Serhii Khalymon, Viktor Tyshchuk

General Artificial Intelligence and the US–PRC Arms Race:

Impacts on Global Militarization and International Law

Secção

Investigação Científica / Scientific Research[*]

General Artificial Intelligence and the US–PRC Arms Race: Impacts on Global Militarization and International Law

Inteligência Artificial Geral e a Corrida ao Armamento EUA–RPC: Impactos na Militarização Global e no Direito Internacional

Serhii KHALYMON[1]
Viktor TYSHCHUK[2]

ABSTRACT: This study examines the impact of accelerating General Artificial Intelligence (GAI) on strategic deterrence and the adaptation of International Humanitarian Law (IHL). It asks two questions: (1) how does GAI reshape deterrence between the United States and the People's Republic of China, and (2) how effectively do current international legal frameworks govern the export, deployment, and use of AI-enabled military systems? The paper combines a comparative analysis of official defense doctrines, a quantitative review of defense-related AI investment trends, and a foresight approach to map plausible strategic trajectories. The study finds that GAI accelerates the convergence of military activity across cyberspace, outer space, and uncrewed systems, and promotes a technology-centric deterrence built around autonomous platforms and integrated decision-support architectures. It identifies concrete legal gaps – especially in export controls, attribution and accountability regimes, and the absence of enforceable verification mechanisms – within current IHL and arms-control instruments. The article proposes practical measures, including transparent certification and testing standards for high-risk AI systems, multilateral mechanisms for monitoring and verification, and the integration of ethical and accountability criteria into national defense doctrines. The implications for deterrence stability and lawmaking in an era of rapid GAI diffusion are discussed.

KEYWORDS: General Artificial Intelligence; strategic deterrence; arms race; United States; People's Republic of China; autonomous systems; international humanitarian law; export controls; verification; national security.

RESUMO: Este estudo analisa de que forma a aceleração da Inteligência Artificial Geral (IAG) influencia a dissuasão estratégica e a adaptação do Direito Internacional Humanitário (DIH). Coloca duas questões centrais: (1) como é que a IAG redefine a dissuasão entre os Estados Unidos e a República Popular da China; e (2) até que ponto os atuais quadros jurídicos internacionais regulam eficazmente a exportação, o desdobramento e a utilização de sistemas militares baseados em IA. O artigo combina uma análise comparativa das doutrinas oficiais de defesa, uma revisão quantitativa das tendências de investimento em IA relacionada com a defesa e uma abordagem de prospetiva para mapear trajetórias estratégicas plausíveis. O estudo conclui que a IAG acelera a convergência da atividade militar nos domínios do ciberespaço, do espaço exterior e dos sistemas não tripulados, promovendo uma dissuasão centrada na tecnologia, baseada em plataformas autónomas e

---

[1] Doctor of Legal Sciences of the Bohdan Khmelnytskyi National Academy of the State Border Guard Service of Ukraine, Khmelnytskyi, Ukraine. ORCID: https://orcid.org/0000-0003-2998-7235. Email: nadpsu@dpsu.gov.ua.

[2] Doctor of Philosophy in the field of law of the Bohdan Khmelnytskyi National Academy of the State Border Guard Service of Ukraine, Khmelnytskyi, Ukraine. ORCID: https://orcid.org/0000-0001-5811-5909. Email: nadpsu@dpsu.gov.ua.

arquiteturas integradas de apoio à decisão. Identificam-se lacunas jurídicas concretas — especialmente nos controlos de exportação, nos regimes de atribuição e responsabilidade e na ausência de mecanismos de verificação executáveis — no âmbito do atual DIH e dos instrumentos de controlo de armamento. O artigo propõe medidas práticas: normas transparentes de certificação e ensaio para sistemas de IA de alto risco; mecanismos multilaterais de monitorização e verificação; e a integração de critérios éticos e de responsabilidade nas doutrinas nacionais de defesa. São discutidas as implicações para a estabilidade da dissuasão e para a elaboração jurídica numa era de rápida difusão da IAG.
PALAVRAS-CHAVE: Inteligência Artificial Geral; dissuasão estratégica; Estados Unidos; República Popular da China; sistemas autónomos; direito internacional humanitário; controlos de exportação; verificação; segurança nacional.

1. INTRODUCTION

Over the past decade, the international security system has undergone profound change. The drivers are not only traditional arms racing but also a shift toward a "might-makes-right" model, in which a state's capacity to impose its will increasingly eclipses the authority and effectiveness of international law. This trend is reinforced by the erosion of legal deterrence mechanisms and the rapid diffusion of technologies that render traditional diplomatic and judicial tools obsolete.

Artificial general intelligence (GAI) is a key driver of these transformations and is increasingly viewed as the next source of strategic advantage, following nuclear weapons. This advantage stems from GAI's capacity to reshape the balance of power and to enable real-time, automated control of large military formations through advanced autonomous capabilities.

In parallel, shifts in military doctrine – driven by rapid advances in uncrewed systems and their integration with AI – challenge traditional paradigms for the use of force. Autonomous platforms capable of acting solely on algorithmic determinations introduce risks of unpredictable behavior and unintended escalation, thereby eroding the foundations of interstate trust.

These dynamics are most evident in the rivalry between the United States and the People's Republic of China – two superpowers with divergent defense doctrines and heavy investment in AI-enabled defense technologies. Their policies and postures are shaping global military competition and reinforcing the view that AI will become the linchpin of strategic deterrence in the years ahead.

In this context, the core research question is: to what extent does International Humanitarian Law (IHL) keep pace with technological advancements, and to what extent can it constrain the conduct of major powers in an arms race driven by rapid

advances in artificial intelligence (AI)? The study focuses on developments from 2017 to 2025, with particular emphasis on the period after 24 February 2022, when russia's full-scale invasion of Ukraine exposed strains in existing legal deterrence mechanisms and underscored the need to reassess IHL's ability to govern fast-evolving military technologies.

AI systems are an enduring reality, and their deployment will inevitably expand in armed conflicts and state governance.[3]

This article identifies emerging forms of strategic deterrence in the confrontation between the United States and the People's Republic of China amid AI proliferation. It assesses how effectively current international legal frameworks safeguard security. To this end, it conducts a comparative legal analysis of both states' official defense strategies, examines the scale and direction of defense-related AI investment, and employs a foresight-based conceptual forecasting approach.

This article traces the evolution of global military competition through the lens of general artificial intelligence (GAI). It examines how these technologies are integrated into the defense doctrines of the United States and the People's Republic of China, taking into account both ethical and technical challenges. It evaluates current institutional and legal mechanisms governing AI-enabled weapons systems and proposes avenues to strengthen the international strategic deterrence architecture in the era of GAI. Finally, it synthesizes the principal findings and outlines directions for future research.

2. Literature review

Current scholarly debates on the legal regulation and strategic consequences of military AI applications increasingly focus on three interrelated areas: practical standards and certification, verification and auditing mechanisms, and the assessment of strategic and economic implications for security. This review begins with an analysis of key government documents that establish policy and provide institutional guidance, then turns to academic studies that detail technical approaches, critically reassess policies, and propose improvements.

Policy formation in this area is illustrated by strategic documents issued by leading

---

[3] GONZÁLEZ-JULIANA, Álvaro; ILDEFONSO MENDONÇA, M. J. Social control over the use of artificial intelligence systems by the Public Administration. *Revista Jurídica Portucalense*, 2025, no. 37, pp. 370–391. DOI: https://doi.org/10.34625/issn.2183-2705(37)2025.ic-18.

states, which set the agenda for subsequent scholarly and political debate. A particularly representative case is the White House's America's AI Action Plan.[4] The plan outlines a comprehensive strategy that couples innovation incentives, large-scale infrastructure expansion, and a firm international posture to secure national leadership in artificial intelligence. Its priorities include accelerating the commercialization and deployment of advanced models; building substantial computational and energy infrastructure; and establishing an "assessment ecosystem" for testing, verification, and timely incident response. At the same time, it calls for protecting critical technologies through tighter export controls and closer coordination with allies. This mix of pragmatic steps and security measures shapes national policy on responsible innovation and sets expectations for rapid institutional solutions in evaluation and oversight.

