pursuit of self-reliance in defence must therefore move well beyond the narrower goal of reducing imports. True strategic autonomy requires ownership of design capability, control over critical technologies, domestic manufacturing capacity and the continuous ability to innovate

rather than a one-time substitution of foreign platforms with domestic equivalents.⁵¹

The relationship among the Army, the defence industry, academic institutions and technology start-ups must become considerably more integrated than the present acquisition-led model allows. Operational users must be involved from the earliest stages of capability development rather than brought in only for final trials, because technologies developed without a grounded understanding of battlefield requirements frequently fail to achieve operational relevance regardless of technical sophistication. The future defence ecosystem must actively encourage experimentation, rapid prototyping and continuous refinement. Traditional procurement cycles measured in years are poorly matched to technologies, particularly in software and autonomous systems, that evolve on cycles measured in months.

The Human Dimension of Future Warfare

Despite the scale of technological transformation underway, the human element will remain central to military success. Future wars may be fought with advanced sensors and autonomous systems. Still, the decisions that matter most will continue to be made by commanders and soldiers operating under extreme pressure, often with incomplete information and no time to consult a manual. The challenge for the Indian Army is to preserve the human qualities that have historically defined its effectiveness, courage, leadership, discipline and unit cohesion, while simultaneously cultivating adaptability, technological literacy and the ability to learn faster than the adversary.

The Army must therefore build a culture in which innovation is actively encouraged, and junior leaders are empowered to experiment within clearly bounded operational frameworks, rather than being punished for deviating from established procedures.

Many of the most consequential technological breakthroughs in recent conflicts have originated not from large institutional programmes but from individual soldiers and junior officers who identified practical solutions to immediate battlefield problems and were given the latitude to implement them. The future organisation must be structurally capable of absorbing such ideas quickly, through feedback mechanisms that reach from the platoon to the highest levels of capability development, rather than allowing good ideas to die in a slow chain of staff review.

Future Force Structure: Towards Agile and Integrated Combat Organisations

The future Indian Army must gradually evolve towards formations that are more flexible, more densely connected and capable of operating across multiple domains simultaneously rather than sequentially. The traditional model of large formations organised primarily around manpower and platform count must progressively adapt to integrated combat structures that combine manned platforms, unmanned systems, precision fires, intelligence networks, electronic warfare, and cyber capabilities within a single operational construct rather than as separately administered branches.

This evolution demands careful balancing rather than wholesale replacement. India cannot abandon the requirement for sustained territorial presence along its most difficult borders, where physical deployment continues to carry strategic and political weight independent of its purely military value. The Army must instead build a structure that preserves these traditional strengths while embedding emerging capability within existing formations, so that the objective is not the replacement of the existing army with an entirely new one but the deliberate evolution of the existing army into the force the next conflict will require.

Implementing Transformation: From Concept to Capability

Sequencing Capability Investment: A Prioritisation Framework

A paper that recommends artificial intelligence, unmanned systems, directed-energy weapons, quantum-adjacent sensing, and cyber capability in the same breath risks reading as a wish list rather than a plan. Not every capability discussed above can or should be pursued on the same timeline; the Army must sequence investment along two axes rather than one – how urgently a given capability closes a gap it is already exposed to, and how ready India's industrial base is to deliver it at scale rather than as a demonstrator.

On this basis, three tiers emerge. The first, comprising organic counter-UAS capability, distributed ISR drones, and unit-level electronic warfare, is both operationally urgent, given the active drone threat along the western and northern fronts, and within current indigenous production capacity. It should be fielded within the next two to three years without further study.

The second, comprising AI-enabled decision support, digitised fire control and manned-unmanned teaming in armour, is operationally important but depends on software and integration maturity India is still building, and should be pursued over a five-year horizon with sustained developmental funding rather than urgent procurement.

The third, comprising directed-energy weapons and quantum-adjacent sensing, is technologically promising but neither immediately decisive nor yet reliably produced indigenously, and should remain a funded research priority rather than a near-term fielding target.

This sequencing does not diminish the long-term case for any of the technologies discussed in this paper; it insists only that the

Army spend its finite modernisation rupee where operational urgency and industrial readiness align first, consistent with the Defence Production and Export Promotion Policy's own emphasis on scalable domestic manufacture over one-off imports.

