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"Artificial Intelligence in Warfare and Innovation: India's Legal Dilemmas Under International Humanitarian Law and Intellectual Property Rights in the Age of Autonomous Systems"

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ABSTRACT

Artificial Intelligence (AI) integration into the reality of warfare and especially through autonomous systems, has indeed brought about what is called a seismic shift in the way military strategists and legal framework tackle warfare in the civilized world. In the new era of warfare, the problems associated with India's ambitious defense modernization plans and emerging technological capabilities from an international legal perspective are profound on both International Humanitarian Law (IHL) & Intellectual Property Rights (IPR). The focus of this research is, thus, on how India has tried to maneuver its way through these legal landscapes when grappling with military innovation and the intersection of AI and international legal norms for the use of AI in warfare. Autonomous weapon systems (AWS) raise special challenges under IHL in terms of following such fundamental principles as distinction, necessity, and proportionality. The core issue is the responsibility of autonomous systems for violations of IHL. Giving lethal force to AI systems brings into question human control of decisions and responsibility for actions in combat, while India's legal frameworks are progressive, they are not well equipped to respond to the developments of the military AI so rapidly, and more specifically to ensure compliance with IHL standards. India's dilemma is compounded by the fact that the international community has been unable to come up with universally acceptable regulatory measures, which India must reconcile, while at the same time preserving its strategic autonomy. At the same time however, IPR challenges in India's legal realm are equally pressing. As such, there is an issue of protecting patent law in AI-driven military innovations, including autonomous systems. Intelligence produced under the impression of securing national security would then be heightened by the need to reward technological innovation via intellectual property protection. Although India's existing IPR frameworks are robust in many senses, they fall short at meeting the intricacies of AI, especially in patenting AI based military systems. Furthermore, patent law is global and further complicates India's control over the dissemination and commercialization of such sensitive military technologies thereby affecting its defense security and technological sovereignty.

Keywords: *Artificial Intelligence, Autonomous Weapons Systems, International Humanitarian Law, Intellectual Property Rights, Military Innovation, AI in Warfare, Defense Strategy*

INTRODUCTION

With the incorporation of AI into the Warfare machine, the context of armed conflict has shifted such that autonomous systems that range from those with varying degrees of decision-making powers have experienced rapid integration. However, these technologies like autonomous drones,

Volume 41, September 2025 ISSN 2581-5504

unmanned ground vehicles, lethal autonomous weapon systems (LAWSs), as well as cyber warfare tools have revolutionized the strategic methods to be employed in the field of military and intelligence gathering. Superior operational efficiency, lower human casualties and the ability to process large and real time data, are inherent advantages of AI driven military systems. But these advances, as well as the security, ethical and legal issues which inevitably come along, are particularly tricky where defense innovation is concerned, with regard to compliance with IHL and protection of IPR.[1]

Given that for a nation such as India, actively invested in AI centric defense technologies though/ by initiatives like Defense AI Strategy (DAIS) and public and private sector partnerships, the nexus of AI warfare and legal frameworks is also both strategically advantageous and normative dilemma.[2] Keeping this in mind, it is essential for India to balance its enthusiasm for being a pioneer in defense AI with safeguarding national security while staying compliant with international laws. This article provides a critical view of India's legal perils in the dawn of autonomous military systems by probing the interface between the in-built regulatory mold of IHL vis a vis the mutating facets of IPR protection of military AI innovations.

This is due to their ability to perform high risk missions with minimal human involvement and their increasing reliance in military operations. While today's warfare is no longer taking place on traditional battlefields, AI is being deployed in cyberspace for warfare, at Intelligence operations, in Targeted strikes, in unmanned surveillance machines. Just think that countries as the United States, China and Russia are majorly investing on AI in combat drones, autonomous underwater vehicles, and algorithmic warfare, meaning are living on the very dawn of the era where machine learning algorithms and neural networks are also resorting for battlefield decisions.