By contrast, China's Global AI Governance Action Plan[5] emphasizes multilateral cooperation, inclusivity, and standardization to mitigate risks and promote the establishment of standard rules for technology governance. The document frames artificial intelligence as a global public good and proposes developing unified safety standards, supporting developing countries in building digital infrastructure, and disseminating energy-efficient solutions. This approach sets priorities that differ from the United States' strategy while creating openings for convergence – particularly in verification, harmonizing testing procedures, and establishing international platforms for the exchange of best practices.

Thus, comparing the United States' and China's strategies reveals not only divergent national priorities but also the contours of a broader geopolitical confrontation in the AI domain. This dynamic has become a focal point for researchers studying how the technological approaches of leading powers translate into instruments of competition across the military, diplomatic, and economic domains. For example, Abdul Rauf and Sajid Iqbal[6] identify specific mechanisms of this transformation: the spread of powerful language models (such as ChatGPT) as catalysts of technological

---

4 THE WHITE HOUSE. America's AI Action Plan. *The White House*, 2025. Available at: https://www.whitehouse.gov/wp-content/uploads/2025/07/Americas-AI-Action-Plan.pdf.
5 MINISTRY OF FOREIGN AFFAIRS OF THE PEOPLE'S REPUBLIC OF CHINA (MFA PRC). Global AI Governance Action Plan. *FMPRC*, 2025. Available at: https://www.fmprc.gov.cn/mfa_eng/xw/zyxw/202507/t20250729_11679232.html.
6 RAUF, Abdul; IQBAL, Sajid. Impact of Artificial Intelligence in Arms Race, Diplomacy, and Economy: A Case Study of Great Power Competition between the US and China. *Global Foreign Policies Review*, 2023, vol. VI, no. III, pp. 44–63. DOI: https://doi.org/10.31703/gfpr.2023(VI-III).05.

rivalry; the integration of AI into military systems (including autonomous drones and robotic platforms) with associated escalation risks; the reorientation of economic policy toward building computing infrastructure and talent clusters; and diplomatic effects reflected in tighter export controls, the setting of regulatory norms, and competition over international standards. The authors rely on qualitative, inductive analysis of secondary sources and highlight persistent gaps – particularly the scarcity of primary empirical data and the absence of comprehensive quantitative impact assessments.

The study by Yi Ding and Tianjiao Jiang[7] underscores that the active military deployment of AI – including in nuclear-related applications – may heighten the risk of inadvertent escalation and even premature nuclear use. This, in turn, could set the conditions for a new arms race, in which the opacity and complexity of AI system control increase the likelihood of global instability. In response, the authors urge China to strengthen its capabilities in intelligent technologies to safeguard national security and to promote the development of international norms and codes of conduct governing the military use of AI.

As L. K. Niazi[8] shows, the militarization of artificial intelligence is reshaping the modern military domain and global security. Integrating AI into combat systems, intelligence (ISR) platforms, logistics, and training via simulations and VR/AR enhances decision-making, accelerates operations, and increases system autonomy. At the same time, it generates multi-layered risks – from ethical and humanitarian dilemmas to the possibility of accidental escalation by autonomous systems operating without adequate human oversight. The increasing involvement of commercial technology firms in military projects further complicates regulation and undermines international stability. Niazi[9] argues, from a strategic theory perspective, that the militarization of AI can be understood as the effective mobilization of state resources to advance national interests – a factor that is becoming increasingly critical in today's great-power competition.

Artificial intelligence (AI) is transforming modern warfare by driving the development

---

[7] DING, Yi; JIAN, Tianjiao. The Impact of the U.S. AI Militarization on China: U.S. Strategic Stability. *Global Review*, 2025, vol. 17, no. 2. Available at: https://fddi.fudan.edu.cn/fddien/0a/ad/c19513a723629/page.htm.
[8] NIAZI, L. K. Militarization of Artificial Intelligence and Implications for Global Security – A Strategic Theory Perspective. *Social Sciences Spectrum*, 2025, vol. 4, no. 1, pp. 21–29. DOI: https://doi.org/10.71085/sss.04.01.198.
[9] NIAZI, L. K. Militarization of Artificial Intelligence and Implications for Global Security – A Strategic Theory Perspective. *Social Sciences Spectrum*, 2025, vol. 4, no. 1, pp. 21–29. DOI: https://doi.org/10.71085/sss.04.01.198.

of autonomous and automated weapons, unmanned aerial vehicles, cyber capabilities, and platforms for land, surface, and subsurface operations. These technologies are reshaping military strategy, decision-making, and the balance of power among states. At the same time, AI offers opportunities for more effective intelligence gathering, surveillance, humanitarian operations, and post-conflict reconstruction, while also posing serious ethical and legal risks when misused. This underscores the need for stronger arms control, regulation of the proliferation, deployment, and use of autonomous weapons, and active international monitoring to ensure respect for human rights and transparency in the application of emerging military technologies, thereby linking technological progress with ethical and legal norms.[10]

In contrast, the study by Schmid et al.[11] argues that, although AI development is often cast as an "arms race," the metaphor poorly captures the underlying competitive dynamics. They advance the notion of a "geopolitical innovation race," in which the United States and China pursue technological leadership within a networked global economy by combining economic, status, and security interests. States organize innovation networks grounded in national cultures yet open to diverse modes of interaction and interpretations of AI, while technological capabilities themselves function as markers of international status. From this perspective, AI competition more closely resembles an innovation contest with a geopolitical dimension than a classical arms race, with important implications for international cooperation, the regulation of autonomous weapons, and strategic security planning.

Continuing this review of global "geopolitical innovation races" in AI, the evolution of the United States' strategy has significantly shaped China's perceptions and military planning. Jinghan Zeng[12] argues that the United States serves as both a benchmark and a source of anxiety for the Chinese strategic community. U.S. advances in civilian and military AI prompt self-reflection, emulation, and accelerated strategy development in China, while also heightening the risks of security competition. This underscores that contemporary rivalry in military AI extends beyond technology to contests over ideas,

---

policy, and governance norms. The dynamic raises the danger of hasty deployment of unsafe systems in the absence of effective international regulation. At the same time, China's close attention to U.S. practice could prove constructive: adherence to U.S. standards of reliability, safety, and ethics in military AI could serve as a model for global cooperation and strengthened international stability.

Significant attention has turned to the standardization and certification of autonomous systems. Scholars emphasize that unified, transparent evaluation procedures should specify autonomy-level criteria, mechanisms for algorithmic accountability, and verification of safety functions.[13] These standards are treated as instruments of both technical and politico-legal governance, capable of reducing escalation risks and strengthening international trust. Interest is also growing in the verification and auditing of military AI systems, as declaratory commitments are insufficient, and only technical control mechanisms can ensure that stated specifications match a system's actual behavior. Among innovative solutions, blockchain-based approaches can track software modifications and enable near-real-time detection of unauthorized changes. The proposed verification (or filtering) network should integrate government laboratories, independent research institutes, and industry actors, ensuring a balance of interests and minimizing opportunities for manipulation and bias.

A distinct line of research examines the ethics of military AI. Scholars emphasize the importance of incorporating core requirements into national defense doctrine, particularly the human-in-the-loop principle for decisions involving the use of lethal force.[14] This requirement is framed as both a guarantee of developer and operator accountability and a mechanism for democratic oversight of military technologies.