Building the Army India Requires for Future Wars

Transformation of any military organisation is ultimately tested not by the quality of its analysis but by its ability to translate that analysis into institutional change. Many armed forces have correctly diagnosed the challenges they face and then struggled to reform because of structural resistance, resource limitations and the natural difficulty of altering organisations that have succeeded through their existing methods. The Indian Army brings genuine advantages to this task: extensive operational experience, a strong professional culture, and a demonstrated ability to adapt under demanding conditions. What the pace of current technological change demands, however, is that transformation become a continuous institutional process rather than a periodic exercise conducted once a decade in response to a committee report.

The objective must be an army that retains the ability to fight conventional wars, sustain operations in the world's most difficult terrain, and conduct sub-conventional operations, while simultaneously developing the capabilities required for multi-domain warfare. This is a demanding dual mandate, and it requires a genuinely balanced approach in which capabilities that remain relevant are deliberately strengthened, structures that require modification are redesigned rather than merely renamed, and functions that no longer provide proportional operational value are honestly reconsidered rather than defended out of institutional habit.

A Phased Approach to Transformation

A realistic transformation strategy must accept that a military organisation of the Indian Army's size and operational

commitments cannot change overnight, nor can it pause active border deployment. At the same time, it redesigns itself for the future. Transformation must therefore proceed through a phased approach that maintains operational readiness at every stage while gradually building new capability alongside it.⁵²

The immediate phase should focus on building the foundations of future warfare: strengthening unmanned systems, improving battlefield networks, expanding electronic warfare capabilities, integrating artificial intelligence applications into existing planning processes, and honestly reviewing organisational structures for their continued relevance. The purpose of this phase is deliberate experimentation, allowing the Army to identify, through trial, which technologies deliver genuine operational advantage rather than committing to large-scale change on assumptions alone.

The second phase should focus on restructuring formations into integrated combat organisations capable of genuine multi-domain operation, requiring parallel changes in training and command architecture.

The final phase should institutionalise transformation itself, making innovation and doctrinal evolution permanent features of the Army's functioning rather than episodic responses to the last conflict studied.

A phased approach yields an executable force only when each phase has a defined time-band and a measurable exit criterion, rather than remaining a sequence of intentions. The immediate phase should be bounded to Years One to Three and judged complete against three milestones: an organic drone element fielded in every infantry battalion, armoured regiment and artillery unit; a functioning continuous force structure review reporting to the Vice Chief; and command and staff courses that certify

unmanned-systems and data-literacy fluency as a prerequisite for sub-unit command.

The second phase, spanning Years Four to Seven, should be deemed complete when new brigade-level tables of organisation, embedding integral surveillance, electronic warfare and precision-fire cells, have been fielded across the formations assigned to the first integrated theatre commands, and when the Future Ready Combat Vehicle and Future Infantry Combat Vehicle programmes have entered production, with manned-unmanned teaming designed in from inception.

The final phase, extending through Year Ten, should be measured not by a fixed date but by institutional evidence that transformation has become self-sustaining: a standing Army Transformation Task Force/Structure, empowered beyond the existing cell under CDS, exercising continuous oversight, and a force structure review functioning as an annual rather than episodic exercise. Responsibility for these milestones should rest explicitly with CDS, with progress reviewed annually against institutional priorities, so that the roadmap carries command accountability.

Redesigning Combat Formations for the Future Battlefield

The traditional division and brigade structures of land forces evolved during an era in which battlefield success depended largely on the concentration of manpower, firepower and physical manoeuvre against a defined frontline. These principles remain relevant, but future operations will increasingly require formations capable of rapidly dispersing, connecting, and generating combat effect across a battlespace that may not have a clearly defined front at all.

The future brigade or division should not be understood merely as a collection of battalions and platforms. It should function as an integrated combat network that combines intelligence, surveillance and reconnaissance, precision fires, electronic warfare, unmanned systems, and manoeuvre forces into a single operational entity. This does not imply replacing conventional formations with entirely new templates; it means the gradual evolution of existing formations into organisations in which technology genuinely enhances, rather than merely supplements, combat power.

The future formation should rest on three principles: *increased awareness of the battlespace, faster decision-making, and greater precision in the effects it delivers*. The Indian Army must examine honestly whether its current structures provide the flexibility required for dispersed operations in a conflict without clearly defined frontlines, where units may operate under near-constant observation. The capacity to survive these conditions, adapt in contact and continue operating will define the formations that prevail.

