Issue Brief

October 2025
No : 472

Transforming Armour for the Multi-domain Digital Battlespace

Lt Gen A B Shivane,
PVSM, AVSM, VSM (Retd)

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Lt Gen A B Shivane, PVSM, AVSM, VSM (Retd)

"The future multi-domain digital battle space will consist of converged domains, disruptive technologies, compressed decision cycles, and contested kill webs. To remain decisive, the Indian Armoured Corps must transform from a platform-centric force to a technology-enabled multidomain data-centric Corps, capable of dominating across the entire spectrum through decision superiority, integrated fires, real-time C5ISR, and UAV integration for operational overmatch"

Abstract

The Armoured Corps (AC) stands at a critical inflexion point as antiquated doctrines, traditional platforms, legacy structures and linear combat models face obsolescence in a multidomain digital battlespace.

This paper presents a comprehensive reimagining of the Corps' future role, structure, and doctrine in light of disruptive technologies, lessons from contemporary conflicts, and evolving multi-domain warfare realities. It argues that survivability, multidomain adaptability, and deterrence in the twenty-first century cannot be achieved through mobile protected firepower or mass alone, but through C5ISR dominance, autonomous teaming, modular force design, beyond visual range hard and soft kills, and human-machine integration. It cannot afford to be doctrinally reactive or technologically indifferent. To fight and win tomorrow's wars, AC must reimagine combat through the lens of invisible geometry, precision disruption, and mission continuity under digital siege.

In this context, the Corps must evolve into a connected ecosystem of platforms, sensors, and digital nodes moving from platform-centricity to networked lethality. This calls for a complete relook at doctrine, structure, acquisition priorities, and military education and above all, a cultural shift that aligns with the logic of the fourth industrial age.

Keywords: C5ISR, Technology, Multi-Domain Operations, Networked Lethality, Autonomous Systems, Human–Machine Integration, Digital Battlespace

Introduction: Enduring Role of Armour

The main battle tank (MBT) has stood as a force of deterrence and an instrument of decision in wars. Its silhouette cutting across desert plains or snow passes has, for generations, conveyed the essence of battlefield dominance. Yet in today's wars, tanks are being hunted at an alarming frequency by drones costing a fraction of their value. Ukraine has become the most striking theatre of this contest wherein cheap quadcopters and loitering munitions expose and strike tanks that once roamed with relative impunity. To many, this seems to confirm the narrative of the tank's obituary. But is that really the story unfolding? Or are we witnessing its rebirth, marrying steel with silicon?

For India, this question is not academic. The Indian Army commands one of the world's largest armoured fleets, central to doctrines that have shaped its strike power since independence. Strike corps on the western front have been designed around potent tank formations capable of delivering punitive blows across the plains of Punjab and Rajasthan. The eastern and northern theatres, though less conducive to mass armour employment, have nonetheless seen deployments of tanks in high-altitude regions to counter China by dominating passes and plateaus. Against both adversaries (China and Pakistan), armour has been a visible deterrent from conventional wars on the Western Front to Chushul in the Northern Front during the 2020 India-China Galwan standoff.

Yet deterrence only works if the platform retains operational readiness and relevance to the operational environment. The utility of a force is its 'Deployability, Employability and Capability'; thus, medium category tanks are more suitable for the western front and a mix of medium and light tanks for the northern borders. With drones and precision munitions posing new challenges to its survival, India must now confront the uncomfortable question— is the present fleet future-ready, or do they need technological, doctrinal, tactical, structural and training realignment?

Tanks are neither invulnerable nor outdated. They remain offensive instruments of decision as mobile protected firepower. Boots and tracks will be primary as long as there remain disputed land borders. Their environment is the only thing that has evolved; sensors and unmanned aerial systems (UAS) are now filling battlefields. The urban and obstacle-ridden areas have proliferated, and the space of employment has become restricted, while multi-domain threats have increased. Battlespace transparency and compressed kill multi-domain

chains ensure that every movement is seen, tracked and recorded in real time, and every concentration of armour becomes a magnet for precision strikes. In this transparent battlespace, the survivability of tanks rests on their ability to fight as part of a multi-domain network, with UAVs and C-UAV systems at the heart of that system.