This review demonstrates that mitigating the risks associated with military AI necessitates a comprehensive approach. Combining technical standards and verification procedures, institutional infrastructure for independent auditing, and mechanisms for international trust provides a regulatory foundation that reduces escalation risks while preserving space for responsible innovation. This integrative

---

[13] PASKOV, Patricia; SODER, Lisa; SMITH, Everett. Toward Best Practices for AI Evaluation and Governance: A Proposal for a European Union General-Purpose AI Model Evaluation Standards Task Force. *RAND Corporation*, 2025. DOI: https://doi.org/10.7249/PEA3624-1.
[14] JOHNSON, James. The AI Commander Problem: Ethical, Political, and Psychological Dilemmas of Human-Machine Interactions in AI-enabled Warfare. *Journal of Military Ethics*, 2023, vol. 23, nos. 3–4, pp. 246–271. DOI: https://doi.org/10.1080/15027570.2023.2175887.

perspective aligns with government plans and analytical studies calling for coordinated national measures across infrastructure, evaluation, and diplomacy.

3. Theoretical basis and methodology

The contemporary development of artificial intelligence (AI) and autonomous systems is profoundly reshaping their technical, organizational, and legal contexts. AI refers to technologies that imitate human cognitive abilities, including data analysis, decision-making, and outcome forecasting.[15] A key area of AI advancement is general artificial intelligence (GAI), which has the potential to perform virtually any task accessible to humans,[16] as well as large language models (LLMs) that enable text generation and facilitate communication processes.[17]

In the technical infrastructure of autonomous systems, sensor networks are foundational, providing essential environmental sensing capabilities. Complementing them are multi-agent intelligent systems (MAICAs),[18] which enable collaborative operation through swarming behavior.[19] The degree of human participation is commonly framed as a control continuum, ranging from full human involvement (human-in-the-loop) to full system autonomy (human-out-of-the-loop), with intermediate levels of human-on-the-loop control.[20]

The legal and ethical dimensions of AI deployment encompass both the certification and validation of technologies[21] and the development of comprehensive legal and ethical governance frameworks for autonomous systems.[22] A central concern is

---

[15] IBM. What Is Artificial Intelligence (AI)? *IBM Think*, 2024. Available at: https://www.ibm.com/think/topics/artificial-intelligence.
[16] IBM. What Is Artificial General Intelligence (AGI)? *IBM Think*, 2024. Available at: https://www.ibm.com/think/topics/artificial-general-intelligence.
[17] STRYKER, Cole. What Are Large Language Models (LLMs)? *IBM Think*, 2025. Available at: https://www.ibm.com/think/topics/large-language-models.
[18] YANG, Boquan; LI, Jixiong; ZENG, Ting. A Review of Environmental Perception Technology Based on Multi-Sensor Information Fusion in Autonomous Driving. *World Electric Vehicle Journal*, 2025, vol. 16, no. 1, Article 20. DOI: https://doi.org/10.3390/wevj16010020.
[19] CROOTOF, Rebecca; KAMINSKI, Margot E.; PRICE II, W. Nicholson. Humans in the Loop. *Vanderbilt Law Review*, 2023, vol. 76, no. 2, pp. 429–484. Available at: https://scholarship.law.vanderbilt.edu/vlr/vol76/iss2/2.
[20] NGUYEN, Luong Vuong. Swarm Intelligence-Based Multi-Robotics: A Comprehensive Review. *Applied Math*, 2024, vol. 4, no. 4, pp. 1192–1210. DOI: https://doi.org/10.3390/appliedmath4040064.
[21] FISHER, Michael; MASCARDI, Viviana; ROZIER, Kristin Yvonne; SCHLINGLOFF, Bernd-Holger; WINIKOFF, Michael; YORKE-SMITH, Neil. Towards a Framework for Certification of Reliable Autonomous Systems. *arXiv preprint*, arXiv:2001.09124 [cs.CY], 2020. Available at: https://arxiv.org/abs/2001.09124.
[22] EUROPEAN COMMISSION. Regulation (EU) 2024/1689 of the European Parliament and the Council on Artificial Intelligence. *Official Journal of the European Union*, 2024. Available at: https://eur-

establishing accountability for the actions of AI systems,[23] particularly in mission-critical domains such as national security, defense, and military applications. Within this framework, considerable attention focuses on lethal autonomous weapon systems (LAWS) and the ethical challenges associated with their use.[24]

Ensuring the resilience and robustness of autonomous systems in complex and unpredictable environments remains a significant challenge in their development and integration[25]. Equally critical is addressing cybersecurity threats that could significantly disrupt the essential operations of infrastructure.[26] Moreover, the effective implementation of command-and-control (C2) systems is crucial to the safe and ethical deployment of AI across governmental and military organizations.[27]

Building on this foundation, an integrated understanding of the technical capabilities and legal constraints of autonomous systems offers a robust framework for assessing the potential impact of general artificial intelligence (GAI) on strategic interactions between states. This approach is particularly relevant to the evolving dynamics between the United States and the People's Republic of China, where the integration of GAI into defense and decision-support systems could significantly impact strategic stability, risk management, and international security policy.

The study combines comparative legal and empirical approaches to assess the impact of general artificial intelligence (GAI) on deterrence between the United States and the People's Republic of China. The comparative legal component reviews official defense doctrines, statutory instruments, directives, and white papers from both states, with particular emphasis on rules governing autonomous systems, the role of human

---

lex.europa.eu/legal-content/EN/TXT/PDF/?uri=OJ%3AL%3A2024%3A1689%3A01%3A01%3AEN%3AHTML.

[23] CHRISTIE, Edward Hunter; ERTAN, Amy; ADOMAITIS, Laurynas; KLAUS, Matthias. Regulating Lethal Autonomous Weapon Systems: Exploring the Challenges of Explainability and Traceability. *AI and Ethics*, 2024, vol. 4, pp. 229–245. DOI: https://doi.org/10.1007/s43681-023-00261-0.

[24] GUO, Jie. The Ethical Legitimacy of Autonomous Weapons Systems: Reconfiguring War Accountability in the Age of Artificial Intelligence. *Ethics & Global Politics*, 2025, vol. 18, no. 3, pp. 27–39. DOI: https://doi.org/10.1080/16544951.2025.2540131.

[25] EUROPEAN DEFENCE AGENCY. Cyber resilience: A prerequisite for autonomous systems – and vice versa. *European Defence Agency Webzine*, 2018, Issue 16. Available at: https://eda.europa.eu/webzine/issue16/cover-story/cyber-resilience-a-prerequisite-for-autonomous-systems-and-vice-versa/.

[26] MAATHUIS, Clara; COOLS, Kasper. Digital Sovereignty Control Framework for Military AI-based Cyber Security. *arXiv preprint*, arXiv:2509.13072 [cs.CR], 2025. DOI: https://doi.org/10.48550/arXiv.2509.13072.

[27] ROMAN, Lindsay D. Forging the Future: ARCYBER integrates AI to transform cyberspace operations. *U.S. Army*, 2025. Available at: https://www.army.mil/article/287462/forging_the_future_arcyber_integrates_ai_to_transform_cyberspace_operations.

control, and mechanisms for certification and oversight. The empirical component conducts a quantitative review of open-source data on investment and procurement in defense-related AI (state budgets and reports by analytical agencies), enabling comparisons between declaratory policy and actual financial trends. Integrating these approaches allows the tracing of how the anticipated emergence of GAI reshapes deterrence dynamics, the identification of concrete gaps in international legal governance, and the formulation of practical recommendations on certification, verification, and interstate coordination.

4. Evolution of Global Militarization

After the end of the Cold War, the classical bipolar model of nuclear deterrence gradually lost its dominant role. In its place emerged complex forms of "hybrid" confrontation that combine cyber espionage, information operations, and covert cyberattacks to gain strategic advantage through asymmetric means. As Sybikowska[28] notes, the rapid expansion of U.S. and Chinese cyber capabilities has turned the digital domain into a new theater of conflict. Economic sanctions, information operations, and proxy wars have supplemented traditional instruments of military coercion, creating an expansive "gray zone" of strategic interaction. Under these conditions, the "might-makes-right" principle, as Karatarakis[29] observed, displaces the role of international law, as technological superiority increasingly determines whose interests prevail.

