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The EU AI Act, Lethal Autonomous Weapons, and the Imperative for Human-Centric AI

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Abstract

The rapid advancement of artificial intelligence (AI) and robotics introduces profound challenges to the military sector, particularly regarding the development of Lethal Autonomous Weapon Systems (LAWS). These systems, capable of identifying and engaging targets without direct human intervention, raise critical ethical and legal questions concerning accountability and human oversight. The integration of Lethal Autonomous Weapons Systems (LAWS) into modern arsenals necessitates a rigorous examination of the prevailing international legal and ethical landscape, particularly as these technologies challenge the foundational tenets of International Humanitarian Law (IHL). Central to this discourse is the inherent difficulty autonomous robotic systems may present in complying with the principle of distinction; specifically, the technical and moral challenge of reliably differentiating between active combatants and civilians, or distinguishing healthy soldiers from those who are hors de combat due to injury. This study investigates whether this phenomenon may be interpreted by some scholars as creating a potential regulatory gap resulting from the explicit exclusion of military and defense applications from the European Union AI Act (Regulation (EU) 2024/1689) (Artificial Intelligence Act, 2024). This study adopts a doctrinal legal methodology analysis combined with policy analysis. It examines the regulatory framework established by the EU Artificial Intelligence Act and evaluates its implications for the governance of Lethal Autonomous Weapon Systems (LAWS) in light of relevant principles of International Humanitarian Law, including distinction,

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proportionality, and accountability. It analyzes how the transition from automation to full algorithmic autonomy challenges the fundamental principles of International Humanitarian Law, specifically the requirements of distinction and proportionality. Furthermore, the article examines the strategic implications of automation bias and the potential erosion of human judgment in high-stakes decision-making, since at present, no commonly agreed definition of Lethal Autonomous Weapon Systems (LAWS) exists. Ultimately, the current fragmentation of the regulatory landscape, characterized by the exclusion of military AI from the EU AI Act of 2024, underscores the urgent need for a unified international governance body to ensure that the rapid evolution of autonomous force does not supersede the ethical and legal frameworks it is intended to serve.

Keywords: Military Artificial Intelligence, EU AI Act, Lethal Autonomous Weapon Systems (LAWS), Human-Centric AI, International Humanitarian Law

Introduction

The Dual-Use Nature of AI and Emerging Regulatory Gaps

The Fourth Industrial Revolution, characterized by the convergence of physical, digital, and biological spheres, has brought Artificial Intelligence (AI) to the forefront as a profoundly transformative technology. Inherently neutral, AI's impact, whether for societal benefit or military advantage, is entirely contingent upon its application and the governance frameworks that shape its development and deployment. The rapid evolution of AI in the military domain, from enhanced logistics to advanced targeting systems, presents unprecedented opportunities for strategic optimization, but simultaneously introduces complex ethical, legal, and geopolitical challenges that existing regulatory mechanisms are struggling to address. This article synthesizes contemporary discourse on the European Union's approach to AI regulation and the escalating debate surrounding Lethal Autonomous Weapon Systems (LAWS), arguing for a more integrated and comprehensive governance framework to mitigate the profound risks posed by these technologies.

The EU AI Act and the Exclusion of Military Applications

The European Union's AI Act (Regulation (EU) 2024/1689), which came into force on July 12, 2024, stands as a landmark effort to establish a risk-based regulatory framework for AI (Artificial Intelligence Act, 2024). However, a critical characteristic of this legislation is its explicit exclusion of AI systems developed or used "exclusively for military, defense, or national security purposes" under Article 2(3). This demarcation is rooted in the

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traditional distinction between military security and strategy, and economic and social regulation. The Treaty on European Union (TEU) Article 4(2), which reinforces national security as the exclusive responsibility of individual Member States, underpins this jurisdictional separation (Treaty on European Union, 1993).

While this jurisdictional separation has historical precedent, its relevance in an era of rapidly converging technologies is increasingly tenuous. The pervasive influence of AI on all facets of conflict—including defense innovation, supply chains, military strategies, battle management, and surveillance—means that a regulatory void for military AI significantly impacts collective security. The absence of a coordinated legislative framework risks creating varied levels of preparedness among Member States, exacerbated by economic disparities and differing affiliations with security alliances like NATO.

The Ethical and Legal Quandaries of Lethal Autonomous Weapon Systems (LAWS)

The emergence of Lethal Autonomous Weapon Systems (LAWS) represents a profound paradigm shift in the doctrine of warfare, moving beyond automation to full autonomy where systems can identify and engage targets without direct human intervention. This transition from "human-in-the-loop" to "human- off-the-loop" systems raises fundamental ethical and legal questions that challenge the very essence of human control and moral agency in the use of force.