The Challenge and Imperative to Evolve

The Armoured Corps (AC) stands at a critical inflexion point as antiquated doctrines, traditional platforms, legacy structures and linear combat models face obsolescence in a multi-domain digital battlespace. It is presently not configured for the multi-domain operational environment, lacking niche technology, force multiplier integration, AI-enabled autonomy, data centricity and HR adaptability.

Technology and multi-domain threats have made the battlespace complex, congested and contested across physical, cognitive and digital spheres (Shivane, A.B. 2023). The key features remain a C5ISR architecture and a superior kill chain. With cyberattacks, autonomous systems, and precision munitions, redefining the playbook, AC has to face a harsh reality—our traditional concepts of warfighting, which are defined by mass and classical manoeuvres, are outdated.

In this digital and multi-domain era, the very idea of 'battlefield geometry', once defined by terrain, projection areas, and manoeuvre corridors, is being reshaped. The warzone is no longer defined by geography—it is fluid, invisible, dispersed and highly time-specific. A threat can attack in milliseconds but disappear in microseconds. In such a dynamic battlespace, size and firepower will do less to provide survivability and superiority than will resilience, redundancy, technology and speed of dominance (Welch, J. 2024).

The AC, hence, cannot afford to be doctrinally reactive or technologically indifferent. To fight and win tomorrow's wars, AC must reimagine combat through the lens of invisible geometry, precision disruption, and mission continuity under digital siege.

UAV Lessons from Ukraine and it's Indian Relevance

The Ukrainian experience provides the most visible demonstration of the evolving relationship between armour and drones. As per the RUSI report of 18 February2025, Tactical UAVs have significant limitations. Between 60 and 80% of Ukrainian FPVs fail to reach their

target, depending on the part of the front and the skill of the operators (Hambling, D. 2025). Of those that do strike their targets, a majority fail to destroy the target system when striking armoured vehicles. The success rate in wounding infantry is high. Furthermore, there are long periods where either EW or the weather significantly degrades UAV operations. Despite these limitations, tactical UAVs currently account for 60–70% of damaged and destroyed Russian systems.

Ukraine's military has traded thousands of low-cost UAVs against Russian armoured assets, often achieving favourable cost-exchange ratios. Loitering munitions have disrupted armoured advances, while real-time surveillance has denied tanks the advantage of surprise. Yet, despite heavy losses, neither Russia nor Ukraine has dispensed with tanks. Both continue to employ them, often under the protective umbrella of drones. UAVs allow armour to regain the element of surprise that the modern surveillance grid has stolen. Swarms act as a manoeuvre arm in the third dimension when integrated with the mechanised forces.

However, tanks have been forced into constant reinvention by the rise of drones and unmanned aerial systems (UAS) {Shivane, A.B. 2023). Since 2022, both Russian and Ukrainian forces have improvised protections such as nets, cages, chains, rubber sheets and spikes to counter new threats. The extra layers make tanks harder to operate, yet without them, they are targets for drones costing only a few hundred dollars. The proliferation of unmanned aerial systems like drones and swarms call for a fundamental shift and adaptation to the contemporary battlespace. Tanks must be seen as a critical node of an inclusive kill chain within a wider ecosystem of sensors, shooters, and decision-makers. FPV drones must extend the situational awareness for a dynamic intelligence preparation of the battlespace, while swarms empower manoeuvre in the third dimension for 'dislocation, disruption and degradation'.

Another lesson for the future battlespace lies in manned–unmanned teaming (MUM-T). For India, which has traditionally relied on human reconnaissance and ground scouts, the introduction of UAVs directly into armoured formations could radically enhance operational tempo. In the future wars, the side that sees first and strikes first will dictate the tempo, and this will require the 'integration of silicon with steel' (Phelps,C. 2025).