Transformation of Training and Military Culture

No transformation of structure or doctrine can succeed without a corresponding change in how soldiers and commanders are trained. The battlefield of the future will require skills significantly different from those emphasised across previous decades, and training must incorporate realistic simulation, virtual environments, unmanned systems, cyber awareness, electronic warfare and information operations as mainstream subjects rather than specialist courses confined to selected personnel.⁵³

The Army must also reconsider the relationship between training and structured experimentation. Traditional training models have rightly emphasised standardisation and procedural excellence, and these remain essential foundations for any

disciplined force. Future warfare, however, will additionally reward adaptability and innovation, which means commanders must be encouraged to test new concepts under controlled conditions and to learn from failure during training rather than only during operations. An organisation that punishes experimentation becomes cautious and slow to adapt, while one that encourages bounded experimentation becomes genuinely adaptive. The future battlefield will repeatedly generate situations for which no standard procedure exists, and the ability to think critically and adapt quickly will become as professionally important as tactical proficiency itself.

Reforming the Human Resource Model

The future army will require a more diverse mix of skills than the traditional model, in which nearly every soldier is trained primarily for conventional combat roles, can comfortably accommodate. Future operations will require personnel specialising in unmanned systems, artificial intelligence applications, cyber operations, electronic warfare, data analysis, robotics and advanced maintenance systems, and these specialisations cannot be treated as peripheral to the Army's core identity.

This does not mean creating a technology-heavy force disconnected from traditional military skills, which would be as flawed as the opposite extreme. The requirement is a genuinely balanced force in which combat experience and technological expertise reinforce one another rather than compete for institutional prestige. Recruitment, training and career management policies must adapt to recognise these new competencies as legitimate career paths with genuine promotion potential, weighing technical proficiency alongside physical fitness and traditional soldiering skills. The soldier of the future must

understand not only how to employ his own weapon system but also how that system connects into the larger battlefield network around him.

Rightsizing has direct manpower and career-management consequences that cannot be resolved through better training alone. Formations found to generate combat effect disproportionate to their manpower cost should be reduced or amalgamated rather than merely redesignated, and the resulting surplus should be actively redeployed towards the technical and specialist streams described in this section rather than treated as a personnel reduction to be absorbed through attrition alone.

Career progression for these new streams requires a genuine parallel path to senior rank: a soldier or officer working in unmanned systems, cyber or data analysis must be able to rise on the strength of that expertise rather than being required to abandon it midway for conventional command exposure to remain promotable. The ongoing transition under the Agnipath framework compounds rather than replaces this challenge; a leaner, younger force structure and the anticipated recalibration of retention ratios raise legitimate concerns about continuity of institutional memory and the preservation of regimental ethos, particularly within infantry formations, where unit cohesion has historically depended on long service association.

These concerns argue not for reversing the direction of reform but for deliberately redesigning the Army's human resource model alongside its force structure, treating retention policy, technical career pathways and regimental continuity as a single integrated question rather than as three separate reviews arriving at three uncoordinated answers.

Future wars will test national industrial resilience as thoroughly as they test military capability on the battlefield itself. The capacity to sustain prolonged operations depends on domestic production capacity, repair infrastructure, ammunition availability, and technological independence; recent conflicts have demonstrated that even the most technologically advanced militaries require strong industrial foundations to sustain operations beyond the opening weeks of a war. Precision weapons, unmanned systems and advanced platforms all depend on continuous production and rapid repair capacity that cannot be conjured after hostilities begin.⁵⁴

For India, self-reliance in defence must therefore focus not only on replacing imports with domestically manufactured equivalents but also on building genuine indigenous design, manufacturing, and innovation capabilities from the ground up. The relationship among the Army, the defence industry, research institutions and technology companies must become considerably closer than the present transactional acquisition model allows, because the future battlefield will continue to evolve faster than traditional procurement cycles can accommodate, requiring far more flexible approaches to development and fielding than the current system is designed to deliver.

Resourcing the Transformation: A Cost-Benefit Perspective

No transformation recommended in this paper can be evaluated in isolation from its fiscal footprint. India's defence budget for 2026-27 stands at its highest-ever allocation, yet the revenue-to-capital ratio remains close to 71:29, well short of the 60:40 balance that most analysts of the Indian defence economy regard as necessary to sustain genuine modernisation.⁵⁵

Yet it falls short of the desired fiscal requirement of at least three per cent of the GDP allocation. Rightsizing therefore carries a fiscal dividend that this paper's recommendations depend upon rather than merely welcome: every manpower-heavy structure identified as no longer proportional to the combat effect it generates releases recurring revenue-head expenditure, salary, ration and administrative overhead, that can be redirected towards the capital-head acquisition of unmanned systems, networked sensors and precision fires central to rebalancing. This is not a cost-free transformation; new capability streams, drone-operator cadres, data-analysis specialisations and layered air defence acquisition carry their own recurring training and sustainment costs, and the Army's own capital allocation has historically underspent even its sanctioned modernisation budget owing to procurement delay rather than resource scarcity.⁵⁶

The executable test for every recommendation in this paper is therefore twofold: whether it can be substantially resourced through internal reallocation from rightsizing savings rather than a larger overall budgetary ask, and whether the domestic industrial base can absorb the resulting capital demand, a question addressed directly in the prioritisation framework set out in the concluding section below.