Growing Use of AI in Warfare: The Rise of Autonomous Systems in Military Contexts

AWS, systems that can select and engage targets without human direct oversight, raise serious legal and ethical issues under IHL. When AI does make lethal decisions without human intervention, that becomes a harder proposition to enforce those fundamental principles of distinction, proportionality and necessity as enshrined in the Geneva Conventions and Additional Protocols. The current state of jurisprudence fails to provide any answer as to how and to whom responsibility for unlawful attacks committed by an autonomous system should be attributed, to the programmer, to the military operator, or to the state?[3]

[1] Matti Häyry, 'Employing Lethal Autonomous Weapon Systems' (2020) 34(2) International Journal of Applied Philosophy 173, <http://dx.doi.org/10.5840/ijap2021326145> accessed 22 February 2025.
[2] R Kannan and WH Dodrill, 'DAIS: a distributed AI programming shell' (1990) 5(6) IEEE Expert 34, <http://dx.doi.org/10.1109/64.63187> accessed 22 February 2025.
[3] Arun Chauhan, 'Generative artificial intelligence and misinformation warfare' (2024) 5(4) International Journal of Multidisciplinary Research and Growth Evaluation 997, <http://dx.doi.org/10.54660/.ijmrge.2024.5.4.997-1002> accessed 22 February 2025.

Volume 41, September 2025 ISSN 2581-5504

AI in warfare encompasses tactical as well as kinetic military operations, strategic deterrence, psychological warfare and cyber defensive measures. It is using deep learning algorithms to predict enemy movements, counteract cyber threats and better use of resources in a battlefield. Adding swarm intelligence where multiple AI powered drones work together to form coordinated attack formations makes legal assessment even more difficult as so many of the decisions relate to an absence of an identifiable accountable party.

Realizing the strategic imperative of AI driven military modernization, MeitY and DRDO (Defense Research and Development Organization) have taken up various AI-driven defiance related programs. However, as the defense AI ecosystem flies up in India, queries when it handles the ethical, international laws of autonomous warfare, liability in cases of violators remain unanswered. AI in warfare offers seething opportunities for innovative and efficient military ends. AI is an enabler of technology development as well as the disruptor of existing legal norms under IHL and IPR, which calls for re-evaluation of legal norms under IHL and IPR.[4]

The Dual Role of AI: Fostering Technological Innovation vs. Legal, Ethical, and Security Challenges

From an innovation perspective, AI driven military technology helps in the development of advanced weaponry, automated logistics system and next generation surveillance network. In the field of defense sector, India has established an ecosystem where the involvement of the AI startups, research institutions along with defense manufacturers in indigenous technological breakthroughs happens through partnerships like iDEX (Innovations for Defence Excellence).[5] Yet, these advancements are always bound to the IPR disputes, especially in patent, trade secret and licensing of dual use technologies that have both civilian and military applications.

Existing international and domestic IPR frameworks are unable to legally accommodate AI generated inventions, especially in the defense field. Is an AI system legally allowed to be considered an "inventor" under patent law? Who owns the AI algorithm used by the military? The developer? The state? The military-industrial complex? These are issues which India must take note of as it embarks upon global defense collaborations as well as indigenous innovation policies.

Additionally, from an ethical point of view, the deployment of autonomous AI systems in tasks such as independent warfare is fraught with grave moral issues of transference of life and death decisions to machines. AI is unlike human soldiers, with absence of moral reasoning, the ability to understand nuances of the battlefield and the instinctive understanding of proportionality,

[4] 'Meity, Dot At Work On Projects For Fair Ai Development' (*The Economic Times*) <https://m.economictimes.com/tech/technology/meity-dot-at-work-on-projects-for-fair-ai-development/articleshow/115777713.cms> accessed 21 February 2025.

[5] 'Website of Innovations for Defence Excellence (iDEX)' (*National Portal of India*) <www.india.gov.in/website-innovations-defence-excellence-idex> accessed 21 February 2025.

