MILITARY APPLICATION OF ARTIFICIAL INTELLIGENCE

A CASE STUDY OF ECOSYSTEM IN UNITED STATES, CHINA, AND INDIA

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Introduction

On February 11, 2025, Indian Prime Minister Shri Narendra Modi delivered the opening address at the AI Action Summit in Paris, where India and France co-chaired discussions[1]. His speech underscored the transformative impact of Artificial Intelligence (AI) on society, emphasizing both its rapid evolution and widespread adoption. He recognized AI's expanding role of AI in shaping politics, economics, national security, and governance, while also highlighting the urgent need for a structured and responsible approach to its development[2].

As AI continues to evolve at an exponential rate, it presents immense opportunities and challenges. AI has the potential to drive innovation, enhance productivity, and act as a force multiplier for security in the defence industry[3]. However, it raises critical concerns about how nations perceive AI through the lens of national security. Can countries truly afford to relinquish their strategic advantage in AI when it lies at the heart of geopolitical and geo-economic contests?

At the India Foundation, we conducted two rounds of consultation to examine the critical dimensions of AI and its far-reaching implications for national security[4]. These discussions focused on three pivotal areas that reshape the global security landscape: AI's role in modern warfare, intelligence gathering, and technological sovereignty.

Our assessment included a comparative analysis of AI adoption by major global players, such as the United States, China, and India, particularly in terms of its military applications and battlefield integration. Nations across the globe are focusing on actions and strategies in formulating AI dedicated strategies[5]. It thus becomes important that Artificial Intelligence in defence industries are not left behind in the technological curve. As Artificial Intelligence is now recognised as a disruptive technology with current and potential future impact[6] on conflicts and how armies integrate for military and paramilitary purposes.

AI redefined the nature of warfare[7]. Autonomous systems, predictive analytics, and real-time battlefield intelligence are no longer futuristic concepts but present-day realities that demand strategic foresight[8]. Our consultations explored how AI is transforming military capabilities from autonomous weapons systems to cyber warfare and space-based defence mechanisms. These advancements not only shape the operational efficiency of armed forces, but also reflect the strategic culture and security priorities of each nation.

Beyond warfare, the role of AI in gathering intelligence has become increasingly significant. Advanced machine learning algorithms, facial recognition technologies, and data-driven threat analyses are revolutionizing intelligent operations[9]. These capabilities enable real-time decision making and predictive threat assessments, offering a strategic edge. However, they also bring forth pressing concerns related to privacy, misinformation, and ethical implications of AI-driven surveillance and espionage.

Another crucial theme that emerged from our discussion was technological sovereignty[10]. As AI has become a key determinant of geopolitical influence, nations are racing to secure their digital infrastructure, minimize dependency on foreign technology, and develop indigenous AI ecosystems[11]. Our consultations highlight the challenges of AI governance, regulatory frameworks, and the delicate balance between international collaboration and national strategic autonomy in AI development.

This report synthesizes key insights from these consultations, providing a detailed examination of the opportunities, risks, and policy imperatives for India, as it navigates the AI-driven future of national security. It aims to offer a comprehensive understanding of AI's impact on defence and intelligence, while proposing strategies to ensure that India remains at the forefront of AI innovation

Methodology and Scope of Research

This study undertakes a comprehensive analysis of AI policies and strategies adopted by key global actors, with a specific focus on their implications for national security. Our study examined multiple dimensions of AI integration, including policy frameworks, research and development (R&D) investments, military applications, governance structures, and regulatory mechanisms. Particular attention is given to models that foster civil-military integration, public-private partnerships, and collaborative efforts between governmental institutions and private sector entities.

To systematically assess these aspects, we employ both Strengths, Weaknesses, Opportunities, and Threats (SWOT) analysis and technological gap analysis as core methodological approaches. SWOT analysis helps identify the strategic positioning of AI development in different nations by evaluating internal strengths and weaknesses, while also considering external opportunities and threats. Meanwhile, the technological gap analysis method allows for the assessment of disparities in AI capabilities, infrastructure, and innovation potential across different national AI ecosystems, which are critical.

By evaluating national AI strategies, military AI integration frameworks, and public-private collaborations, this research aims to provide a comparative perspective on how different countries approach AI-driven national security. This analysis will further inform India's strategic AI roadmap, offering insights into best practices, potential risks, and policy enhancement areas.