Towards the Indian Army of 2040

The Indian Army of 2040 must remain rooted in its core strengths of leadership, courage, discipline and operational experience while fully embracing the technological realities of future conflict. The transformation journey should not be framed as a choice between workforce and technology, between tradition and innovation, or between conventional capability and emerging warfare. The requirement is integration rather than substitution, and any framing that presents this as a binary choice

misunderstands both the nature of the threat and the nature of the institution being asked to change.

The Army must retain the ability to fight traditional conflicts along its most demanding borders while preparing for a battlefield increasingly shaped by drones, artificial intelligence, cyber operations and precision weapons.⁵⁷ Rightsizing will create efficiency by ensuring resources are not tied up in structures that no longer earn their keep. Rebalancing, executed both at the strategic level and arm by arm as this paper has set out, will create capability by shifting the centre of gravity of military power towards the technologies and organisational forms that will decide future conflicts. Reorienting will create relevance by changing how the institution thinks, trains and leads rather than merely what it owns. The ultimate measure will not be the number of reforms announced or technologies inducted, but whether the Army enters its next conflict with the structure, mindset and capability to prevail decisively rather than merely endure.

Summary of Recommendations and Conclusion

Building the Indian Army for the Wars of Tomorrow

The transformation of the Indian Army must be driven by a clear institutional understanding that future wars will not be won merely through larger numbers of soldiers, platforms or formations. They will be won through the disciplined integration of human capability, technology, information and operational adaptability into a coherent fighting system. The purpose of rightsizing, rebalancing, arm-wise reorientation and the broader reorienting of institutional culture, taken together, is to ensure that every element of the Army contributes maximum combat value in the battlespace it is most likely to face, rather than in the one it was originally organised to fight. What follows is a summation, drawn deliberately from every preceding section rather than newly

introduced, of the nine institutional priorities on which this paper's argument converges. Each priority is stated with the specificity that the Indian Army's own planners require for this analysis to move from assessment to implementation.

First, the Army must institute a continuous force structure review rather than the episodic, committee-driven exercises that have characterised past reform. A continuous review mechanism, anchored at Army Headquarters and reporting directly to the Vice Chief, should examine every corps, division and independent brigade against a single question: does this formation generate combat effect proportional to the manpower and budget it consumes in the battlespace India is now most likely to face? The Land Warfare Doctrine already provides the conceptual basis for such an examination, having explicitly linked force structuring to the changing character of conflict rather than to historical templates.⁵⁸ What is missing is the institutional permanence to make this review a standing function rather than a response to the last operational connect or fiscal crisis. The Perspective Planning Directorate must regain its sheen by including force design and be empowered to recommend disestablishment/reorientation as readily as raising, which would give this priority the teeth it currently lacks.

Second, the Army must complete the decisive shift from manpower-centric to capability-centric planning that successive committees have recommended but that institutional inertia has only partially executed. This requires reweighting the revenue-to-capital ratio within the Army's own budget allocation, not merely lobbying the Ministry of Finance for a larger overall envelope. Every proposal to raise a new unit should be tested against an equivalent proposal to enable an existing unit with sensors, connectivity and precision fires, and the burden of proof should rest with the former rather than the latter. The Military Balance's

recurring assessment of comparative land force effectiveness makes clear that raw personnel strength has increasingly diverged from demonstrated battlefield performance across several contemporary militaries, a divergence the Indian Army cannot afford to ignore given its own resource constraints.⁵⁹

Third, unmanned systems must become an organic capability distributed across every combat formation rather than a specialist asset held at corps or command level. This means establishing an integral drone element within every infantry battalion, armoured regiment and artillery unit, not merely raising a small number of dedicated unmanned aerial vehicle companies as force multipliers held in reserve. The proliferation logic of low-cost unmanned systems, in which even non-state actors and numerically modest forces can generate saturation effects against far larger conventional formations, makes distributed rather than concentrated unmanned capability the only defensible model for an army that must simultaneously defend the western, northern and, increasingly, maritime-adjacent flanks of Indian territory.⁶⁰ Training establishments, ordnance depots and repair infrastructure must all be resized to support this distribution rather than treating unmanned systems as an appendage to existing logistics.