Volume 41, September 2025 ISSN 2581-5504

humanitarian considerations etc. India also has IHL obligations that make it complicated further by the risk of algorithmic bias, system malfunction, and adversarial AI attacks (AI that is deliberately deceived or compromised to harm civilians).

Furthermore, security is as much a part of the AI forces as a phenomenon. There is a pressing need to create such a legal and policy framework in which national security concerns are possible to reconcile with international legal commitments, in order to avoid the risk that powers may proliferate for the AI, and to channel any cyber-attacks on autonomous defense systems, as well as through AI based conflict escalation. In light of India's complicated geopolitical setting, border quarrels, and rivalry, keeping the AI defense operations protected and lawfully incorporated is of the utmost significance.

India's Position in This Evolving Landscape: The Interplay Between IHL and IPR

Because India is a rising military and technological power, its governance of AI in warfare is a unique conundrum. On the one hand, India is a member to number of conventions regarding Laws of War, such as Geneva Conventions & Convention on Certain Conventional Weapons (CCW), which discusses whether weapon systems are legal that are considered 'autonomous'. But India has not made clear whether it favors banning or regulating LAWS, as some European countries have called for a prohibition on such weaponry.[6]

However, India's robust innovation ecosystem requires a strong IPR regime to protect defense AI patents and to promote technology transfer as well as the regulation of AI related trade secrets. With global powers fiercely competing to be the first to develop military AI, India should make sure that its uses of AI for military purposes are both commercially viable and strategically secure. Nevertheless, there are geopolitical constraints, export control restrictions, and disputes over AI patents in international defense collaborations when it comes to IPR enforcement in military AI.

India's legal dilemma here is therefore, finding a way to be an adherent to international norms of autonomous warfare while simultaneously supporting indigenous AI-driven defense innovation. Since India is still developing its AI military capabilities, it needs to take proactive measures so that it is not just reacting to the global norms in the world of AI and warfare governance, but rather engaging in legal reforms, strategic diplomacy and multilateral talks.

Another important reason for the reliance on AI for military strategies is the issue of security. Despite the growing potential of AI proliferation, cyber-attacks against autonomous systems of defense or the escalation of AI powered conflicts, a proper legal and policy framework in the form of national security and international legal obligation has become indispensable. Considering

[6] Naomi Egel, 'Anticipatory governance and new weapons of war: Lessons from the Convention on Certain Conventional Weapons' [2025] Journal of Strategic Studies 1, <https://doi.org/10.1080/01402390.2024.2442683> accessed 22 February 2025.

Volume 41, September 2025 ISSN 2581-5504

India's complex geopolitical environment, border disputes and strategic rivalries, the safe and lawful integration of AI into defense operations is essential.

India's conundrum of AI in warfare is unique in the rise of a military and technological power. India is a signatory of various international treaties relating to the laws of war, e.g. the Geneva Conventions and the Convention on Certain Conventional Weapons (CCW), which deliberates upon the legality of autonomous lethal weapon systems. But India has not explicitly banned or regulated autonomous weapons, as some European countries have been calling for a ban on LAWS.[7]

On the other hand, a strong IPR regime for defense AI patents is essential to protect the AI patents as they are robust innovation ecosystem. In a highly competitive environment for military AI development among the global powers, India would be wise to make AI driven defense technologies both commercially viable and strategically secured. Nevertheless, there exists geopolitical constraints, export control restrictions and the debate of AI patents rights in international defense collaborations in enforcing IPR in military AI.

This means that while India has to balance between international standards for autonomous warfare and nurturing indigenous AI-based defense innovation, it is in a legal bind. Instead, India can be proactive in the legal reforms relating to AI war governance, a sort of strategic diplomacy and participating in multilateral talks before global norms are set.