India's Strategic Context

India's operational environment demands an adaptive approach. On the western front, Pakistan's investment in anti-tank guided missiles, drones, and rapid urbanisation has made classic armour thrusts more perilous. Here, drones employed at the squadron or regiment level could mark a decisive difference by identifying vulnerabilities in defensive belts, guiding artillery onto ambush sites, and reducing risk to tanks. Against China, the LAC's altitude and the restricted manoeuvre corridors of Ladakh, Sikkim or Arunachal, degrades heavy armour more than they degrade drones, precision artillery and lighter tracked vehicles. In both theatres, tanks remain useful as lethal mobile protected platforms but cannot by themselves secure leverage; their role is now sectoral, and must be integrated in the IBG/ RUDRA construct. Lightweight drones tailored for high-altitude flight, combined with Light tank (Zorawar) and FICV, can offer India flexible options for deterrence and defence.

Furthermore, India's increasing urbanisation and the possibility of urban warfare along sensitive borders introduce another dimension. Tanks operating in built-up areas are highly vulnerable without persistent overwatch. Armour and infantry are complementary in such terrain. No longer must regiments fight independently or in rigid hierarchical structures. Brigade-level formations like **RUDRA** now combine combat support and logistics into single, deployable, digitally connected units. Integrated battle groups are the new engine of multi-domain operations; tailored for threat, terrain, and mission, and trained to manage kinetic and digital conflict simultaneously (Katoch, P.C. 2025). Modular task forces mean redundancy, rapid tasking, and flexibility without sacrificing mass or firepower. In practice, this means every manoeuvre unit comes with drone support for targeting and deception. Autonomous ground vehicles conduct mine clearance or supply runs under real-time EW shielding. These structures will enable the tank to move, mask, and fight as a networked force, not as isolated platforms.

Armour in a Digitised Battlespace: Redefining Role and Desired Capabilities

India's Armoured Corps faces transformation challenges unique to the digital age of multi-domain battlespace. The predominance of C5ISR and digital kill webs, along with UAS cum missiles, has revolutionised the battlespace, creating multi-domain disruptions. The challenge the armour faces is not about its relevance but its adaptation and evolution to prevail in such an operational environment of cold strikes. Its mission must expand beyond physical

manoeuvre into cognitive dominance and digital shaping. The Corps must evolve from being an enabler of deep thrusts to a command-and-control powerhouse in manoeuvre warfare, which has both a physical and cognitive effect in a multi-domain environment as the spearhead of RUDRA. Destruction must transit to dislocation, disruption and degradation of the adversary's multi-domain capabilities and will through adaptive, integrated and modular structures.

Armoured Regiments must no longer operate as standalone strike forces. They must serve as the critical node that acts as the fulcrum of C5ISR empowered manoeuvre comprising of unmanned aerial systems (UAS), unmanned ground vehicles (UGVs) as part of MUM-T, AI-enabled reconnaissance assets, electronic warfare suites, and cyber resilient architecture. It must carry processors as powerful as its engine, controlling not just firepower but dominating the C5ISR matrix and the Kill Chain.

This role redefinition has implications for employment philosophy. In high-altitude warfare, where terrain limits manoeuvre and supply lines are thin, armoured units must operate in lightweight, dispersed configurations supported by drone ISR and secure satellite communications. They would exploit gaps for dislocation, employ AH and swarms as an aerial manoeuvre arm, and display dominant battlespace awareness. In an urban terrain, tanks would integrate operations with infantry teams, micro-drones, breacher robots, MUM-T and electromagnetic decoys in order to clear spaces and prevail in constrained and contested spaces.

The dimension of main battle tanks needs to be judged against six factors viz. doctrine, strategic aims, terrain, threats, economics, and available complementarities. India’s doctrinal reliance on armour was shaped in an era when large manoeuvre operations were feasible and punitive incursions could alter the balance on the battlefield. The present context is different. The table below lists various dimensions that need to be addressed (Kumar, A. and Sahu, S. 2025).

Dimension	**Guiding Question**	**Key Indicators**
Doctrine, Structure and Role	In what way is armour positioned within the contemporary multidomain operational environment?	Redefine role, Structure of armoured formations, C5ISR empowerment, level of combined-arms integration, doctrinal and tactical adaptations.