Fourth, the transformation of armoured warfare through genuine manned-unmanned integration, set out in detail above, must proceed at the pace the Armoured Corps' own leadership has already identified as necessary rather than at the pace of conventional procurement cycles. This means accelerating the evolution of the existing loader or operator role into a dedicated drone-operator function across the entire regimental structure, not as a pilot project confined to a handful of experimental units, and ensuring that the Future Ready Combat Vehicle and Future Infantry Combat Vehicle programmes are designed from inception around information architecture and unmanned teaming rather

than having such capability retrofitted once the base platform is finalised, a sequencing error that has repeatedly delayed capability delivery in the past.⁶¹ The tank remains a decisive instrument of the Indian Army's offensive doctrine, and its continued relevance depends entirely on how quickly this integration is executed rather than on the platform's armour or firepower alone.

Fifth, the Army must develop multi-domain combat formations explicitly designed for dispersed and transparent battlespaces, rather than incrementally adapting existing division and brigade structures. This requires new tables of organisation at the brigade level that embed intelligence, surveillance and reconnaissance assets, electronic warfare detachments, and precision fire coordination cells as organic elements rather than attachments drawn from higher formations on an as-required basis. The American experience of designing multi-domain task forces from first principles, rather than layering multi-domain capabilities onto legacy division structures, offers an instructive template for how quickly such formations can be fielded once the organisational decision is made, even allowing for differences between the Indian and American operational and budgetary contexts.⁶² The Indian Army's own Rudra battle groups should be revisited and redesigned around this multi-domain logic rather than individual capabilities.

Sixth, the modernisation of military education must produce commanders fluent in both traditional military art and emerging technology, which requires structural change at the Army War College, the Defence Services Staff College and the Military College of Telecommunication Engineering rather than the addition of occasional guest lectures on artificial intelligence and cyber warfare. Professional military education literature in India has already begun to argue for treating the officer as a scholar-practitioner rather than a purely procedural manager of men and

materiel, and this argument must now be translated into mandatory curricular weight rather than remain an aspiration confined to journal articles.⁶³ Command and staff courses should require every officer, regardless of arm or service, to demonstrate working fluency in unmanned systems employment, basic data literacy and electronic warfare fundamentals before being cleared for command of a sub-unit, in the same way that fitness and weapon proficiency are already non-negotiable prerequisites.

Seventh, the Army must cultivate a genuine culture of innovation and bounded experimentation at every level of command, extending well below the level at which most innovation initiatives currently operate. Concepts such as mosaic warfare, which treat combat power as a composable and reconfigurable set of capabilities rather than as fixed formations, illustrate how a force can encourage tactical-level experimentation without sacrificing the command discipline that a hierarchical army requires.⁶⁴ For the Indian Army, this means empowering commanding officers to trial new drone tactics, sensor placements and communication protocols within their own units, supported by a rapid feedback channel to capability development authorities, rather than requiring every innovation to be validated through a lengthy staff process before any unit is permitted to test it in a training environment.

Eighth, India must strengthen an indigenous defence industrial ecosystem capable of sustaining prolonged conflict rather than one calibrated only to peacetime modernisation targets. The Defence Production and Export Promotion Policy has set ambitious targets for domestic manufacturing and export capacity. Still, the Army's own role in this ecosystem must shift from being a downstream customer that specifies requirements at the end of a development cycle to being an embedded partner throughout design, prototyping and field trial.⁶⁵ War reserve stockpiling, ammunition production surge capacity, and battlefield repair infrastructure for

unmanned systems all require the same industrial seriousness historically reserved for tanks, artillery, and aircraft, and this cannot be achieved through policy announcements alone.

Ninth, the Army must institutionalise the continuous study of contemporary conflicts suited to India's own geography and strategic requirements, rather than importing lessons wholesale from theatres with fundamentally different terrain, force ratios, and political constraints. India's existing think tank ecosystem, including institutions dedicated specifically to land warfare research, already provides a foundation for this function. Still, its output must be more tightly integrated into doctrine writing and capability development rather than remaining an adjacent scholarly exercise consulted only occasionally by serving officers.⁶⁶ A standing conflict-analysis cell, drawing on both institutional research and the operational experience of officers rotating through staff appointments, should feed directly into the continuous force structure review described as the priority above, closing the loop between study and structural change that has too often remained open in the Indian Army's past reform efforts. This same integrating logic, examined earlier in relation to the eight arm-wise reorientations, argues for vesting overall coordination in a standing Army Transformation Command, without which each priority listed here risks being pursued in isolation rather than as part of the single coherent programme it is meant to be.