In this new environment, theaters of conflict extend beyond traditional battlefields to the cyber, space, electromagnetic, and cognitive domains. According to Hunter et al.,[30] U.S. and Chinese armed forces are integrating AI into autonomous systems – from aerial drones and uncrewed surface vessels to satellite constellations – capable of conducting reconnaissance, information, and strike missions with minimal human involvement.

Cyberspace has become a battleground for attacks on critical infrastructure and information-influence campaigns. Automated AI systems scan energy grids,

---

[28] SYBIKOWSKA, Bogdana. The New Cold War: Cyber Frontline. *Polish Political Science Review*, 2022, vol. 10, no. 2, pp. 14–31. DOI: https://doi.org/10.2478/ppsr-2022-0010.

[29] KARATARAKIS, Emmanouil M. What Thucydides Tells Us About 2025 Superpower Relations. *The Cipher Brief*, 2025. Available at: https://www.thecipherbrief.com/column_article/what-thucydides-tells-us-about-2025-superpower-relations.

[30] HUNTER, Lance Y.; ALBERT, Craig D.; HENNINGAN, Christopher; RUTLAND, Josh. The military application of artificial intelligence technology in the United States, China, and russia and the implications for global security. *Defense & Security Analysis,* 2023, vol. 39, no. 2, pp. 207–232. DOI: https://doi.org/10.1080/14751798.2023.2210367.

transportation networks, and communications hubs to identify vulnerabilities; coordinate low-detectability DDoS attacks and intrusions; and generate large volumes of fabricated content while managing botnets for targeted information operations – enabling both powers to sway public opinion and erode trust in state institutions.[31]

Outer space has likewise become a domain of strategic surveillance and preemptive competition to neutralize an adversary's satellites. Space Threat Assessment[32] estimates that both powers are deploying terrestrial and orbital means to target communications, reconnaissance, and navigation satellites in the early stages of conflict.[33]

Unmanned systems are increasingly operating in swarms, ranging from light reconnaissance drones to coordinated groups of autonomous robots that share data in real-time and execute collective maneuvers. As Sebo et al.[34] demonstrate, such multi-agent robotic formations offer a new level of operational flexibility and scalability. In this context, autonomous "precision" strikes are reshaping tactics: light AI-enabled drones are now frequently used for pinpoint reconnaissance and strike missions. As Bondar[35] notes, Ukraine is deploying AI systems that allow the final phase of an attack – target acquisition and munition release – to proceed almost autonomously, leaving the operator the ultimate decision. The human-in-the-loop principle remains: although the system can execute most of the maneuver, decisive command rests with a human operator due to ethical, technical, and legal constraints (mandatory human intervention at critical decision points).

Against this backdrop, AI is emerging as the next strategic factor, equipping weapons systems with generalized reasoning, adaptive learning, and autonomous

[31] HUNTER, Lance Y.; ALBERT, Craig D.; RUTLAND, Josh; TOPPING, Kristen; HENNIGAN, Christopher. Artificial intelligence and information warfare in major power states: how the US, China, and russia are using artificial intelligence in their information warfare and influence operations. *Defense & Security Analysis*, 2024, vol. 40, no. 2, pp. 235–269. DOI: https://doi.org/10.1080/14751798.2024.2321736.

[32] SWOPE, Clayton; BINGEN, Kari A.; YOUNG, Makena; LAFAVE, Kendra. Space Threat Assessment 2025. *Center for Strategic and International Studies*, 2025. Available at: https://aerospace.csis.org/wp-content/uploads/2025/05/250425_Swope_Space_Threat.pdf.

[33] POLLPETER, Kevin; BARRETT, Elizabeth; HERLEVI, April. Deterring China's Use of Force in the Space Domain. *CNA*, 2025. Available at: https://www.cna.org/analyses/2025/05/deterring-chinas-use-of-force-in-the-space-domain.

[34] SEBO, S.; STOLL, B.; SCASSELLATI, B.; JUNG, M. F. Robots in Groups and Teams: A Literature Review. *Proceedings of the ACM on Human Computer Interaction*, 2020, vol. 4, CSCW2, Article 176. DOI: https://doi.org/10.1145/3415247.

[35] BONDAR, Kateryna. Ukraine's Future Vision and Current Capabilities for Waging AI-Enabled Autonomous Warfare. *Center for Strategic and International Studies*, 2025. Available at: https://www.csis.org/analysis/ukraines-future-vision-and-current-capabilities-waging-ai-enabled-autonomous-warfare.

decision-making capabilities. As Mumuni and Mumuni emphasized,[36] the core principles – embodiment, symbolic comprehension, causal inference, and memory – underpin the transition from limited large language models (LLMs) to accurate general artificial intelligence (GAI) with deep cognitive capabilities. However, widespread adoption and uncertainty over governance may create new vulnerabilities and incentivize states to accelerate capability expansion.[37] Integrating AI into defense enables the real-time processing of large volumes of intelligence data, forecasting of adversary actions, and autonomous tactical decision-making, significantly compressing the "observe–analyze–act" cycle and generating an asymmetric advantage in decision speed[38]. According to Erskine and Miller,[39] autonomous military systems equipped with AI modules will coordinate operational units, adapt to changing battlefield conditions, and execute complex tasks without direct human control, greatly enhancing the effectiveness of force employment and resource utilization.

Thus, the evolution of global military competition shows how emerging technologies are steadily eroding the traditional deterrence system. In the new cyber-deterrence doctrine, digital resilience serves as an adaptive shield. At the same time, proactive cyber defense operates as a digital sword – mobilizing state resources to detect, neutralize, and counter cyber aggression. This strategic synthesis yields a comprehensive approach in which every network control node functions as a sensor and every breach helps reinforce defensive barriers.[40]

Meanwhile, international law – designed for the gradual development of norms and procedures – lags the rapid pace of innovation that MacAskill and Moorhouse[41] describe as an "intelligence explosion," compressing centuries of technological

[36] MUMUNI, Alhassan; MUMUNI, Fuseini. *Large language models for artificial general intelligence (AGI): A survey of foundational principles and approaches.* arXiv preprint arXiv:2501.03151 [cs.AI], submitted 6 January 2025. DOI: https://doi.org/10.48550/arXiv.2501.03151.

[37] JOHNSON, James. Artificial Intelligence and Future Warfare: Implications for International Security. *Defense & Security Analysis*, 2019, vol. 35, no. 2, pp. 147–169. DOI: https://doi.org/10.1080/14751798.2019.1600800.

[38] VOLOSHCHUK, Vadym; BANAKH, Serhii; KOVALCHUK, Olha. Artificial Intelligence in Military Strategy: New Approaches to Command Management. *Actual Problems of Law*, 2025, no. 1, pp. 69–74. DOI: https://doi.org/10.35774/app2025.01.069.

[39] ERSKINE, Toni; MILLER, Steven E. AI and the Decision to Go to War: Future Risks and Opportunities. *Australian Journal of International Affairs*, 2024, vol. 78, no. 2, pp. 135–147. DOI: https://doi.org/10.1080/10357718.2024.2349598.

[40] CHERKAOUI, Roudani. Cyber Deterrence, and Digital Resilience: Towards a New Doctrine of Global Defense. *Modern Diplomacy*, 2025. Available at: https://www.moderndiplomacy.eu/2025/06/18/cyber-deterrence-and-digital-resilience-towards-a-new-doctrine-of-global-defense/.

[41] MACASKILL, William; MOORHOUSE, Fin. Preparing for the Intelligence Explosion. *Forethought Research*, 2025. Available at: https://www.forethought.org/research/preparing-for-the-intelligence-explosion.

progress into mere years. The result is a widening gap between existing legal norms and the practical capabilities of AI, cyber weapons, and autonomous systems, creating a "legal vacuum" in strategic deterrence. Under these conditions, the possession and deployment of AI-enabled weapons are becoming central to security strategy, as Mitre and Predd note.[42] National doctrines are increasingly structured around core AI-related challenges – from "miracle weapons" to command instability risks – thereby shaping investment priorities, readiness levels, and mechanisms for deterring adversaries.