Dimension	Guiding Question	Key Indicators
Terrain Factors	How does physical geography and operational environment impact the employment and sustainment of armour?	Soil load capacity, altitude, obstacle-ridden terrain, urbanisation, mobilisation and MRO. DIGITAL terrain over geographic geometry.
Threat Landscape	What kinetic and non-kinetic challenges in a multi-domain threat environment undermine armour effectiveness?	New generation ATGMs, multi-domain kill chains, drones, and evolving electronic spectrum for digital strikes.
Economic Viability	What is the cost-benefit trade-off of acquiring and maintaining these systems?	Procurement price, lifecycle expenditure, share of indigenous content. Operational relevance related to tracks and boots on the ground. Disputed Borders. Integration as IBG's is the key.
Training Matrix	Should the PME and Armour tactics realign to the multi-domain conflict era?	AI-assisted C5ISR integrated kill chains, need for techno-warrior ethos, Digital battlespace, creativity and psychological resilience.

Mission design must also account for escalation thresholds and political constraints. The future use of armour will be about calibrated smart manoeuvre, quick, precise, lethal and multi-domain employment that signals a 'Cold Strike' era. The AC must compress mobilisation in an escalatory matrix, prepare for digital threats and focus on preparedness, posture and punitive actions as part of IBGs (Shivane, A.B. 2019) rather than just destruction or deep manoeuvres.

Thus, the AC must train and equip itself not just for high-intensity war, but for flexible missions; urban warfare, border dominance, cold strike, psychological deterrence, and hybrid warfare, all under a multidomain threat environment. Future operations will demand a tank that can also jam, spoof, coordinate, and launch autonomous UAS all within the same digital battle loop, besides fire, manoeuvre and survive.

From Platforms to Systems: High-Low Integration

The notion of upgrading firepower and protection in isolation is outdated. Instead, the Mechanised Forces must adopt a "combat cloud" approach, wherein every component, be it tank, ICV, drone, scout vehicle, or EW platform, is a node within an intelligent, distributed battlespace integrated network asset.

This transformation begins with high-low integration. High-end systems like the Future Ready Combat Vehicle (FRCV) and Future Infantry Combat Vehicle (FICV) must be modular, AI-enabled, cyber-proof, electronic warfare capable, drone-enabled, C-UAS kitted and capable of real-time data fusion. They should serve as mobile C5ISR nodes, managing both manned and unmanned systems in synchronised formations. Features must include active protection systems, stealth geometry, embedded sensors and electronic warfare suites, and multi-spectrum connectivity.

At the lower end of the spectrum, they must include cheap, attritable and complementary systems like FPV drones, loitering munitions, swarms, UGVs, tethered surveillance balloons, and autonomous logistics. These assets should be fielded in swarms, operating under mission commands relayed from armoured nodes. Their role is not merely to support, but to create complexity, forcing enemy systems to overextend, misfire, or stall in decision-making.

The key is seamless vertical and horizontal integration. Drones launched should feed targeting data directly into MBT fire control systems. Autonomous swarms should conduct pre-programmed flanking manoeuvres, creating saturated multi-domain dislocation. EW nodes should jam adversary C5ISR as tanks breach physical obstacles. The system must be modular, upgradable, and rapidly reconfigurable based on theatre requirements.

The Corps must also build a software architecture that binds these systems together. A secure, low-latency, AI-powered battle management layer should be embedded at the regimental level. It should allow real-time decision support, threat visualisation, and adaptive mission planning. Without this digital layer, even the most advanced platforms will operate blind and fragmented (Shivane, A.B. 2025).

High-Low teaming is not a luxury—it is the only way to preserve the decisive edge of armour in a battlespace designed to destroy it. It is a capability beyond just MUM-T. The Indian Armoured Corps must move from deploying tanks to deploying mechanised ecosystems.

C5ISR as Core Combat Power: Data as Ammunition

In future warfare, information will determine initiative, and initiative will determine survival. The Indian Armoured Corps must view Command, Control, Communication, Collaboration, Combat Systems, Intelligence, Surveillance and Reconnaissance (C5ISR) not as a support function but as a core combat capability. In a digitised, time-compressed battlespace, 'the first to detect is the first to act and often the first to win'.