These nine priorities vary in operational urgency and in the level of domestic industrial readiness. Treating them as equally immediate would dissipate rather than concentrate scarce resources. A three-tier sequencing logic should govern implementation. Tier One, both operationally urgent and within demonstrated indigenous manufacturing reach, comprises organic unmanned systems, counter-drone capability and electronic warfare distribution; these should be resourced first because the

threat they address is already active along India's borders and because domestic industry can meet a substantial share of this demand without import dependence. Tier Two, urgent but only partially mature domestically, comprises multi-domain formation redesign, artificial intelligence decision-support tools and the manned-unmanned integration of armoured platforms; these require simultaneous investment in indigenous design capacity alongside fielding, and slower absorption should be expected and planned for rather than treated as a delay. Tier Three, important but less time-critical and further from indigenous maturity, comprises the quantum-adjacent sensing and space-based applications discussed earlier in this paper; these merit sustained research investment rather than near-term fielding targets, and prioritising them ahead of Tier One capabilities would misallocate resources against the threat the Army faces today rather than the one it may face in 2040. This sequencing, rather than the simultaneous pursuit of every emerging technology discussed in this paper, is the discipline that converts an ambitious transformation agenda into an executable one.

Taken together, these nine priorities describe a single coherent programme rather than nine separate initiatives competing for the same finite resources. A continuous force structure review identifies where rightsizing should occur; capability-centric planning and organic unmanned distribution describe how rebalancing should be executed within the Armoured Corps, the Infantry and the Artillery; multi-domain formation design, modernised military education, a genuine culture of experimentation, a stronger industrial base and institutionalised conflict study together describe how reorientation, at both the strategic and the arm-wise level, becomes permanent rather than episodic. No single priority, pursued alone, would deliver the transformation this paper has argued for. Pursued together and

deliberately sequenced rather than attempted simultaneously across the entire Army, they offer the clearest available path from analysis to institutional change.

Summary of Institutional Priorities for Indian Army Transformation

#	Institutional Priority	Core Action Required	Primary Responsibility
1	Continuous force structure review	Standing review of every formation against combat effect generated, not historical establishment	Army Headquarters / Vice Chief
2	Capability-centric over manpower-centric planning	Reweight revenue-to-capital ratio; test new raisings against enabling existing units first	Army Headquarters / MoD Finance
3	Organic unmanned systems across formations	Integral drone element in every battalion, regiment and artillery unit establishment	Formation Commands / Army Design Bureau
4	Manned-unmanned integration in armoured warfare	Accelerate drone-operator role within crews; design FRCV / FICV around unmanned teaming from inception	Armoured Corps / DRDO
5	Multi-domain combat formations	New brigade-level tables of organisation with organic ISR, EW and precision-fire cells	Integrated Theatre Commands / Army HQ
6	Modernised military education	Mandatory AI, cyber and unmanned-systems fluency in command and staff courses	AWC / DSSC / MCTE

#	Institutional Priority	Core Action Required	Primary Responsibility
7	Culture of innovation and experimentation	Empower unit-level trials with rapid feedback to capability development authorities	Unit Commanders / Army Design Bureau
8	Indigenous defence industrial ecosystem	Embed Army as design partner from prototyping stage; build surge production capacity	MoD / DPSUs / Private Industry
9	Institutionalised study of contemporary conflicts	Standing conflict-analysis cell feeding directly into doctrine and force structure review	CLAWS / Army War College / Army HQ

Based on the arm-wise reorientation set out earlier in this paper, the following table synthesises the future vision, redefined role, and principal recommendations for each combat arm, combat support arm, and service. It captures the essence of the proposed organisational transformation in a single reference.