5. "General AI" in Contemporary Military Doctrines

Efforts to develop general artificial intelligence (GAI) are increasingly reflected in major transformations of the military doctrines of leading states, where GAI operates both as a driver of tactical advantage and as a pillar of new deterrence strategies. Under China's New General AI Plan, Beijing aims to secure technological leadership by 2030. The United States, through its Third Offset Strategy, is ramping up investment in autonomous systems with GAI components. Meanwhile, India has launched pilot projects for AI-equipped unmanned platforms to lay the groundwork for a GAI-enabled arsenal.[43]

The proliferation of AI modules is accelerating a shift from centralized decision-making architectures to networked command-and-control systems, in which autonomous platforms – such as unmanned aerial vehicles – operate as interconnected nodes within a unified command-and-control grid. Ruiz Estrada's Neuron Drone Box[44] describes a hardware–software suite embedded across drone models that enables fully autonomous attack-and-defense decision-making based on chaos algorithms and econometrics, while coordinating via a universal protocol across multi-wing and multi-missile formations. These networked C2 architectures are further augmented by AI-enabled ground robotic complexes designed to act as autonomous first-response units in the most challenging terrain. The Ukrainian UNEX UGV – a floating, armored, unmanned ground vehicle – traverses water, marsh, and uneven

---

[42] MITRE, Jim; PREDD, Joel B. *Artificial General Intelligence's Five Hard National Security Problems*. RAND Corporation, February 2025. Document No. PE-A3691-4. DOI: https://doi.org/10.7249/PEA3691-4.

[43] SHARMA, Shalini. The Rise of Artificial Intelligence in Military: A Global Perspective. *International Journal of Political Science and Governance*, 2025, vol. 7, no. 6, pp. 11–16. DOI: 10.33545/26646021.2025.v7.i7a.578.

[44] RUIZ ESTRADA, Mario Arturo. Full Autonomous Artificial Intelligence in Attack or Defense Decisions Making in Military Drones Box: The Neuron Drone Box. *SSRN Electronic Journal*, 2025. DOI: https://doi.org/10.2139/ssrn.5303709.

surfaces without triggering antipersonnel mines and can be configured for armament, electronic warfare payloads, or logistics. Its programmable autopilot, high resistance to electronic interference, and modular mission profiles (from reconnaissance to assault) illustrate how AI-enhanced platforms are becoming integral to deterrence and defense strategies.[45]

On the global stage, Dubber and Lazar[46] warn of threats posed by multi-agent intelligent systems (MAICAs) acting as autonomous cyber agents unified under a shared intelligence layer; such agents can generate coordinated "waves" of attacks that target critical infrastructure across multiple countries without human oversight. By synchronizing operations, these campaigns transcend isolated incidents and become complex, orchestrated digital assaults that are far harder to detect and neutralize. This evolution is compressing what was a sequential "observe–analyze–command" process into a single high-velocity loop in which AI performs detection, data processing, and decision-making concurrently, minimizing the interval between threat identification and neutralization.[47]

Against this backdrop, experts note that AI integration enables swarms of autonomous robots in which each agent follows the same set of local rules, shares state variables (position, velocity, altitude) with its neighbors, and makes decisions without centralized command. Analogous to natural self-organizing systems, this architecture provides high resilience: the loss of an individual node does not disrupt overall swarm functionality while still enabling practical collective tasks and maneuvers in dynamic environments.[48]

It also gives rise to a new deterrence paradigm. Instead of a generalized threat of mass destruction, AI-enabled platforms can deliver precision strikes against narrowly defined targets with minimal collateral damage, reducing the risk of large-

---

[45] MINISTRY OF DEFENCE OF UKRAINE. The Defence Forces Expand Their Fleet of Ground Robots with a Unique Amphibious System. *Ministry of Defence of Ukraine News*, 2025. Available at: https://www.mod.gov.ua/en/news/the-defence-forces-expand-their-fleet-of-ground-robots-with-a-unique-amphibious-system.

[46] DUBBER, Timothy; LAZAR, Seth. Military AI Cyber Agents (MAICAs) Constitute a Global Threat to Critical Infrastructure. *arXiv preprint*, arXiv:2506.12094 [cs.CY], 2025. DOI: https://doi.org/10.48550/arXiv.2506.12094.

[47] WRIGHT, Nicholas; MIKLAUCIC, Michael; VEAZIE, Todd (eds.). *Human, Machine, War: How the Mind-Tech Nexus Will Win Future Wars. Air University Press*, 2025. Available at: https://media.defense.gov/2025/Apr/18/2003694020/-1/-1/1/B-188%20HMW%20FINAL%204.8.25%20-%20WITH%20508%20CHECK.PDF.

[48] SHAHZAD, Muhammad M.; SAEED, Zubair; AKHTAR, Asima; MUNAWAR, Hammad; YOUSAF, Muhammad H.; BALOACH, Naveed K.; HUSSAIN, Fawad. A Review of Swarm Robotics in a NutShell. *Drones*, 2023, vol. 7, no. 4, Article 269. DOI: https://doi.org/10.3390/drones7040269.

scale conflict while enhancing the effectiveness of preemptive operations.[49] In this sense, AI is not merely another weapon category but a universal cognitive layer that can radically transform existing systems. By equipping legacy platforms with autonomous learning, tactical adaptation, and dynamic response capabilities, these enhancements allow systems to react to enemy actions without continuous human oversight, fundamentally altering the nature of force employment.[50]

At the same time, the widespread adoption of AI in warfare raises significant ethical and legal challenges. Concerns extend beyond liability for autonomous combat actions to the risk of blurring the line between strategic judgment and algorithmically determined uses of force. Automating warfighting decisions can undermine established deterrence mechanisms and political controls, increasing the likelihood of rash or disproportionate escalation.[51] Fully autonomous systems that decide when to use lethal force diminish human agency in life-or-death decisions. This complicates attribution of responsibility under international humanitarian law and lowers political and legal thresholds for initiating hostilities. Thus, the autonomous delegation of wartime decisions risks hollowing out deterrence, which traditionally relies on human risk assessment and accountability.[52]

Fully autonomous systems that decide when to use lethal force diminish human agency in life-or-death decisions. This complicates attribution of responsibility under international humanitarian law and lowers political and legal thresholds for initiating hostilities. Thus, the autonomous delegation of wartime decisions risks hollowing out deterrence, which traditionally relies on human risk assessment and accountability.[53]

6. U.S.–PRC Arms Race at the Non-Nuclear Level

[49] BONDAR, Kateryna; ALLEN, Samuel. The russia–Ukraine Drone War: Innovation on the Frontlines and Beyond. *Center for Strategic and International Studies*, 2025. Available at: https://www.csis.org/analysis/russia-ukraine-drone-war-innovation-frontlines-and-beyond.
[50] CLAPP, Sebastian. Defence and Artificial Intelligence. *European Parliamentary Research Service Briefing*, 2025. Available at: https://www.europarl.europa.eu/RegData/etudes/BRIE/2025/769580/EPRS_BRI(2025)769580_EN.pdf .
[51] OSIMEN, Goddy Uwa; NEWO, Oluwamurewa; FULANI, Oluwakemi Morola. Artificial Intelligence and Arms Control in Modern Warfare. *Cogent Social Sciences*, 2024, vol. 10, no. 1, Article 176, 36 pp. DOI: https://doi.org/10.1080/23311886.2024.2407514.
[52] ERSKINE, Toni. Before Algorithmic Armageddon: Anticipating Immediate Risks to Restraint When AI Infiltrates Decisions to Wage War. *Australian Journal of International Affairs*, 2024, vol. 78, no. 2, pp. 175–190. DOI: https://doi.org/10.1080/10357718.2024.2345636.
[53] AHMED, Mustak. Artificial Intelligence, Nuclear Warfare, and Towards Laws: A Study on Limitations of Existing International Laws and Treaties. *Preprints.org*, 2025. DOI: https://doi.org/10.20944/preprints202506.2483.v1.