Every armoured formation must become an ISR producer and processor. This mandates integral and organic ISR capabilities at each tier, including micro-drones, surveillance radars, thermal imagers, and AI-powered visual recognition systems. These must be integrated directly into armoured platforms rather than operating as separate support arms. The MBT of the future should come factory-fitted with UAV launchers, mast-mounted sensors, and onboard AI for ISR collation and interpretation.

In the defensive domain, the C5ISR capability must be hardened against jamming, spoofing, and cyber infiltration for contested environments. This would require both resilience and backup options. Satellite links must be backed by line-of-sight relays. Visual feeds must be processed locally through edge computing to eliminate dependence on central servers. Data redundancy must be built into the operational loop.

Additionally, ISR integration must extend to fire control. A tank crew should receive direct inputs from drone feeds, forward scouts, and EW sensors, enabling autonomous or assisted engagement without verbal relay. Real-time threat maps, automatically updated through AI, must guide movement and prioritise targets. In a world 'where firing a shot exposes your position', knowing precisely 'when and where to strike' is a matter of survival.

Commanders, at all levels, should be trained to think like data officers. The ability to interpret ISR, distinguish false signals from genuine threats, and reconfigure plans in real time will be more decisive than the volume of tanks deployed. In this environment, C5ISR is not a luxury— it is the new ammunition, and without it, even the most powerful gun will fire blind.

Survivability Reimagined: Agility Over Armour

The Cliché 'thicker the better' is a World War II legacy. Heavy armour is out, and agile, survivable, lethal, digitally connected platforms prevail. Threats like loitering munitions, tandem warhead ATGMs, and drone-guided artillery demand a combined arms structure to overcome challenges.

Agility refers to more than speed— it encompasses terrain manoeuvre, electromagnetic dispersion, rapid reconfiguration of formations, and adaptive mission profiles. Tanks must be capable of swift shifts in position, signature, and tasking. This mandates lighter agile platforms, modular architecture and AI enablement with superior Kill Chains and all-terrain manoeuvre capability.

Deception is an art that must find practice. Armoured units must routinely employ decoys, both physical and digital. These include inflatable tank replicas, spoofed electromagnetic signatures, pre-recorded radio traffic, and false heat sources. Units should deploy electronic smoke, radar reflectors, and spectrum-jamming payloads to mask movement or create phantom threats. Multispectral camouflage and digital signature spoofing must be complementary. The goal is to force the enemy ISR to waste its assets or misidentify its targets.

Digital awareness is the final layer. Each tank must have its threat library, an AI-driven system that tracks sensor data, evaluates risks, and advises evasive action. Crews should receive real-time threat updates, AI-suggested routes, and spectrum advisories through helmet displays or dashboard systems.

Survivability in a multi-domain environment is more complex and requires predictive evasion, not about resisting hits but avoiding them altogether. The adversary's kill chain must be degraded, extended, jammed, deceived and confused.

Training the Digital Combatant: From Gunner to Kill Web Professionals

The shift in doctrine, role, and survivability philosophy has profound implications for training. The Indian tank crew of tomorrow will not merely fire and manoeuvre. They will command autonomous systems, interpret C5ISR data, conduct EW tasks, and function as digital battlefield managers. The training pipeline must evolve to reflect this expanded skill set.

Training must transform when digital threats dominate, hence, preparing tankmen for spectrum warfare, cyber manipulation, and an AI-assisted C5ISR operational environment. Basic armoured training must now include modules on spectrum management, data analysis, cyber hygiene, and autonomous system operation. Tank Commanders must evolve as multi-domain warriors and be trained in C5ISR fusion, AI enablement, joint fires and UAS/ UGV integrated employment. Tank gunners must Optimise AI-enabled targeting, IFF, interpret UAV feeds, configure drones and operate under a compressed kill chain multidomain environment. Drivers must exploit AI-enabled routing and vehicle diagnostics. ***Steel must adapt; firepower must be partnered with C5ISR and integrated with drones***.

Virtual reality and constructive simulation systems can replicate multi-domain threats and digital battlefield conditions. These tools allow for cognitive stress inoculation, real-time decision testing, and adaptive tactics development. All training events must simulate degraded communications, contested ISR, and autonomous support assets. Mixed formations of tanks, UGVs, and loitering munitions must be deployed in testbeds to evaluate interoperability and reaction cycles.