Military AI Capabilities

As military AI capabilities continue to advance, regulators around the world are increasingly focused on the growing influence of Artificial Intelligence across all aspects of our lives. In times of both war and peace, the role of AI in conflict can have vastly different implications—yet often these outcomes are two sides of the same coin[12]. This dual nature highlights the importance of embedding the principles and laws of war directly into the design, development, and deployment of AI systems. As a result, it becomes crucial to examine and address key areas of concern, many of which were explored during the sessions discussed below

1. Autonomous Systems: AI-driven autonomous vehicles, drones, and robotic systems are increasingly being deployed for reconnaissance, combat, and logistics support. The United States has integrated AI-powered autonomous drones such as the XQ-58A Valkyrie and MQ-9 Reaper, which operate with minimal human intervention[13]. China has tested autonomous underwater drones such as the HSU-001 UUV to strengthen their presence in the South China Sea through reconnaissance operations[14]. Meanwhile, in Ukraine, switchblade-loitering munition has been actively used against the Russian forces[15].

2. Battlefield Analysis and Intelligence Gathering: AI-powered surveillance, sensor fusion, and real-time threat analysis enhance situational awareness and decision-making. The United States employed Pentagon's Project Maven[16], which utilizes AI-powered image recognition to analyze drone movements and detect threats in real time. China has integrated its Yaogan-series reconnaissance satellites[17] to enable real-time intelligence gathering in the South China Sea. Many countries are increasingly focusing on AI-driven surveillance to reduce their reliance on human pilots. India, for example, has deployed similar surveillance systems[18] along the Line of Actual Control (LAC) bordering China.

3. Combat Support Services: AI-driven predictive maintenance, automated medical support, and real-time battlefield logistics improve operational efficiency. The United States, China, and India have adopted AI-powered predictive maintenance systems to enhance fleet readiness[19]. AI-driven logistics solutions optimize battlefield supply chains, ensuring faster response times, improved efficiency, and better integration of combat support services.

4. Weapon Systems: AI is integrated into precision-guided munitions, autonomous targeting, and next-generation defence systems to enhance lethality and accuracy. The U.S. military has developed AI-powered Joint Direct Attack Munitions (JDAMs)[20], which use machine learning for precision missile guidance. China's CM-401 hypersonic missile leverages AI for mid-course trajectory corrections, improving the accuracy of moving targets, such as aircraft carriers. In India, the DRDO is looking to use AI-powered radar system in ATULYA air defence fire control radar (ADFCR) which can enhance tracking and interception capabilities against incoming aerial threats.

5. Infrastructure and Logistics: AI-enabled supply chain management, predictive analytics for resource allocation, and automated maintenance of military assets are widely adopted. The U.S. military is integrating AI into logistics through the Joint Artificial Intelligence Center (JAIC)[21], optimizing supply chains, and predictive maintenance for aircraft and ground vehicles.

6. Cyber Security and Warfare: AI-driven cyber defence, automated threat detection, and counter-cyber operations are crucial for securing military networks[22] and ensuring data integrity. The United States Cyber Command (USCYBERCOM) employs AI-driven Hunt Forward Operations to proactively detect cyber threats before they reach U.S. networks. The People's Liberation Army's Strategic Support Force (SSF) integrates AI into cyber operations, including automated hacking tools[23]. AI-powered deepfake and disinformation campaigns have been linked to Chinese state-backed actors conducting cyber warfare campaigns. India's Defence Cyber Agency (DCA), a tri-service organisation, which have been incorporating AI-driven automated cyber threat detection to secure military networks. AI-based cybersecurity

tools are also being tested to safeguard India's critical infrastructure from foreign cyber intrusion[24].

7. Administration and Support Functions: AI-assisted personnel management, automated documentation, and decision-support systems streamline military operations and bureaucracy are important which can use the Artificial Intelligence. The United States utilizes AI-driven automated documentation and decision-support systems to enhance intelligence analysis and military planning. China has adopted AI-powered bureaucratic automation systems to reduce paperwork[25] and improve decision making in military operations. India is integrating AI into personnel and financial management to enhance efficiency across various sectors of the Indian government.