The confrontation between the United States and the People's Republic of China is defined less by the size of their nuclear arsenals than by the intensity of competition to develop general artificial intelligence (GAI). In the United States, proposals for a "Manhattan-style" GAI program have raised concerns that a narrow initiative could repeat the mistakes of the nuclear era. An alternative "Apollo model" is preferred, which mobilizes society and the commercial tech sector for a broad GAI effort.[54] China, by contrast, is pursuing a full-stack strategy – investing across the value chain from chip design to applied AI within industrial programs – to accelerate progress, preempt export controls, and attract private capital.[55][56] In both states' defense doctrines, GAI and autonomous systems now play a central role:[57] United States doctrine emphasizes rigorous model-alignment and explainability requirements and guaranteed human-in-the-loop control to build trust and mitigate unpredictable behavior; China emphasizes vertical integration – expanding domestic chip production, enabling large-scale unmanned deployments, and cultivating a broad AI ecosystem to ensure technological self-sufficiency and rapid force expansion – with fewer ethical constraints on lethal-autonomy experimentation. In both cases, advantage is measured less by platform counts than by the degree of GAI integration into decision-making, systems' adaptability to adversary actions, and resilience to cyberattacks and internal verification demands.[58]

Targeted investment in research and development plays a critical role in this process. Over the past five years, the United States has significantly increased funding for institutions such as the Department of Defense (DoD) and the Defense Advanced Research Projects Agency (DARPA), channeling resources into autonomous systems,

---

[54] MARCELLINO, William; VARSHNEY, Lav; SHENK, Anton; ROBLES, Nicolas M.; BOUDREAUX, Benjamin. Charting Multiple Courses to Artificial General Intelligence. *RAND Corporation*, 2025. DOI: https://doi.org/10.7249/PEA3691-1.

[55] CHAN, Kyle; SMITH, Gregory; GOODRICH, Jimmy; DiPIPPO, Gerard; PILZ, Konstantin F. Full Stack: China's Evolving Industrial Policy for AI. *RAND Corporation*, 2025. DOI: https://doi.org/10.7249/PEA4012-1.

[56] CHESSEN, Matt; MARTELL, Craig. Beyond a Manhattan Project for Artificial General Intelligence. *RAND Commentary*, 2025. Available at: https://www.rand.org/pubs/commentary/2025/04/beyond-a-manhattan-project-for-artificial-general-intelligence.html.

[57] MITRE, Jim. Five Questions: Jim Mitre on Artificial General Intelligence and National Security. *RAND Commentary*, 2025. Available at: https://www.rand.org/pubs/commentary–2025/05/five-questions-jim-mitre-on-artificial-general-intelligence.html.

[58] HEIM, Lennart. China's AI Models Are Closing the Gap, but America's Real Advantage Lies Elsewhere. *RAND Commentary*, 2025. Available at: https://www.rand.org/pubs/commentary/2025/05/chinas-ai-models-are-closing-the-gap-but-americas-real.html.

cyber agents, and high-performance computing environments.[59] The American model features a flexible public–private partnership, where leading technology firms (OpenAI, Microsoft, Meta, Palantir, and Google DeepMind) work closely with the national-security community while retaining corporate independence, fostering high adaptability, institutional resilience, and continuous access to breakthrough innovation.

By contrast, China pursues a centrally coordinated vertical strategy in which the state oversees the entire development cycle – from hardware infrastructure (SMIC, Loongson) to model training (WuDao, Ziya) – establishing industrial clusters, national laboratories, and dedicated zones linked to the Belt and Road Initiative. This centralized model enables rapid scaling but is more vulnerable to external shocks, particularly those related to the United States' semiconductor export controls. Moreover, internal fragmentation, weak coordination among regional initiatives, and limited access to open global data sources reduce the effectiveness of China's AI ecosystem. Thus, while the United States emphasizes a qualitative leap toward highly autonomous, secure GAI capabilities, China seeks quantitative superiority, producing technical differences and divergent long-term resilience in its respective development model.[60]

The table below compares the principal strategic approaches, implementation models, and associated risks of the two major actors.

Table 1. Comparative overview – United States vs People's Republic of China:

Criterion	United States (principal documents/initiatives)	People's Republic of China (principal documents/initiatives)
Primary strategic document	America's AI Action Plan[61] – coordination of federal AI policy: research and development priorities, infrastructure, standards, and international engagement.	Global Action Plan for AI Governance[62] – a framework for AI governance emphasizing safety, controllability, inclusiveness, standards, and international cooperation.

---

[59] CRA. DoD FY 2025 PBR. *GovAffairs Blog*, 2024. Available at: https://cra.org/govaffairs/blog/2024/04/dod-fy2025-pbr/.

[60] CHAN, Kyle; SMITH, Gregory; GOODRICH, Jimmy; DiPIPPO, Gerard; PILZ, Konstantin F. Full Stack: China's Evolving Industrial Policy for AI. *RAND Corporation*, 2025. DOI: https://doi.org/10.7249/PEA4012-1.

[61] THE WHITE HOUSE. America's AI Action Plan. *The White House*, 2025. Available at: https://www.whitehouse.gov/wp-content/uploads/2025/07/Americas-AI-Action-Plan.pdf.

[62] MINISTRY OF FOREIGN AFFAIRS OF THE PEOPLE'S REPUBLIC OF CHINA (MFA PRC). *Global AI Governance Action Plan*. FMPRC, 2025. Available at: https://www.fmprc.gov.cn/mfa_eng/xw/zyxw/202507/t20250729_11679232.html.

	United States Department of Defense	New Generation Artificial Intelligence
Defence strategy/policy (military aspects)	United States Department of Defense Artificial Intelligence Strategy[63] with subsequent updates – integration of AI into command-and-control systems; accountability measures (including human-in-the-loop); testing and certification; centers of competence.	New Generation Artificial Intelligence Development Plan[64] with 2025 provisions – state support for the industrial value chain; Military–Civil Fusion; defense-related programs embedded within the national development agenda.
Implementation model	Public–private model: federal R&D funding combined with rapid engagement of private industry and start-ups (e.g., U.S. Army FUZE Program; commercial partnerships).[65][66]	State-coordinated model: vertical integration, government support for industrial clusters, national programs, and research centers; Military–Civil Fusion as the principal mechanism.[67][68]
Focus on military applications	Explicit: DoD investments in autonomous platforms, increased funding for unmanned and counter-unmanned aerial-vehicle systems; emphasis on operational control and accountability.[69][70]	High priority: The 2025 plan addresses defense capabilities and enabling infrastructure, encouraging the rapid scaling of military applications.[71][72]
Approach to standards and certification	Emphasis on developing national standards, verification, and certification procedures with	Calls for standards development in cooperation with international organizations; implementation and

[63] UNITED STATES. DEPARTMENT OF DEFENSE. *DoD Artificial Intelligence Strategy – Fact Sheet*. Department of Defense, 2018. Available at: https://media.defense.gov/2019/Feb/12/2002088964/-1/-1/1/DOD-AI-STRATEGY-FACT-SHEET.PDF.

[64] DIGICHINA / STANFORD CYBER POLICY CENTER. *Full Translation: China's New Generation Artificial Intelligence Development Plan (2017)*. DigiChina (Stanford), 2017. Available at: https://digichina.stanford.edu/work/full-translation-chinas-new-generation-artificial-intelligence-development-plan-2017/.

[65] WELCH, Carley. *Army Launches VC-Style Model FUZE Program to Invest Early in Promising Military Tech*. Breaking Defense, 2025. Available at: https://breakingdefense.com/2025/09/army-launches-vc-style-model-fuze-program-to-invest-early-in-promising-military-tech/.

[66] JUDSON, Jen. *Army Adopts Venture Capital Model to Speed Tech to Soldiers*. Defense News, 2025. Available at: https://www.defensenews.com/land/2025/09/15/army-adopts-venture-capital-model-to-speed-tech-to-soldiers/.