Leadership development will also need recalibration. Future tankmen must be comfortable with distributed command, asynchronous tasking, and digital collaboration. They should be selected not just for combat experience but for cognitive flexibility and digital fluency. Without a digitally competent crew, even the most modern tank becomes dead weight.

Command Culture and Tactical Employment Philosophy

As technologies evolve, so must command cultures. The Armoured Corps has traditionally operated on the spirit of boldness, initiative, offensive and kinetic application. The next generation of wars will need techno warriors and thought leaders who define multi-domain manoeuvres by means of distributed decision-making, real-time cooperation, and being aware of the digital interdependence to execute integrated multi-domain kill chains.

The shift begins with empowerment. Future armoured operations will involve simultaneous engagements across varied domains. Mission command, a philosophy where intent is more important than instruction, must become the norm. Tactically, employment must be governed by stealth, speed, and surprise, and not strength alone. Tanks must be inserted to disrupt, disorient, and dislocate, not merely to destroy. Strike plans must be co-designed with

C5ISR timelines and EW shaping actions. Tactical deception, once an afterthought, must be built into the initial plan. Operations must be rehearsed virtually, validated through red-teaming, and executed with digital command overlays.

Commanders must also evolve into data operators. They must be proficient in reading ISR feeds, understanding electromagnetic terrain, managing cyber risks, and commanding through digital overlays. Warfighting will be as much about steel meshed with silicon and dashboards and drones as it was about dust and diesel.

Critically, command culture must internalise failure tolerance for innovation. Not every experimental tactic will succeed. Some autonomous systems may misfire. But, unless commanders are empowered to experiment, the organisation will not advance. Future conflict will reward the adaptive, not the perfect. The Indian Armoured Corps must therefore build a culture where thinking differently is not punished but encouraged.

Recommendations for a Future Ready Force

- ***Future MBT Design.*** The future MBT must evolve from the legacy platform to a networked, beyond-visual-range kinetic and non-kinetic kill node with AI-based sensor fusion, stealthy, hybrid-electric drive, and seamless integration with UAVs and multi-domain kill chains using secure data links. The focus must shift to digital survivability, cyber resilience, EW defence, and real-time dominance through precision fires beyond visual range.
- ***Formulate a Mechanised Forces Doctrine and Review GSPS for Multi-domain Operations.*** Multi-domain adaptability, digital centricity, decision superiority, C5ISR integration, EW, drones, UGVs and cyber resilience must be a priority of the Mechanised Forces Employment doctrine and GSPS. Further, the MUM-T is today a reality, not fiction. Massed predictable thrusts needs to be replaced with modular task forces who can operate autonomously within the commander's intent. The doctrine must rest on three pillars viz. build force capability, optimise force readiness and integrate into force design (HQ, IDS, 2017).
- ***Create a 'Future Warfare Cell' at Armoured Corps Centre and School***. A dedicated Cell under the School of Armoured Warfare of selected visionary thought leaders and changemakers, should be institutionalised for research, analysis and recommendations for the Corps with respect to the evolving character of warfare, technological

advancements, strategic shifts, and emerging threats shaping future conflicts. These cells often explore topics like cyber warfare, artificial intelligence, autonomous weapons, UAS, UGVs, MUM-T, digital battlespace operations and the impact of information warfare, among others, to prepare and adapt for the future. The cell could be on a PPP model with technologists, academia and the defence industry integrated.