INDIA'S LEGAL LANDSCAPE

India's present legal framework for defense technology is a mixture of domestic legislation, regulatory guidelines and international commitments. However, AI driven autonomous military system still requires a lot more work to be more advanced, as these frameworks do not address the complexities well.

Arms manufacturing and procurement in India is regulated by the Arms Act, 1959 and Defense Procurement Procedure (DPP).[8] Nevertheless, these laws fail to have explicitly formed regulations pertaining to AI-powered weapons, leading to such AI weaponized technologies to be legally ambiguous in terms of identification, development and deployment. Moreover, the IT Act, 2000, governing cybersecurity and data protection, does not provide the necessary protection from the risks associated with AI based cyber warfare. This lack of legal vacuum around the application of AI in the military gives rise to concerns with respect to compliance with Article 36 of Additional

[7] *Convention on Certain Conventional Weapons* (United Nations 2014).
[8] 'Reforms in Defence Sector' (*Press Information Bureau*) <https://pib.gov.in/FactsheetDetails.aspx?Id=148594> accessed 21 February 2025.

Volume 41, September 2025 ISSN 2581-5504

Protocol I of the Geneva Conventions, which requires legal review of new weapons and means of warfare to ascertain if they meet IHL requirements.[9]

Initiatives like DAIS & Defense Cyber Agency (DCA) by Ministry of Defense are important to regulate AI in the military as it involves integrating AI into military operations and maintaining national security. Aside from that, MeitY is charged with making policies on AI research, data protection, and cybersecurity. Yet, the coordination of these bodies is lacking as well as a dedicated body to regulate military AI, which leads to legal uncertainties surrounding the very issues of accountability and liability of military AI.

Among other things, there is also a lack of liability framework for AI generated decisions in the context of warfare. Generally, Indian law has had a tradition of criminal liability based on the mens rea as well as the actus reus. In the case of autonomous weapon systems, responsibility for AI driven military actions, and specifically for AI driven military actions that violate IHL, become difficult to determine. Military superiors may not necessarily be subject to the principle of command responsibility for unlawful acts of their subordinates when the systems under their control do not operate under direct human control. Therefore, India has to formulate a legal doctrine that fills the legal accountability gap in the AI enabled warfare by complying with the norms of international law.

India's Position in International Legal Norms

India's engagement with the international legal frameworks on AI in warfare has been cautious and strategic. India is a High Contracting Party to the Geneva Conventions, but has not yet shown a firm position on regulating autonomous weapon systems under the CCW. And when it comes to the frequency and scope of international deliberation on the legality and ethics of developing and deploying AI driven lethal autonomous weapons, CCW has, until now, been the main venue. India has not taken a position of endorsing a ban on LAWS but has participated in the Group of Governmental Experts (GGE) on LAWS. India has advocated for a balanced approach between the use of AI to enhance military capabilities and ensuring that there is meaningful human control in the process of lethal decision making.[10]

There are many reasons why India is not ready to support a preemptive ban on AWS. First, as a rising technological power and one of the fastest growing investors in the research on AI-based military technologies, India aims to have greater strategic flexibility in its autonomous defense

[9] Thompson Chengeta, 'Are Autonomous Weapon Systems the Subject of Article 36 of Additional Protocol I to the Geneva Conventions?' [2014] SSRN Electronic Journal <http://dx.doi.org/10.2139/ssrn.2755182> accessed 22 February 2025.

[10] Noh-Soon Chang, 'Cybersecurity and Emerging International Norms : On the Efforts of Group of Governmental Experts(GGE) and their Consequences' (2016) 19(1) Journal of political science and communication 1, <http://dx.doi.org/10.15617/psc.2016.02.19.1.1> accessed 22 February 2025.

Volume 41, September 2025 ISSN 2581-5504

development. Secondly, India has to deal with a complex array of national security problems including border disputes with China and Pakistan, and hence the adoption of advanced military capabilities is required. An AWS blanket prohibition could hamper India's capacity to respond to adversarial threats from technologically advanced military powers. Third, India's engagement with bilateral and multilateral defense agreements, particularly with the United States, France, and Russia, underscores its preference for technological cooperation rather than restrictive legal frameworks.