8. Psychological Operations (PsyOps): Information Warfare-AI-powered tools are used to analyze adversarial propaganda, detect misinformation, and counter influence campaigns on digital platforms. The U.S. Army's 4th Psychological Operations Group employs AI to detect and counter online propaganda and adversarial influence campaigns[26]. The Pentagon has invested in AI-driven social media analysis tools to track foreign disinformation threats. The PLA's Public Opinion Warfare Division utilizes AI-powered bots to manipulate global narratives, particularly concerning Taiwan[27] and South China Sea[28]. In terms of India, there has been many instances wherein Indian social media were being used to sow discord among citizen through AI enabled translations – with the ability to reach targeted audience. Furthermore, the usage of bots has been a regular phenomenon in amplifying adverse narratives[29].

9. Training and Simulation: AI-driven virtual reality (VR) and augmented reality (AR) simulations enhance military training, mission planning, and combat scenario rehabilitation[30]. The U.S. Army's Synthetic Training Environment (STE) employs AI-powered VR and AR for military training and combat simulations

10. Quantum Computing: This aspect of AI is revolutionizing military capabilities, particularly in the aspects of cryptography, data processing, and secure communication. Every nation aims to s leverages these technologies to strengthen quantum encryption, AI-driven military simulations, and logistics optimization, thereby ensuring a technological edge over adversaries. India is focused on developing indigenous quantum cryptography and AI-driven defence applications backed by strategic government investments to enhance cybersecurity, secure communications, and counter-stealth capabilities to manage threat with nations[31]. Public sector investment in quantum development has increased rapidly, with over $40 billion pledged by more than 30 governments. China leads with a $15 billion commitment, the United States has invested $5 billion, and India plans to invest $750 million[32], primarily through the National Quantum Mission (NQM) launched in 2023.

COMPARATIVE NET ASSESSMENT OF AI ECOSYSTEM IN UNITED STATES, CHINA, AND INDIA

United States

The United States has pursued a measured and incremental strategy in integration of artificial intelligence (AI) into its defence architecture, with an emphasis on human oversight and ensuring interoperability within existing military systems. This cautious approach has been largely been due to its historical dominance in technological innovation and leadership. However, with the evolving geopolitical environment—particularly the strategic competition with China—has introduced significant challenges in sustaining its leadership in the military application of AI. In light of these developments, the United States is confronted with a critical policy dilemma: whether to maintain its current trajectory or to adopt a more assertive posture toward the militarization of AI to preserve its strategic advantage?

STRATEGIC AL INTEGRATION IN U.S. DEFENSE

i) Technological Legacy, Bureaucratic Struggles:

The U.S. enjoys a technological edge in AI research and development, primarily driven by its private sector, which includes major companies such as Google, Microsoft, Palantir, and OpenAI[33]. These firms have focused on advancements in machine learning, large-scale language models, and predictive analytics[34], many of which have had direct military applications. However, despite these technological prowesses, bureaucratic inertia and a risk-averse culture within the Department of Defence (DoD) has often act as impediments to rapid AI adoption.

One of the principal obstacles to the integration of advanced artificial intelligence (AI) systems within the U.S. defence sector lies in the Department of Defence's procurement policies[35], which emphasize security, regulatory compliance, and extensive long-term testing[36]. While these priorities are critical for ensuring operational integrity and mitigating risk, they often lead to significant delays in the deployment of cutting-edge technologies. In contrast, China's centralized planning model—anchored in comprehensive long-term strategic visions and coherent policy directives—facilitates a more streamlined and coordinated approach to AI integration[37].

Moreover, whereas the United States primarily relies on private sector innovation to drive AI development, China's approach is characterized by robust state support for private enterprises, including direct funding, personnel sharing, and institutionalized military-civil fusion. This structural alignment enhances China's capacity to rapidly translate AI advancements into military applications. By comparison, the U.S. military operates within a decentralized, multi-agency procurement framework that can lead to fragmented decision-making, inefficient resource allocation, and limited cross-agency collaboration—further constraining the speed and coherence of AI adoption in defence contexts.[38]

There have been efforts such as the Joint Artificial Intelligence Center (JAIC) and the Defence Innovation Unit (DIU) which were established to bridge the gap between private-sector innovation and military requirements[39], but its effectiveness remains limited as United States uses different laws to restrict its competition.

ii) Data to Decision - More Focus on Enhancing Decision Making:

A defining aspect of the U.S. defence AI strategy has been the aspect of machine teaming[40] with human to augment/aid precise decision-making rather than replacing. This philosophy does contrast with the Chinese philosophy which focuses on autonomous and AI driven approaches which makes AI systems take more independent operational roles with minimum human intervention/aid.