- ***Force Design: Modular Combined Arms Battlegroups.*** Reorganise into self-sustained IBG Rudra with embedded drone, UGV, EW, and data fusion elements. Each IBG must be deployable independently, able to operate in denied environments, and optimised for a high-low mix of MBT nodes and attritable swarm assets. FRCV, FICV and UGV induction must be on track with defined capabilities.
- ***Transform Armoured Corps Directorate.*** Merge AC, Mech Infantry, and institutionalise linkages with SP Arty, SP AD and Combat Aviation for aligning capabilities, structures and integrated operational philosophy. The existing **GSPS for the Mechanised Forces must be upgraded**. Convergence of all Line Directorate for multi-domain data-centric operations is essential.
- ***Force Restructuring: Regiment and Brigade for the Digital Battlespace.*** Restructure the Armoured Regiment into a sensor-rich, multi-domain formation built for autonomous and semi-autonomous operations. Also, review and restructure the Armoured Brigade and Armoured Divisions for a multi-domain operational environment with a focus on C5ISR and UAS integration.
- ***C5ISR and Edge Processing: Make Sensors Organic.*** Equip Armoured Regiments with organic C5ISR kits, including drones, loitering ammunitions, UAVs, passive RF sensors, and AI-enabled processors. Standardise data formats and implement AI edge fusion sensor so that shooter loops can close at the squadron level, even under degraded links.
- ***Survivability.*** Rapidly field active protection modules, thermal suppression kits, and standardised deception toolkits. Signature management and electronic deception must prevail over "the more armour better the protection" mindsets. Tank Commanders must be trained in multi-domain threat survivability techniques.
- ***Training and Human Capital.*** Review the PME matrix of AC and go beyond tank troop tactical training. Integrate C5ISR both for offensive and defensive employment, MUM-T adaptation, integration of drones, swarms and UGV's for operating in contested and degraded spectrum environment. Embed trained technology specialist

data officers and EW specialists in regiments and run immersive synthetic exercises regularly.

- ***Industry and Acquisition: Fast Track Prototyping.*** Create rapid acquisition lanes and innovation cells at ACCS and Armoured Division level for trials on commercial drones, EW payloads and UGVs. Move to modular open architecture standards and plug-and-play capability. Prioritise time to field as the principal performance metric. The IA force equipping philosophy must transit from 'Threat cum Capability' to 'Capability cum Opportunity', where the technology and acquisition cycles are aligned.
- ***Communications and Cybersecurity: Resilient Links.*** Deploy SATCOM on the move, resilient mesh radios, and quantum-resistant encryption for critical links. Build fallback line of sight relay kits and adopt a zero-trust architecture with continuous patching and red team audits.
- ***Logistics and Sustainment: Predictive and Autonomous.*** Implement predictive maintenance, telemetric and forward 3D printing hubs for critical spares. Autonomous drone or UGV-based logistics emergency supply must be integrated into the supply chain.
- ***Command Culture: Empowered Mission Command.*** Shift to flatter command structures with empowered junior leaders authorised to act on intent. Institutionalise human-machine teaming in career paths and accept controlled failure during experimentation to accelerate learning. Instil techno warriors with a creative and offensive mindset in future thought leaders.

Conclusion

The future of AC is as bright as they adapt, prevail and dominate the future contested and complex multi-domain operational environment. The key to a bright future remains a culture to question legacy— the will and clarity to adapt, align, reorganise, and reimagine. This is no longer a question of upgrades or inductions. We must break away from legacy modernisation culture. It is now a question of 'relevance through dominance'.

To remain decisive, the Corps must become an ecosystem of platforms, sensors, data networks, and human-machine teams. It must let go of legacy assumptions, obsolete doctrines, and outdated procurement cycles. It must replace volume with velocity, mass with modularity, and firepower with foresight.

The bottom line is clear— Tanks are not obsolete. They are being reborn for a different kind of war. They are built on mental agility and have adapted over the century to be indispensable. Their relevance in India's arsenal will endure not because of nostalgia but because no other system can deliver the combination of survivability, lethality, agility, connectivity and shock action they provide. But survival and effectiveness hinge on evolution. Armour cannot afford to ignore drones and MUM-T as a future pre-requisite. Armour that embraces the changing character of warfare will remain the decisive arm of land combat.

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About the Author

Lieutenant General A B Shivane, is an NDA alumnus and a decorated Armoured Corps officer with over 39 years of distinguished military service. He is the former Strike Corps Commander and Director General of Mechanised Forces. As a scholar warrior, he has authored over 200 publications on national security and matters defence, besides four books and is an internationally renowned keynote speaker. The General was a Consultant to the Ministry of Defence (Ordnance Factory Board) post-superannuation. He was the Distinguished Fellow and held COAS Chair of Excellence at the Centre for Land Warfare Studies 2021-2022. He is also the Senior Strategic Advisor Board Member to several organisations and Think Tanks.