India has also worked with larger scale AI governance efforts at the United Nations at the UN Secretary General's Roadmap for Digital Cooperation and the Global Partnership on AI (GPAI). Nevertheless, India's AI policies are fragmented, and no dedicated international legal framework exists to govern its military AI strategy comprehensively. In contrast to the European Union's proposal of strict regulations on high-risk AI application, India has not set forth any clear guidelines on how ethical AI should be deployed in military operations.[11]

LEGAL DILEMMAS UNDER INTERNATIONAL HUMANITARIAN LAW & INTELLECTUAL PROPERTY RIGHTS

India has also worked with larger scale AI governance efforts at UN General's Roadmap for Digital Cooperation & Global Partnership on AI (GPAI). Nevertheless, India's AI policies are fragmented, and no dedicated international legal framework exists to govern its military AI strategy comprehensively. In contrast to the European Union's proposal of strict regulations on high-risk AI application, India has not set forth any clear guidelines on how ethical AI should be deployed in military operations.[12]

With increasing global momentum for AI governance, India must take proactive steps to determine its legal stance regarding autonomous weaponry in order to ensure its strategic and technological interests. Instead, a dual track approach might entail demanding AI be governed internationally according to certain legal principles directing AI in altering applications to the military and simultaneously encouraging indigenous innovation in the field of defense AI. It is also possible that India can begin to look at regional security frameworks like the Quadrilateral Security Dialogue (Quad) or the Shanghai Cooperation Organization (SCO) where norms of AI governance are also articulated keeping in mind India's geopolitical and security priorities.[13]

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[11] 'Roadmap for Digital Cooperation, United Nations Secretary General High-Level Panel on Digital Cooperation' (*The Future Society*) <https://thefuturesociety.org/roadmap-for-digital-cooperation-united-nations-secretary-general-high-level-panel-on-digital-cooperation/> accessed 21 February 2025.

[12] *ibid.*

[13] Ekaterina Mikhaylenko, Aigerim Ospanova and Maria Lagutina, 'The SCO and security cooperation', *The Shanghai Cooperation Organization* (Routledge 2022) <http://dx.doi.org/10.4324/9781003170617-5> accessed 22 February 2025.

Volume 41, September 2025 ISSN 2581-5504

At the same time, the use of AI within military applications gives rise to challenges concerning intellectual property protection, ownership rights, as well as technology-sharing frameworks that are parallel to those relating to humanitarian law. Finally, it is much more difficult to determine patentability and licensing, and establish trade secrecy, regarding military AI algorithms and machine learning models, owing to their proprietary nature. The Agreement on TRIPS and India's domestic patent laws do not sufficiently cover the specialties of AI generated inventions and protection of military grade AI technologies, which is the current legal framework. It is very often the case that AI driven innovation occurs with the contributions of multiple stakeholders, such as private defense contractors, state owned enterprises, academic institutions, making the legal determination of ownership rights difficult. Moreover, most of these systems are dynamically changing at a very fast pace and the pace of AI evolution is so fast that even traditional patent mechanisms are becoming ineffective in providing the legal protection of standard intellectual property regimes. Such challenges call for India's IP policies to be rethought to fit into the AI driven defense innovation space while upholding the national security concerns.

It also means that the globalized nature of the AI development is critical for India to guard its defense intellectual property against a growing risk of international competition and espionage with growing international competitions and espionage risks. Most advanced AI systems rely on open-source architectures, collaboration of researchers on both sides of borders, and can lead to technology transfer, dual use applications and IP protection enforcement in international jurisdictions. It is absolutely necessary to ensure legal safeguards to prevent unauthorized appropriation of military AI technologies as India ties up with foreign defense technology firms and participates in joint AI research programs. But overly restrictive knowledge sharing might hamper India's capacity to create competitive AI based defense capabilities. It is, therefore, a crucial legal challenge for India to strike a balance between technological progress and strict IP protections through strategic legislative reforms and strengthened cybersecurity measures.