In the U.S., AI is being actively deployed in predictive analytics, logistics optimization, equipment maintenance, and cybersecurity, where it assists human operators[41]. For example, AI-driven predictive maintenance models enhance operational efficiency by identifying potential aircraft or vehicle failures before they occur. Additionally, AI assists battlefield management systems, enabling commanders to process real-time intelligence and make faster data-driven decisions.

However, in high-stakes combat scenarios, reliance on AI systems that produce unexplainable or opaque outputs—often referred to as "black box" models[42]—can lead to unintended and potentially catastrophic consequences. For instance, an AI-enabled targeting system that misidentifies a civilian vehicle as a hostile threat due to insufficiently transparent decision logic could trigger unlawful engagement, raising both ethical and strategic concerns. As such, the Department of Defense (DoD) continues to prioritize rigorous testing, validation, and operational evaluation prior to the widespread deployment of AI systems. Ensuring transparency, reliability, and human interpretability is central to the Pentagon's approach and the broader imperative of maintaining human accountability in the use of force conditions.

iii) AI Governance, militarily:

The U.S. has positioned itself as a global leader in AI development, distinguishing its approach from China and Russia, which often deploy AI with fewer ethical constraints. The Pentagon's AI Ethical Principles Framework mandates that AI systems be responsible, equitable, traceable, reliable, and governable, ensuring human accountability over autonomous systems.
This commitment to AI ethics and governance aligns with broader efforts to establish international norms for military AI use, particularly in lethal autonomous weapons systems (LAWS), surveillance AI, and cyber warfare. The U.S. actively participates in multilateral AI governance discussions, working with allies and non-allies to create global standards for military AI deployment such as the United Nations[43].

However, this cautious approach to AI ethics sometimes conflicts with the military imperatives. For instance, while the U.S. has hesitated to deploy fully autonomous weapons, nations such as China and Russia have accelerated their development of AI-driven combat drones, autonomous surveillance systems, and AI-powered cyberattack platforms. Striking a balance between AI leadership and national security imperatives will remain a key challenge for the U.S. in the coming years.

iv) Strategic Risks: Falling Behind in the AI Race

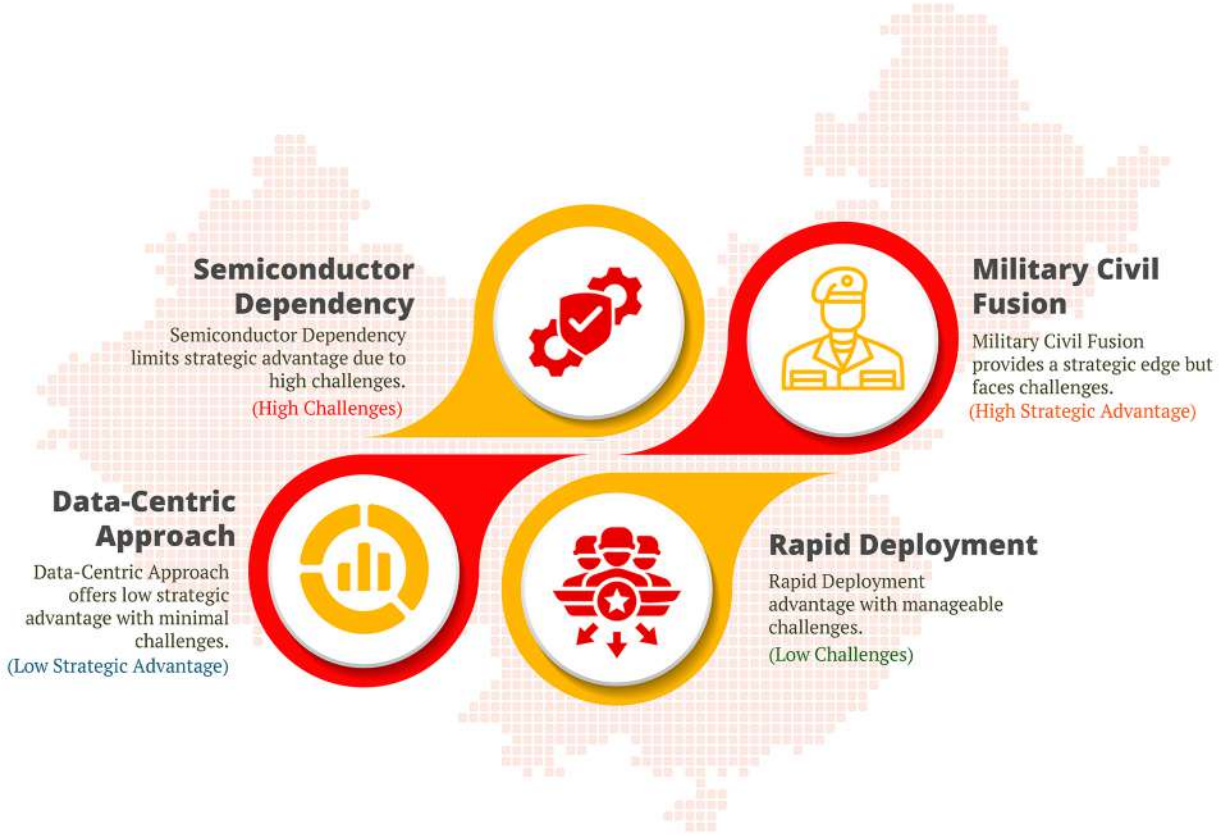
China's proactive approach to battlefield AI experimentation presents a growing strategic concern for the United States, particularly in high-risk conflict theatres such as the Taiwan Strait and the South China Sea. The People's Liberation Army (PLA) has shown a marked willingness to deploy and field-test AI-enabled warfare systems—ranging from autonomous drones to algorithmically driven command-and-control platforms. For example, Chinese military exercises have reportedly incorporated AI-supported swarm drone tactics and decision-support systems capable of real-time threat assessment[44], underscoring a readiness to operationalize AI technologies under combat conditions. In contrast, the United States has remained comparatively cautious, constrained by a complex regulatory environment.