[67] MINISTRY OF FOREIGN AFFAIRS OF THE PEOPLE'S REPUBLIC OF CHINA (MFA PRC). *Global AI Governance Action Plan*. FMPRC, 2025. Available at:
https://www.fmprc.gov.cn/mfa_eng/xw/zyxw/202507/t20250729_11679232.html.

[68] CHINA AEROSPACE STUDIES INSTITUTE (CASI). *In Their Own Words: New Generation Artificial Intelligence Development Plan*. Air University (CASI), 2021. Available at:
https://www.airuniversity.af.edu/Portals/10/CASI/documents/Translations/2021-03-02%20China%27s%20New%20Generation%20Artificial%20Intelligence%20Development%20Plan-%202017.pdf.

[69] UNITED STATES. DEPARTMENT OF DEFENSE. *DoD Artificial Intelligence Strategy – Fact Sheet*. Department of Defense, 2018. Available at: https://media.defense.gov/2019/Feb/12/2002088964/-1/-1/1/DOD-AI-STRATEGY-FACT-SHEET.PDF.

[70] DIKSHIT, Twesha; SINGH, Rashika. *Small US Defense Stocks Soar on rush for Next-Gen Battlefield Tech. Reuters*, 18 September 2025. Available at: https://www.reuters.com/business/aerospace-defense/small-us-defense-stocks-soar-rush-next-gen-battlefield-tech-2025-09-18/.

[71] MINISTRY OF FOREIGN AFFAIRS OF THE PEOPLE'S REPUBLIC OF CHINA (MFA PRC). *Global AI Governance Action Plan*. FMPRC, 2025. Available at: https://www.fmprc.gov.cn/mfa_eng/xw/zyxw/202507/t20250729_11679232.html.

[72] AIR UNIVERSITY, CHINA AEROSPACE STUDIES INSTITUTE (CASI). *ITOW: China's Action Plan for Global Governance of Artificial Intelligence*. Air University (CASI), 2025. Available at: https://www.airuniversity.af.edu/CASI/Display/Article/4259425/itow-chinas-action-plan-for-global-governance-of-artificial-intelligence/.

	independent test laboratories and industry participation.[73]	enforcement are centrally managed by state institutions.[74]
Verification and transparency	Stress testing, audits, and certification; the DoD is expanding test facilities, though classified programs remain opaque.[75]	Formal verification provisions exist in the plan, but practical transparency remains limited, and verification is state-controlled.[76][77]
International cooperation	Active promotion of multilateral standards and bilateral partnerships with allies (e.g., cooperation with the United Kingdom and other partners).[78]	Advocates global cooperation and standard-setting while explicitly defending national sovereignty and strategic interests.[79]
Funding and delivery mechanisms	Combination of DoD budgets, acceleration programs (e.g., FUZE), public procurement, and private investment; targeted increases in FY 2026 and subsequent cycles.[80][81][82]	State funding for infrastructure and industrial programs, subsidies, and coordinated national initiatives; emphasis on domestic supply chains and semiconductor capacity.[83][84]

[73] UNITED STATES. DEPARTMENT OF DEFENSE. *DoD Artificial Intelligence Strategy – Fact Sheet*. Department of Defense, 2018. Available at: https://media.defense.gov/2019/Feb/12/2002088964/-1/-1/1/DOD-AI-STRATEGY-FACT-SHEET.PDF.

[74] MINISTRY OF FOREIGN AFFAIRS OF THE PEOPLE'S REPUBLIC OF CHINA (MFA PRC). *Global AI Governance Action Plan*. FMPRC, 2025. Available at: https://www.fmprc.gov.cn/mfa_eng/xw/zyxw/202507/t20250729_11679232.html.

[75] UNITED STATES. DEPARTMENT OF DEFENSE. *Summary of the 2018 Department of Defense Artificial Intelligence Strategy: Harnessing AI to Advance Our Security and Prosperity*. Department of Defense, 2019. Available at: https://media.defense.gov/2019/Feb/12/2002088963/-1/-1/1/summary-of-dod-ai-strategy.pdf.

[76] AIR UNIVERSITY, CHINA AEROSPACE STUDIES INSTITUTE (CASI). *ITOW: China's Action Plan for Global Governance of Artificial Intelligence*. Air University (CASI), 2025. Available at: https://www.airuniversity.af.edu/CASI/Display/Article/4259425/itow-chinas-action-plan-for-global-governance-of-artificial-intelligence/.

[77] DIGICHINA / STANFORD CYBER POLICY CENTER. *Full Translation: China's New Generation Artificial Intelligence Development Plan (2017)*. DigiChina (Stanford), 2017. Available at: https://digichina.stanford.edu/work/full-translation-chinas-new-generation-artificial-intelligence-development-plan-2017/.

[78] THE WHITE HOUSE. America's AI Action Plan. *The White House*, 2025. Available at: https://www.whitehouse.gov/wp-content/uploads/2025/07/Americas-AI-Action-Plan.pdf.

[79] MINISTRY OF FOREIGN AFFAIRS OF THE PEOPLE'S REPUBLIC OF CHINA (MFA PRC). *Global AI Governance Action Plan*. FMPRC, 2025. Available at: https://www.fmprc.gov.cn/mfa_eng/xw/zyxw/202507/t20250729_11679232.html.

[80] WELCH, Carley. *Army Launches VC-Style Model FUZE Program to Invest Early in Promising Military Tech*. Breaking Defense, 2025. Available at: https://breakingdefense.com/2025/09/army-launches-vc-style-model-fuze-program-to-invest-early-in-promising-military-tech/.

[81] JUDSON, Jen. *Army Adopts Venture Capital Model to Speed Tech to Soldiers*. Defense News, 2025. Available at: https://www.defensenews.com/land/2025/09/15/army-adopts-venture-capital-model-to-speed-tech-to-soldiers/.

[82] DIKSHIT, Twesha; SINGH, Rashika. *Small US Defense Stocks Soar on rush for Next-Gen Battlefield Tech. Reuters*, 18 September 2025. Available at: https://www.reuters.com/business/aerospace-defense/small-us-defense-stocks-soar-rush-next-gen-battlefield-tech-2025-09-18/.

[83] MINISTRY OF FOREIGN AFFAIRS OF THE PEOPLE'S REPUBLIC OF CHINA (MFA PRC). *Global AI Governance Action Plan*. FMPRC, 2025. Available at: https://www.fmprc.gov.cn/mfa_eng/xw/zyxw/202507/t20250729_11679232.html.

[84] AIR UNIVERSITY, CHINA AEROSPACE STUDIES INSTITUTE (CASI). *ITOW: China's Action Plan for Global Governance of Artificial Intelligence*. Air University (CASI), 2025. Available at: https://www.airuniversity.af.edu/CASI/Display/Article/4259425/itow-chinas-action-plan-for-global-governance-of-artificial-intelligence/.

Time horizon/targets	Short- to medium-term (2025–2030): secure technological leadership and ensure defense readiness.[8586]	The 2017 plan sets objectives through 2030; the 2025 update accelerates implementation for the period 2025–2030.[8788]
Principal risks (documents/analyses)	Ethical breaches, circumvention of controls through private channels, inadvertent escalation due to automation speed, and verification challenges in closed systems.[8990]	Risks from rapid, state-driven scaling with limited external oversight; potential intensification of the arms race and vulnerability to export controls (partly mitigated by political determination to pursue alternatives).[9192]
Operational initiatives/programmers	U.S. Army FUZE Program (venture-style early investment); partnerships for data and tooling; increased budgets for autonomous platforms.[93949596]	Development of uncrewed aerial, ground, and robotic systems; national projects for data centers and semiconductor

[85] THE WHITE HOUSE. America's AI Action Plan. *The White House*, 2025. Available at: https://www.whitehouse.gov/wp-content/uploads/2025/07/Americas-AI-Action-Plan.pdf.