The combination of IHL and IPR in the field of AI warfare poses a particular dilemma of the ethical and legal legitimacy of the use of AI driven autonomous weapons. Unlike classic arms, AI enabled military technologies involve complex processes of software driven decision making which raise fundamental questions about the permissibility or moral and legal of delegating life and death decisions to machines. While all that IHL requires is the humane conduct of warfare, under IPR regimes, AI based military technologies that are commodified as weapons will create an incentive for the proliferation of autonomous weapons amongst state and non-state actors. This is especially problematic in the absence of a comprehensive international legal basis for the development and use of AI in warfare, thus leaving India with a legal void which it must pass judiciously through.

Volume 41, September 2025 ISSN 2581-5504

INSTANCES AND COMPARATIVE PERSPECTIVES

Across the world, AI has been ever further integrated in warfare and countries such as the United States, China, and even Israel have had military AI initiatives made under different legal and ethical frameworks. The US, for example, has built autonomous weapon systems within the Department of Defense AWS Directive (Directive 3000.09) which requires meaningful human control over lethality of decision making. In addition, the US also has a strict legal framework that mandates that the AI military applications conform to the principles of distinction and proportionality as contained in IHL.[14] Yet debates continue about who takes responsibility for autonomous system failures, particularly as to Martens Clause which requires weapons to adhere to principles of humanity and public conscience. But China, in turn, has been aggressively pushing forward with AI militarily, with the electronics added to the Chinese stills, AI unmanned combat aerial vehicles (UCAV), AI cyber warfare and autonomous missile systems. Despite the presence of a legal framework in China, which is opaque and prioritizes national security over transparency, compliance with CCW is in doubt as national security prevails over transparency. Israel has also spearheaded development of AI based combat systems including semi-autonomous Harpy and Harop loitering munition operating in such a manner to blur the differences between automated and fully automated warfare.[15]

On the other hand, these global initiatives provide India with key lessons in shaping an Indian defense AI governance model. India, in line with the US, can build robust legal frameworks that ensure accountability of autonomous military actions through human oversight. However, it also shows that unregulated AI militarization in China may result in IHL and ethical violations. India has to understand the importance of consonance of its AI warfare strategies with international legal standards to avoid diplomatic and humanitarian consequences. Moreover, even though Israel's AI driven systems are tactically efficient, the unclear legal situation in defining a border between autonomous and semi-autonomous systems shows the necessary guidelines with regard to command responsibility and operational ethics.

In fact, India's own military AI projects have also seen increasing investments into autonomous aerial, land, and naval systems. Different UAV platforms and autonomous combat drones, as well as AI driven surveillance systems have been developed by DRDO and some projects like Rustom and Ghatak UAVs have very good advancement in AI aided reconnaissance and combat operations.[16] Nevertheless, the legal governance of these projects is a nascent type of design. While

[14] DEPARTMENT OF DEFENSE WASHINGTON DC, *Financial Institutions on DoD Installations, Directive Number 1000.11* (Defense Technical Information Center 2000) <http://dx.doi.org/10.21236/ada404134> accessed 22 February 2025.

[15] Ivalyo Bozov, 'Unmanned Combat Aerial Vehicle (UCAV) – Weapon of the Future –' (2023) 2023(4) Romanian Military Thinking 348, <http://dx.doi.org/10.55535/rmt.2023.4.21> accessed 22 February 2025.

[16] 'DRDO and ADE to Begin Fabrication of Full-Scale Ghatak Stealth UCAV' (*Indian Defence Research Wing*) <https://idrw.org/drdo-and-ade-to-begin-fabrication-of-full-scale-ghatak-stealth-ucav/> accessed 21 February 2025.