This divergence in risk tolerance and experimentation policies means that China is positioned to accumulate valuable real-world experience in AI-enabled combat scenarios well before the U.S., potentially affording it a tactical advantage in future conflicts. Furthermore, AI-enhanced capabilities such as autonomous weapons systems, cyber operations driven by machine learning, and real-time electronic warfare tools are increasingly seen as decisive elements of 21st-century military power. If the United States does not accelerate the integration of AI across key domains—particularly in reconnaissance, cyber defence, and autonomous aerial systems—it risks ceding technological and strategic superiority to adversaries more willing to explore and exploit the outer boundaries of AI-enabled warfare.

In conclusion, by finding the right balance between AI ambitions, operational necessity, and strategic foresight, the U.S. can retain its military superiority while upholding democratic values in AI governance – which is critical considering the rule of law. However, failure to act decisively could allow China and other adversaries to seize the initiative in AI-driven warfare, reshaping global military dynamics in their favour.

CHINA

China is strategically leveraging artificial intelligence (AI) as a central element of its military-civil fusion (MCF) strategy[45], aiming to achieve dominance in autonomous systems, cyber warfare, and surveillance technologies, among others. In contrast to United States, where AI innovation is predominantly driven by private sector enterprises, China adopts a more state-directed approach that integrates civilian AI research with military applications for prolonged time period. This integration fosters a more cohesive and rapid development of AI technologies for defence purposes, providing China with a potentially significant advantage in emerging domains of warfare.



CHINA'S AL STRATEGY ANALYSIS

The New Generation Artificial Intelligence Development Plan (AIDP)[46], launched in 2017, aims to position China as the world leader in AI by 2030 with a strong emphasis on military modernization. The People's Liberation Army (PLA) has adopted the doctrine of intelligentized warfare[47], leveraging AI for battlefield decision making, drone autonomy, and electronic warfare.

i) Military Civil Fusion: China's Strategic Edge

A defining feature of China's AI strategy is its ability to merge civilian and military technologies seamlessly. The MCF strategy compels private companies such as Huawei, Baidu, and Alibaba to collaborate with the military, ensuring that breakthroughs in AI benefit national defence. AI-powered missile guidance systems, electronic warfare tools, and surveillance networks have been enhanced by civilian research. Unlike Western nations, where AI firms operate independently, China mandates that private AI innovations be shared with the military, creating an ecosystem where technological advancements in consumer AI also serve military applications[48]. This model accelerates China's ability to deploy cutting-edge AI driven systems across multiple domains.

ii) More Data, More Training:

One of China's most significant strategic advantages in the development of artificial intelligence (AI) lies in its unrestricted access to vast and diverse data pools. AI technologies thrive on data, and China's ability to collect, process, and analyze information on an unprecedented scale provides a substantial edge in training advanced AI models[49]. This data-centric approach is supported by China's extensive surveillance infrastructure, including

facial recognition technologies and predictive policing systems, which are used to monitor internal security threats[50].