Future Vision, Redefined Role and Recommendations by Arm and Service

Arm / Service	Future Vision	Redefined Role	Key Recommendations
Armoured Corps	Manoeuvre Ecosystem	Integrator of manned-unmanned Team manoeuvre and protected mobile combat power	Shift from platform-centric to ecosystem-centric operations; integrate robotic combat vehicles organically within regiments; induct light tanks for high-altitude sectors; adopt AI-enabled command support and active protection systems;

Arm / Service	Future Vision	Redefined Role	Key Recommendations
		as part of the Kill web.	emphasise dispersed manoeuvre, integral drone and CUAS capability, signature management and resilient logistics.
Infantry	Adaptive Combat Power for the Networked Battlefield	Multi-domain land combat force capable of conventional, hybrid and grey-zone operations	Organic drones at section and platoon levels; AI-enabled situational awareness; company-level counter-UAS capability; distributed operations with autonomous logistics; strengthen urban, mountain and hybrid warfare capabilities.
Mechanised Infantry	Digitally Networked Mounted Infantry Combat Force	Integrator of mobility, protection, autonomy and battlefield networking	Accelerate FICV induction; design IFVs for swarm integration; integrate unmanned ground and aerial systems; network-enabled combat vehicles; institutionalise routine combined-arms training.
Regiment of Artillery	Networked Precision Fires Force	Army's principal deep precision strike and multi-domain fires arm	AI-enabled sensor-to-shooter network; expand precision-guided and long-range munitions; organic UAV-based target acquisition; enhance counter-battery and counter-fire capabilities; fully digitise fire control architecture.
Army Air Defence	Integrated Land-Based	Multi-layered air and missile defence	Institutionalise counter-UAS as a primary mission; induct directed-energy weapons; AI-assisted engagement

Arm / Service	Future Vision	Redefined Role	Key Recommendations
	Air Defence Force	including counter-UAS operations	management; layer missile, gun and laser systems; integrate ballistic, cruise-missile and drone defence.
Corps of Signals (proposed: Corps of Information Warfare and Networks)	Army's Digital Battlespace Force	Owner and integrator of the Army's digital ecosystem and information superiority	Develop secure digital battle networks; expand cyber and electromagnetic warfare capability; build military cloud and data architecture; introduce quantum-secure communications; integrate autonomous systems through common network architecture.
Corps of Engineers	Battlespace Engineering Force	Provider of mobility, survivability and critical infrastructure resilience across the battlespace	Employ robotic combat engineering systems; smart mine detection and autonomous breaching; rapid bridge and airfield construction; engineer counter-UAS infrastructure protection; harden digital and operational infrastructure.
Army Logistics: ASC, AOC, EME and related services (proposed: Corps of Integrated Combat Sustainment)	Integrated, AI-Enabled Sustainment Enterprise	Predictive, AI-enabled sustainment across the operational theatre	Merge logistics functions into an integrated sustainment organisation; AI-enabled predictive maintenance; autonomous logistics and drone resupply; forward additive manufacturing; unified digital logistics architecture with end-to-end asset visibility; theatre-based sustainment planning.

Cross-Cutting Recommendations of Reorienting Forces

Area	Recommendation
Organisational Reform	Reorient every arm around capability rather than legacy platforms.
Jointness	Standardise digital architecture, data standards and interoperability across all arms.
Technology Integration	Mainstream AI, robotics, autonomous systems, drones, C-UAS, precision fires and resilient communications.
Transformation Management	Establish a dedicated Army Transformation Command, or equivalent authority, to oversee doctrine, experimentation, interoperability and force transformation.
Training and Doctrine	Adopt continuous experimentation, simulation-based training, human-machine teaming and multi-domain operational concepts.
Operational Philosophy	Transition from platform-centric warfare to a networked, data-driven, sensor-enabled and AI-supported force capable of high-tempo multi-domain operations.

Transforming Before the Next War

The history of warfare repeatedly demonstrates that the most successful armies are not necessarily those with the largest numbers or the most advanced equipment on paper. They are the armies that recognise change early, adapt faster than their rivals and align their organisation with the conflict they are about to fight rather than the one they last fought.⁶⁷ The Indian Army today possesses considerable institutional strengths in operational experience, professional leadership and battlefield resilience. These

strengths provide a genuine foundation for transformation, but they are not, by themselves, a substitute for it. Future challenges will require moving beyond the comfort of existing structures and preparing deliberately for a battlefield fundamentally different from the one that shaped the institution's present form.