Volume 41, September 2025 ISSN 2581-5504

the US and Israel have specific legislation governing autonomous weapons, India has no dedicated legislation on autonomous weapons; instead, the Arms Act, 1959 and export control laws govern the defence sector. Where AI does not lead to automated autonomous systems and, therefore, there are no explicit mechanisms pertaining to AI in law, legal problems in terms of command responsibility, proportionality, as well as fulfilment of IHL, are particularly serious. Moreover, the absence of any regulation on LAWS makes it possible for India to take a different stand on such lethal force than other nations do in future international negotiation if it is challenged on humanitarian or ethical grounds.

The second legal problem in India's military AI development is IPR. The Indian Patents Act, 1970 does not have any specific provisions relating to AI generated inventions, in particular in the autonomous military systems where the ownership and the attribution of the AI generated outputs are not clear. While the Patent and Trademark Office (USPTO) in the US has been deliberating on AI generated inventions, India's legal framework does not yet clarify whether AI can be regarded as an inventor or how military AI innovations should be protected under IPR laws. As a result, this poses difficulties regarding technology transfer in partnership agreements, joint defense collaborations, and even in proprietary defense AI development in interaction with global defense contractors. Moreover, India's strategic alliances in the Defense Technology and Trade Initiative (DTTI) with US and other international agreements could encounter difficulties in the IP negotiations because of India's inconsistent patent enforcement mechanisms and national security exemptions in India's IP laws.[17]

INDIA'S STRATEGIC AND POLICY CONSIDERATIONS

It is imperative for India to have a strong national AI strategy for defense for both technological sovereignty and international legal obligations. Unlike conventional warfare where the potential perils to inspire human self-destruction or precipitate global nuclear war are limited, AI warfare carries the potential unlimited potential for human destruction (of a species) and catastrophic global punishment advanced by nuclear war, the greatest of all known horrors, and AWS, the governance mechanism for a new kind of warfare, is not yet codified within a comprehensive domestic regime. India has to frame a legislative and regulatory framework in line with its IHL obligations and encourage indigenous technological progress. Such a strategy must be formulated under legislative clarity allowed for the use of AI in military contexts, attribution of liability for autonomous actions and mechanisms of compliance with IHL principles such as distinction, proportionality and necessity. Moreover, India's AI policy needs to address interoperability with existing military doctrines, that is, technological integration should not undermine the command-and-control structures and operational accountability. In addition, India will also benefit from a

[17] 'IC - US | India Defense Technology and Trade Initiative' (*OUSD Acquisition & Sustainment*) <www.acq.osd.mil/ic/dtti.html> accessed 21 February 2025.

Volume 41, September 2025 ISSN 2581-5504

clear legislative framework that will not only give legal certainty to the private and state-owned defense enterprises but also improve India's strategic position in the global AI in military landscape.

India's participation with international organizations is important in an increasingly interlinked defence ecosystem to set the norms of AI based military applications. In terms of international treaty, India is one of the parties to the UN Convention on CCW). Nevertheless, there is no binding international treaty at the legal level specifically governing autonomous military systems. Given its rising power in defense technology, India must proactively engage in multilateral talks to define global norms that can prevent the weaponization of AI in a way that is contrary to IHL. Such strategic collaboration with organizations like International Committee of the Red Cross (ICRC) and UN Office for Disarmament Affairs (UNODA) would enhance India's credibility as a responsible AI military power.[18] Also, India's participation in global endeavors such as the Global Partnership on Artificial Intelligence (GPAI) & U.S.-India AI Initiative can close the gap between AI innovation and international obligations. At a time when AI enabled military technologies are presented rapidly, a global treaty missing will result in an unregulated arms race, which makes India's proactive governance of AI both a strategic imperative and legal obligation.