The Chinese state-driven, top-down approach to AI development—coupled with its capacity to harvest and analyze large volumes of data from its population—has allowed the country to develop powerful AI systems which has the ability to outpace countries in liberal democracies, where access to similar data is more restricted due to privacy concerns and regulatory frameworks. However, this model has raised significant concerns internationally, particularly among liberal democracies, which view China's export of AI technologies and surveillance tools as a form of "digital authoritarianism." This term refers to the potential spread of China's surveillance infrastructure and governance models to other nations[51], often under the guise of development assistance or technology partnerships, potentially compromising democratic freedoms and individual privacy in the process. The growing influence of China's AI-driven governance models—such as the Social Credit System—further exemplifies the implications of this approach, where citizens' behaviours are monitored and scored, linking personal actions to state-controlled incentives or sanctions[52].

iii) Investment, Innovations and Legal Challenges:

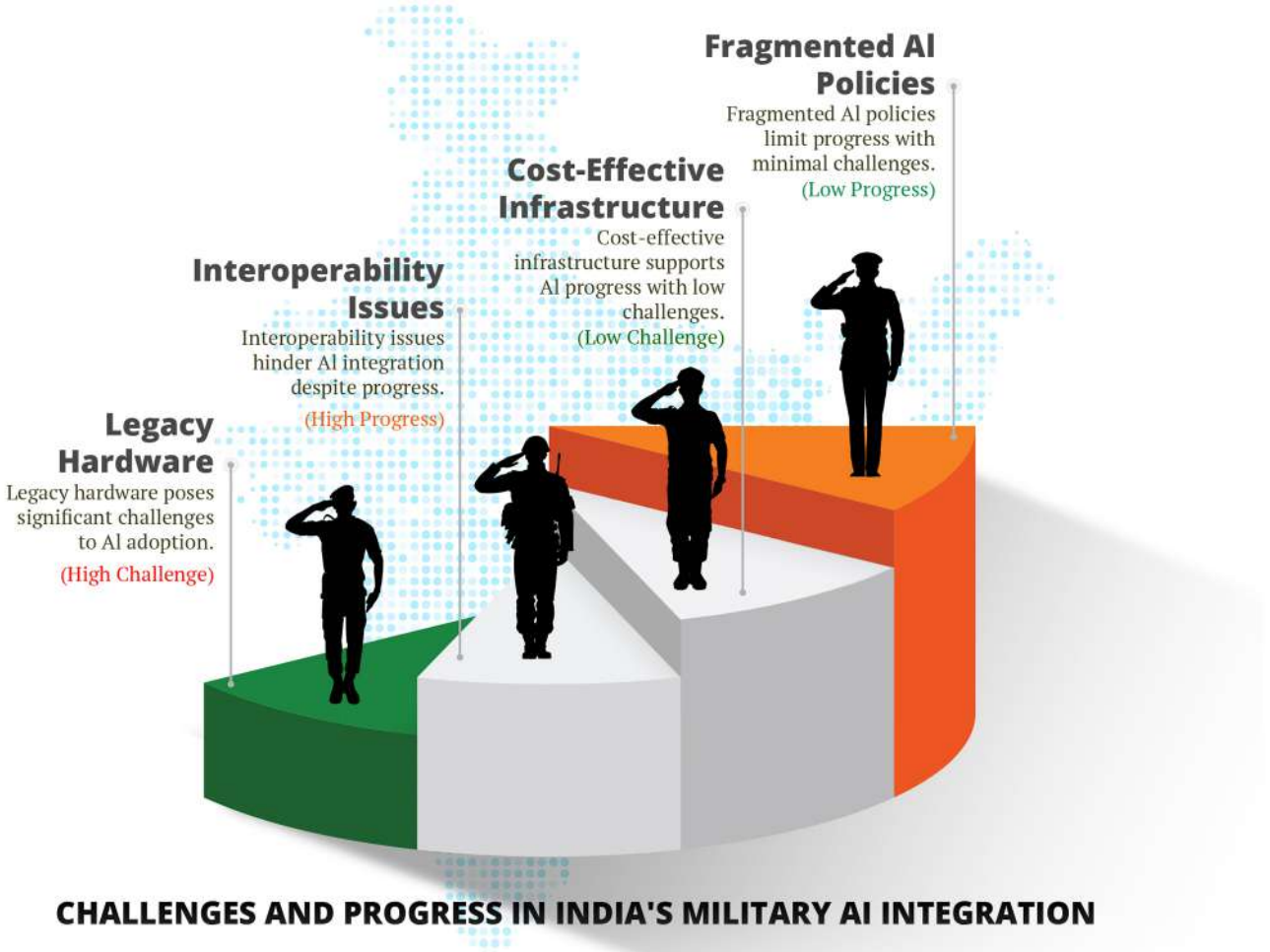
China has surpassed most nations in AI investment, with extensive state and private funding driving the development of autonomous combat drones, robotic infantries, and AI-assisted command systems, among the others. However, this rapid advancement presents a significant challenge. The prioritization of speed over reliability has raised concerns regarding system failures and unpredictability in battlefield scenarios. AI-powered military systems require rigorous testing, and China's high-speed deployment cycle risks operational flaws that adversaries can exploit.