A central dilemma lies in the absence of a universally accepted definition of LAWS, which enables states to interpret "autonomy" according to their strategic interests, fostering ambiguity in international compliance. The conceptual boundary between "automation" and "autonomy" is critical: automation involves the execution of fixed, predictable sequences, while autonomy implies a system's capacity to process environmental data and independently select and engage targets without further human intervention. This "human-off-the-loop" capability signifies that critical decision-making, the moral determination of the use of force, is transferred from human agency to mathematical algorithms.

Such systems critically undermine the foundational principles of International Humanitarian Law (IHL), particularly the requirements for distinction between combatants and civilians, and proportionality in attack. The transfer of these evaluative judgments to algorithms, which inherently lack empathy, moral reasoning, and the capacity for ethical comprehension, renders the attribution of responsibility for collateral damage exceptionally difficult. While some ethicists contend that machines could theoretically behave more "humanly" by being more impartial and reliable than human

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soldiers, the prevailing international call for prohibition underscores the concern that technology devoid of human values cannot be entrusted with lethal decisions. Under the Principle of Analogy in Public International Law, LAWS should be examined through the lens of existing indiscriminate weapons because they cannot replicate the human moral calculus required by IHL, which imposes specific constraints on the development and use of autonomous weapons. (Boulanin et al., 2021). The transfer of lethal decisions to non-sentient code erodes human dignity and creates an "accountability gap". The Martens Clause, a foundational principle of the Convention on Certain Conventional Weapons (CCW), stipulates that in cases not covered by specific treaty law, civilians and combatants remain under the protection of the "principles of humanity" and the "dictates of public conscience." The use of autonomous algorithms to take human life arguably violates this clause, as a machine lacks the capacity for empathy required to uphold these principles, (Convention on Certain Conventional Weapons (CCW), 1980).

AI's Impact on Decision-Making and the Erosion of Human Judgment

The impact of AI extends beyond the battlefield to fundamentally reshape decision-making processes, particularly in the critical pre-conflict phase. However, this integration introduces "structural risks," where AI systems both shape and are shaped by the competitive military environments in which they are deployed, potentially influencing national interests and strategic trajectories.

A significant concern is "automation bias," the human tendency to over-rely on or uncritically accept AI- generated outputs. This phenomenon can lead to misinterpretations of complex or ambiguous data, where unchecked algorithmic errors could escalate situations with widespread, unintended consequences. Furthermore, military AI models often suffer from inherent biases derived from flawed training data, opacity (the "black box" problem), and instability in changing data patterns. These limitations can result in an inaccurate portrayal of reality, potentially leading decision-makers to resort to force rather than peaceful conflict resolution. The superior processing speed of AI may also blur the line between truly "optimal" strategies and those that merely "satisfice" based on quantifiable data, overlooking crucial non- quantifiable factors like cultural context or human psychology. This can be particularly dangerous in scenarios requiring the interpretation of "dual signaling" from adversaries, where an AI's misinterpretation could lead to catastrophic escalation.

This algorithmic shift profoundly impacts the dual pillars of international law: *jus ad bellum* and *jus in bello*. In the context of *jus ad bellum* (the right to war), the reliance on AI for strategic early-warning and threat assessments introduces structural risks where automation bias may lower the

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threshold for conflict. If AI models misinterpret "dual-signaling" from an adversary, they may provide recommendations favoring coercive measures over diplomacy, risking a violation of the prohibition on the threat or use of force under Article 2(4) of the UN Charter (United Nations Charter, 1945).

For *jus in bello* (the law in war), the deployment of LAWS directly challenges adherence to principles such as distinction (Article 48, Additional Protocol I to the Geneva Conventions) and proportionality (Protocol Additional to the Geneva Conventions of 12 August 1949, and relating to the Protection of Victims of International Armed Conflicts (Protocol I)). Algorithms, despite their data-processing speed, struggle with the evaluative judgment required to distinguish between combatants and civilians in complex human environments, and to conduct the context-dependent, value-based balancing act of proportionality.

Geopolitical Competition and the Fragmented Regulatory Landscape

The rapid advancement and integration of military AI are inextricably linked to intense global geopolitical competition. Major powers, notably the United States and China, are heavily investing in military AI (Konaev et al., 2023), transforming technological superiority into a primary strategic advantage. This competitive drive accelerates the development and deployment of autonomous systems, often outpacing the establishment of comprehensive ethical and regulatory safeguards. It is also important to recognize that differences in regulatory approaches may reflect broader governance philosophies rather than simply the presence or absence of regulation. The European Union has traditionally adopted a human-centric regulatory approach, emphasizing precaution and transparency. This article furthermore emphasizes the preservation of meaningful human control in technologically mediated decision-making. (ICRC, 2016) Differing governance approaches potentially help explain why regulatory fragmentation persists and why international consensus on the governance of Lethal Autonomous Weapon Systems remains difficult to achieve despite shared concerns regarding compliance with International Humanitarian Law.