The wars of tomorrow will not be decided solely through the movement of formations across terrain. They will be shaped by information, precision, speed and the ability to integrate multiple domains simultaneously. The force that observes first, decides faster and creates effects more accurately than its adversary will possess the decisive advantage regardless of relative size. Rightsizing, understood correctly, is not reduction; it is the creation of a structure aligned against future requirements rather than historical ones. Rebalancing is not the abandonment of traditional capability; it is a deliberate shift of emphasis, executed both at the strategic level and, as this paper has argued at length, arm by arm, towards the capabilities that will determine future success. Reorienting is a genuine transformation of military thinking and institutional culture that no single committee report can achieve on its own, and that the experience of military transformation elsewhere consistently shows only succeeds when technology, operational concepts and organisation develop together rather than in isolation.⁶⁸

The Indian Army must continue to preserve what makes it effective while changing what limits its future potential, a balance far easier to state than to execute within a large, hierarchical institution under continuous operational commitment. The soldier will remain central, but the soldier of tomorrow will fight in a far more connected and technologically enabled environment than his predecessor did. The commander will continue to make the final decision, as he must, but artificial intelligence and real-time battlefield networks will increasingly inform that decision before it

is made. For India, the urgency of this transformation arises from the combination of a rapidly changing battlefield and an unusually demanding security environment, which leaves little room to sequence reforms conveniently: the Army must continue preparing for conventional conflict along contested borders while simultaneously developing capability for drones, cyber operations, electronic warfare, precision strike and information dominance, a dual requirement that makes transformation considerably more complex but also considerably more necessary than it would be for a force facing a single, well-defined threat.⁶⁹

The objective is not to build an army designed for the last war. It is to build an army capable of prevailing in the next one, and the army that transforms before conflict begins is the army that shapes the battlefield when conflict arrives. The final measure of this transformation will not be the number of new systems inducted or organisational changes announced in any given year, nor the number of arms formally reoriented on paper. It will be whether the Army has built a single, interoperable combat system, spanning every arm examined in this paper, capable of seeing faster, deciding quicker and acting more effectively than any adversary it may face, and whether it has done so with sufficient urgency to be ready before, rather than after, the next conflict makes the answer unavoidable.⁷⁰

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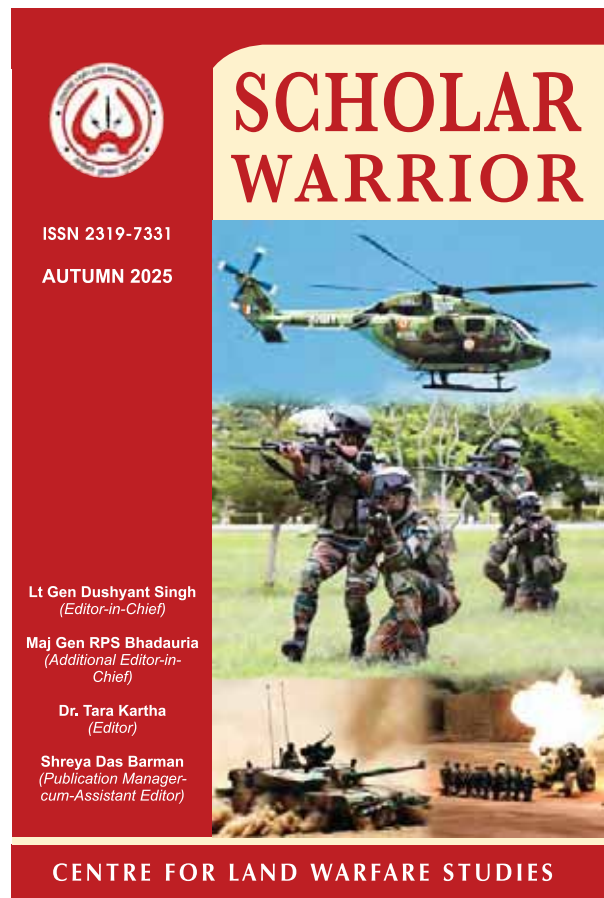
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This paper argues that future-readiness cannot be achieved by grafting new technology onto legacy structures. It demands three interlocking reforms: rightsizing the force against tomorrow's requirements, rebalancing manpower toward technology-enabled combat power, and reorienting institutional thinking toward decision dominance. Working arm by arm through infantry, armour, artillery, signals, engineers, air defence, aviation, and logistics, the author presents a rigorously sourced, actionable blueprint for building the Indian Army the nation will need before, not after, its next war.

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Lieutenant General AB Shivane, PVSM, AVSM, VSM (Retd), served nearly four decades in the Indian Army, commanding a Strike Corps and serving as Director General Mechanised Forces. A renowned scholar-warrior, he has contributed to several futuristic studies for the Indian Army. He has authored over 350 papers and five books, including *Professional Military Education: Making of the 21st Century Warrior*. He is a Distinguished Fellow at the Centre for Land Warfare Studies (CLAWS).



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