Moreover, while China has made significant strides in AI, it remains heavily dependent on foreign semiconductor technology[53], particularly for high-end chips necessary for advanced AI applications. This dependency exposes China to vulnerabilities, especially in light of the U.S.-led export controls on semiconductor technology . The U.S. has implemented restrictions through the "Entity List" under the Bureau of Industry and Security (BIS)[54], which has targeted major Chinese tech firms like Huawei and SMIC, effectively limiting their access to cutting-edge AI chips. As noted in the U.S. National Defense Authorization Act (NDAA) for Fiscal Year 2021, the restriction of semiconductor exports is a strategic measure to slow China's AI and military advancements[55]. Without a domestically viable high-end semiconductor manufacturing industry, China's long-term ability to sustain its AI momentum in military applications faces significant obstacles, potentially stalling its progress toward its stated goals of technological self-sufficiency and defence superiority.

Technology embargoes and sanctions on crucial semiconductors[56] and AI-related equipment further complicate China's ability to develop next-generation systems. Many countries are actively restricting Chinese AI firms, limiting their expansion in key markets, and slowing China's AI diplomacy efforts. In conclusion, while China remains a formidable force in AI-driven military modernization, its trajectory will be shaped by how effectively it mitigates these challenges in an increasingly contested global AI landscape.

INDIA

India recognizes the strategic importance of artificial intelligence (AI) in defence as nations across the globe. It recognises the need to leverage AI to enhance combat capabilities, streamline decision-making processes, and optimize resource deployment. In this context, AI offers immense force-multiplier potential, enabling superior situational awareness, autonomous systems, and data-driven strategies. As technology evolves, staying abreast of the technological curve becomes paramount to maintaining operational superiority.



CHALLENGES AND PROGRESS IN INDIA'S MILITARY AI INTEGRATION

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Although, the country has ambitions to integrate AI into military applications, its advancements remain incremental rather than transformative. Unlike China, which has a state-driven AI strategy, or the U.S., where AI innovation is largely private-sector-led, India's AI trajectory is more focused on the governance aspect, driven by government initiatives and a mix of private sector ecosystem, which has produced mix results[57]. One of such examples is Indrajaal autonomous drone security system have been developed. The establishment of the Task Force on Artificial Intelligence for Defence in 2018 marked the country's first formal attempt to assess AI's potential in the military. The task force was mandated to explore AI applications across various defence functions, including surveillance, logistics, and combat. Following this, the government established the Defence AI Council (DAIC) in 2019 to provide strategic direction and oversight. Chaired by the defence minister, DAIC serves as a high-level body responsible for coordinating and monitoring AI efforts across the three services[59].