Thus, India faces a more complex legal and policy response to the ethical, social and political issues of AI warfare. There are serious questions to the deployment of AWS which raise fundamental questions about compliance with IHL and the moral risk associated with outsourcing the making of life and death decisions to machines. Having a nonaggression, ethical warfare, and the rule of law tradition that has been practiced since India's founding, the development of AI based military systems must be reconciled with India's constitutional principles and legal obligations. It is necessary to evaluate the use of AI in targeting airstrikes, surveillance and border security against constitutional guarantees like the right to life (Article 21) and the right to privacy, as upheld in *K.S. Puttaswamy v. Union of India*.[19] Additionally, in light of India's historic role as the advocate of the practice of nuclear disarmament and restraint in the use of force the question of AI weaponization must be approached with the utmost caution and principle-based orientation. AI driven warfare carries with them also very large socio-political challenges such as civilian oversite, transparency, and the threat of bias in the application of algorithmic based decision making.

[18] '"The disarmament community has a proud history of anticipating weapons, means and methods of warfare." – High Representative opens UNODA-ICRC side event on legal reviews of weapons at the Vienna Conference on Autonomous Weapons Systems' (*UNODA*) <https://disarmament.unoda.org/update/the-disarmament-community-has-a-proud-history-of-anticipating-weapons-means-and-methods-of-warfare-high-representative-opens-unoda-icrc-side-event-on-legal-reviews-of-weapons-at/> accessed 21 February 2025.
[19] AIR 2017 SC 4161.

Volume 41, September 2025 ISSN 2581-5504

CONCLUSION AND THE WAY FORWARD

Rapid advancement of AI in warfare has posed some complex questions regarding IHL & IPR which was not the case previously, and India finds itself in a difficult position, having to walk the tight rope between the two. The deployment of AWS in the realm of conflict raises significant IHL challenges, because AWS poses such an absence of human oversight on what is among the life and death decisions of the battlefield. Even in India's current legal framework, there is a need to define human control and to assign liability for wrongful acts by AI systems, as well as to ensure compliance with humanitarian obligations under customary and treaty law. Additionally, in the field of IPR, India's attempt of becoming a global leader in the field of defense innovation is held back by the ambiguity in the patentability and ownership of AI driven technologies in the domain of the defense. There is clearly a regulator gap in that there are no clear legal mechanisms of balancing the interests of national security and the commercial incentives for technological development. Additionally, India has to bridge the gap between its national legal arrangements and the international ones, especially at the UN Convention on CCW where discussions surrounding banning or regulating AWS are still heated. Therefore, India has to rethink critically its legal readiness to mitigate the risks arising from the unbridled proliferation of military AI while promoting responsible innovation.

As a way forward, India must adopt a multi-pronged approach to bring its defense innovation policies in tandem with strong legal safeguards. Second, an AI legal and policy framework should be created to govern AI in warfare that will ensure IHL compliance and that the use of AWS is ethical. This will need a fine-grained regulatory framework that tiptoes the line of ensuring some form of human liability in AI powered military operations on one hand and promoting technological advancement within this liability framework on the other hand. Secondly, the second requirement that India needs to meet in the context of IPR for the commercialization of AI defense technologies is that India must refine its legal architecture to balance its protection of critical AI defense technology innovations through strategic patent protections and licensing frameworks so as not to hinder the commercialization of such technologies. What will be needed for designing a coherent governance model to meet both security imperatives and its innovation incentives is strengthening collaboration with global allies and international organizations. India should also actively participate in doing the global AI governance and should advocate for the legally binding treaties that will regulate the autonomous systems being there will be nothing like for the national interest. Given the changing milieu, India needs the amendments in law, capacity building initiatives and an interdisciplinary approach spanning law, technology and defense policy. If left unaddressed, these emerging legal quandaries would not only obstruct India's process of progressing towards defense modernization but may also jeopardize its very ability to have and wield strategic as well as legal advantages in the global AI arms race.