In this landscape, the EU's focus on human-centric AI governance for civilian applications contrasts starkly with the less regulated military AI development occurring elsewhere, creating a significant risk asymmetry. The fragmentation of international efforts to regulate LAWS is a direct consequence of differing national interests and geopolitical disagreements (Kmentt, 2025), resulting in non-binding frameworks within forums like the CCW that struggle to keep pace with technological advancements. The ongoing conflicts in Ukraine and Gaza (Pusztaszeri & Harding, 2025) serve as stark reminders that the risks associated with autonomous force are no longer theoretical; they are urgent realities demonstrating how the unchecked use of

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AI can render the global environment more insecure and complicate the attribution of responsibility under international law.

Towards Integrated Governance: Recommendations for a Cohesive Framework

Addressing the multifaceted challenges posed by military AI and LAWS necessitates a departure from fragmented regulatory approaches toward an integrated and cohesive governance framework.

Reconsidering the EU AI Act's Scope

The EU AI Act must perhaps be revised to bridge the critical regulatory void surrounding military applications. Future iterations should include clear and comprehensive provisions for AI systems developed exclusively for military use. Central to this must be the mandate for meaningful human oversight throughout the entire machine-assisted decision-making process, ensuring that the ultimate decision for the use of force remains a human prerogative. Furthermore, interpretability standards should be established, ideally prohibiting the use of non-interpretable "black box" models in military contexts to ensure human operators can understand the "thought process" behind an AI's recommendations. Accountability mechanisms should also be clearly defined for human operators, proportional to their level of reliance on AI systems.

Establishing International and National Oversight for LAWS

Beyond regional legislation, the global nature of autonomous weapon systems demands a robust international response. The establishment of a permanent, specialized international governance body dedicated solely to LAWS could provide the necessary clarity, oversight, and a forum for negotiating binding measures, potentially including the prohibition of certain autonomous systems. Complementing this, national oversight bodies should be institutionalized within defense sectors. These national commissions would serve as vital links for future international cooperation, ensuring compliance with international humanitarian law and adherence to human control standards, and potentially acting as conduits for harmonizing defense and security needs within a unified European standard. Greece, for

For instance, aims to play a pivotal role in balancing European regulations with international law compliance through such national mechanisms.

Fostering Responsible AI Development

To ensure that technological progress does not come at the expense of ethical considerations and human values, legal protections should be extended

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to scientists involved in military AI research and development. This would shield them from undue pressure from political or military elites, thereby encouraging the development of responsible AI. Although LAWS challenges the fundamental principles of international humanitarian law, international initiatives demonstrate the imperative need to transition from theoretical principles to binding measures, and even their potential prohibition.

Perhaps the proposal for the creation of a permanent, international governance body exclusively for Lethal Autonomous Weapon Systems represents the optimal solution. Such an organization could provide the necessary clarity and oversight, ensuring that technological reality does not exceed human control capabilities. Furthermore, a critical first step toward effective governance would be the institutionalization of national oversight bodies within defense sectors, which would serve as liaisons for future international collaborations. In this context, Greece seeks to play a decisive role, balancing European regulations with compliance with international law. After all, as long as the decision to use force remains without a binding regulatory framework, technological progress risks dealing a blow to the very law it is supposed to serve.

Conclusion

The rapid advancement of AI presents humanity with a profound dilemma: harnessing its transformative potential while preventing its catastrophic misuse, particularly in the realm of military applications and autonomous weapon systems. The current exclusion of military AI from the EU AI Act, coupled with the ethical and legal ambiguities surrounding LAWS, creates a dangerous regulatory void. Without a binding, comprehensive, and human-centric governance framework that transcends the artificial divide between civilian and military applications, technological progress risks undermining the foundational principles of international law, eroding human accountability, and increasing the probability of unintended escalations. Additionally, the Hellenic national mechanism should operate as part of a broader European governance architecture. In general, national mechanisms within Member States may function as institutional bridges supporting the development of a coherent European framework aligned with international humanitarian law and emerging global governance initiatives for LAWS. It is perhaps imperative that the international community, led by proactive actors such as the European Union, move decisively from theoretical discourse to concrete, binding measures that prioritize human control and ethical considerations in the face of this existential technological challenge.

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