To further operationalize AI strategy, the Defence AI Project Agency (DAIPA) was also set up in 2019. DAIPA functions as an implementation arm under the Ministry of Defence, responsible

for identifying projects, facilitating collaboration between stakeholders, and ensuring that AI technologies are rapidly adopted and adapted to defence use-cases[60]. In support of these initiatives, the Indian government has made budgetary allocations not only to DAIPA but also to the individual services to initiate pilot AI projects. These include funding for research, procurement of AI infrastructure, and partnerships with private tech firms and academic institutions[61].

i) On Track, but with Hurdles: India's military AI journey is progressing, but significant hurdles remain, particularly in terms of interoperability. The Indian Army, Navy, and Air Force have traditionally operated in silos, each with distinct doctrines, systems, and protocols. This lack of integration presents a major barrier to deploying AI systems that rely on seamless coordination across services. Achieving interoperability is crucial for the successful implementation of joint operations and AI-powered decision-making platforms which has been extensively seen in the Chinese and the American Models.

ii) High-Cost Infrastructure: Building the infrastructure required for AI—especially data centres and high-performance computing systems—is capital intensive. India's defence sector has historically depended on Public Sector Units (PSUs) for procurement and development. While PSUs like BEL and HAL are important players, their bureaucratic structure and limited agility slow innovation. Encouraging private-sector participation and forming public-private partnerships Models (PPPs) can help reduce costs and accelerate infrastructure development. However, it is important that designing of such institutions will be critical. Furthermore, it is important to keep these institutions of innovation outside government set-ups and keeping in mind all stakeholders.

iii) Legacy Hardware Challenges: India's armed forces continue to operate with outdated platforms and legacy hardware, many of which are no longer globally competitive. These older systems are often incompatible with modern AI technologies, creating significant obstacles to integration. Substantial investment is required to modernize these systems, upgrade platforms, and ensure they are capable of supporting AI-enabled operations. Balancing these modernization needs with the adoption of new AI technologies presents a key challenge.
Furthermore, India should place greater emphasis on the indigenization of such components and encourage local small-scale players to contribute meaningfully to the defence ecosystem. Notably, several Indian firms are making advancements in AI-powered predictive intelligence for military surveillance and border security. However, without consistent government-backed support, the impact of these innovations remains limited, and their full potential cannot be realized at scale.

iv) Fragmented AI Policies: Although India has articulated a broad vision for AI through documents like the National Strategy for AI[62] and Responsible AI for All , these policies often lack military-specific implementation guidelines. The fragmented nature of these frameworks leads to ambiguity in application and slows down progress. A unified and actionable policy framework, tailored to the needs of Indian Military, is necessary to provide clarity and direction for AI deployment in the military aspects. Without a cohesive national AI strategy, India risks falling behind its adversaries in the AI-driven warfare.

If India can address these technological, financial, and policy limitations, it will have the potential to emerge as a strong AI-driven military power. However, without decisive action, it risks remaining a passive player in the AI revolution, shaping modern warfare.

Recommendations

In light of recent developments, we are witnessing how nations are increasingly adopting artificial intelligence (AI) for military and strategic purposes. A case in point is Operation Sindoor, which exemplifies the transformative role advanced technologies—particularly AI—play in modern warfare. The success of this operation was largely attributed to precise targeting, minimized collateral damage, and effective data analysis. It offers valuable lessons for nations exploring the integration of AI in their strategic domains.

Additionally, there is a growing need to strengthen the Atmanirbhar Bharat initiative in defence technologies and related ecosystems. The key areas of focus include:

i) Integration of AI-enabled systems: The deployment of AI-enabled drones, loitering munitions, and autonomous strike systems significantly reduces the reliance on human operators while increasing operational reach and efficiency. Institutionalizing AI in both strategic and tactical planning is now imperative.

ii) Cyber Defence: AI is essential in detecting and neutralizing digital threats, thereby safeguarding critical military infrastructure.

iii) National AI defense strategies: There is an urgent need to formulate comprehensive national strategies for AI in defense. These should outline clear objectives, investment priorities, and pathways for civil-military integration of technologies.

iv) Global engagement: Active participation in international forums such as the United Nations and the Responsible AI in the Military Domain (REAIM) initiative is vital to establish norms, standards, and confidence-building measures for the responsible use of military AI.

v) Public-private collaboration: Encouraging partnerships between the government, private sector, and academia will accelerate the development and deployment of advanced AI capabilities.

vi) Monitoring misuse of generative AI: Vigilance is required to counter the use of generative AI by non-state actors for propaganda, recruitment, or cyberattacks.

vii) Counter-adversarial measures: Developing robust countermeasures against adversarial AI tactics—including spoofing, jamming, and information warfare—is critical to maintaining operational integrity in contested environments.

These steps are essential to harness the benefits of AI in defence while mitigating the risks of escalation, unintended consequences, and technological dependence.

Footnotes

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