[86] UNITED STATES. DEPARTMENT OF DEFENSE. *DoD Artificial Intelligence Strategy – Fact Sheet*. Department of Defense, 2018. Available at: https://media.defense.gov/2019/Feb/12/2002088964/-1/-1/1/DOD-AI-STRATEGY-FACT-SHEET.PDF.

[87] DIGICHINA / STANFORD CYBER POLICY CENTER. *Full Translation: China's New Generation Artificial Intelligence Development Plan (2017)*. DigiChina (Stanford), 2017. Available at: https://digichina.stanford.edu/work/full-translation-chinas-new-generation-artificial-intelligence-development-plan-2017/.

[88] MINISTRY OF FOREIGN AFFAIRS OF THE PEOPLE'S REPUBLIC OF CHINA (MFA PRC). *Global AI Governance Action Plan*. FMPRC, 2025. Available at: https://www.fmprc.gov.cn/mfa_eng/xw/zyxw/202507/t20250729_11679232.html.

[89] UNITED STATES. DEPARTMENT OF DEFENSE. *DoD Artificial Intelligence Strategy – Fact Sheet*. Department of Defense, 2018. Available at: https://media.defense.gov/2019/Feb/12/2002088964/-1/-1/1/DOD-AI-STRATEGY-FACT-SHEET.PDF.

[90] DIKSHIT, Twesha; SINGH, Rashika. *Small US Defense Stocks Soar on rush for Next-Gen Battlefield Tech. Reuters*, 18 September 2025. Available at: https://www.reuters.com/business/aerospace-defense/small-us-defense-stocks-soar-rush-next-gen-battlefield-tech-2025-09-18/.

[91] AIR UNIVERSITY, CHINA AEROSPACE STUDIES INSTITUTE (CASI). *ITOW: China's Action Plan for Global Governance of Artificial Intelligence*. Air University (CASI), 2025. Available at: https://www.airuniversity.af.edu/CASI/Display/Article/4259425/itow-chinas-action-plan-for-global-governance-of-artificial-intelligence/.

[92] MINISTRY OF FOREIGN AFFAIRS OF THE PEOPLE'S REPUBLIC OF CHINA (MFA PRC). *Global AI Governance Action Plan*. FMPRC, 2025. Available at: https://www.fmprc.gov.cn/mfa_eng/xw/zyxw/202507/t20250729_11679232.html.

[93] WELCH, Carley. *Army Launches VC-Style Model FUZE Program to Invest Early in Promising Military Tech*. Breaking Defense, 2025. Available at: https://breakingdefense.com/2025/09/army-launches-vc-style-model-fuze-program-to-invest-early-in-promising-military-tech/.

[94] JUDSON, Jen. *Army Adopts Venture Capital Model to Speed Tech to Soldiers*. Defense News, 2025. Available at: https://www.defensenews.com/land/2025/09/15/army-adopts-venture-capital-model-to-speed-tech-to-soldiers/.

[95] AXIOS. *Exclusive: Scale AI Strikes Deal with the Pentagon. Axios*, 17 September 2025. Available at: https://www.axios.com/2025/09/17/scale-ai-deal-pentagon.

[96] GOVCONWIRE. *Scale AI to Provide Advanced AI Tools Under $100 M Pentagon Agreement. GovConWire*, 18 September 2025. Available at: https://www.govconwire.com/articles/scale-ai-dod-ota-agreement-donovan-gen-ai.

		capacity; Military–Civil Fusion for implementation.[979899]
Availability of primary sources	High: The White House and DoD publish strategy documents and budget requests; many materials are publicly available.[100101]	The Ministry of Foreign Affairs publishes the 2025 plan; technical and defense programs are often described only fragmentarily in official releases and state media.[102103]
Implications for international humanitarian law and regulation	Integration of ethical principles and the human-in-the-loop requirement; need for international verification standards and interoperable certification.[104105]	Greater focus on national security and industrialization; China endorses international norms in principle, but practical implementation remains subordinated to national control.[106107]

The following two tables list the principal documents, programs, and initiatives for each country, illustrating how strategic intent is translated into concrete implementation mechanisms.

Table 2. United States – principal artificial intelligence documents and initiatives:

Document / Initiative	Type	Main purpose / Description	Application area	Time frame

---

[97] DIGICHINA / STANFORD CYBER POLICY CENTER. *Full Translation: China's New Generation Artificial Intelligence Development Plan (2017)*. DigiChina (Stanford), 2017. Available at: https://digichina.stanford.edu/work/full-translation-chinas-new-generation-artificial-intelligence-development-plan-2017/.

[98] CHINA AEROSPACE STUDIES INSTITUTE (CASI). *In Their Own Words: New Generation Artificial Intelligence Development Plan*. Air University (CASI), 2021. Available at: https://www.airuniversity.af.edu/Portals/10/CASI/documents/Translations/2021-03-02%20China%27s%20New%20Generation%20Artificial%20Intelligence%20Development%20Plan-%202017.pdf.

[99] MINISTRY OF FOREIGN AFFAIRS OF THE PEOPLE'S REPUBLIC OF CHINA (MFA PRC). *Global AI Governance Action Plan*. FMPRC, 2025. Available at: https://www.fmprc.gov.cn/mfa_eng/xw/zyxw/202507/t20250729_11679232.html.

[100] THE WHITE HOUSE. America's AI Action Plan. *The White House*, 2025. Available at: https://www.whitehouse.gov/wp-content/uploads/2025/07/Americas-AI-Action-Plan.pdf.

[101] UNITED STATES. DEPARTMENT OF DEFENSE. *Summary of the 2018 Department of Defense Artificial Intelligence Strategy: Harnessing AI to Advance Our Security and Prosperity*. Department of Defense, 2019. Available at: https://media.defense.gov/2019/Feb/12/2002088963/-1/-1/1/summary-of-dod-ai-strategy.pdf.

[102] MINISTRY OF FOREIGN AFFAIRS OF THE PEOPLE'S REPUBLIC OF CHINA (MFA PRC). *Global AI Governance Action Plan*. FMPRC, 2025. Available at: https://www.fmprc.gov.cn/mfa_eng/xw/zyxw/202507/t20250729_11679232.html.

[103] AIR UNIVERSITY, CHINA AEROSPACE STUDIES INSTITUTE (CASI). *ITOW: China's Action Plan for Global Governance of Artificial Intelligence*. Air University (CASI), 2025. Available at: https://www.airuniversity.af.edu/CASI/Display/Article/4259425/itow-chinas-action-plan-for-global-governance-of-artificial-intelligence/.

[104] UNITED STATES. DEPARTMENT OF DEFENSE. *DoD Artificial Intelligence Strategy – Fact Sheet*. Department of Defense, 2018. Available at: https://media.defense.gov/2019/Feb/12/2002088964/-1/-1/1/DOD-AI-STRATEGY-FACT-SHEET.PDF.

[105] THE WHITE HOUSE. America's AI Action Plan. *The White House*, 2025. Available at: https://www.whitehouse.gov/wp-content/uploads/2025/07/Americas-AI-Action-Plan.pdf.

[106] MINISTRY OF FOREIGN AFFAIRS OF THE PEOPLE'S REPUBLIC OF CHINA (MFA PRC). *Global AI Governance Action Plan*. FMPRC, 2025. Available at: https://www.fmprc.gov.cn/mfa_eng/xw/zyxw/202507/t20250729_11679232.html.

[107] AIR UNIVERSITY, CHINA AEROSPACE STUDIES INSTITUTE (CASI). *ITOW: China's Action Plan for Global Governance of Artificial Intelligence*. Air University (CASI), 2025. Available at: https://www.airuniversity.af.edu/CASI/Display/Article/4259425/itow-chinas-action-plan-for-global-governance-of-artificial-intelligence/.

America's AI Action Plan[108]	National action plan	Coordinate federal AI policy: accelerate R&D, expand AI infrastructure, advance standards, and strengthen international security cooperation.	Civilian policy and defense policy (national level)	2025–present
United States Department of Defense Artificial Intelligence Strategy[109][110]	Defence strategy/policy	Promote the adoption of AI in military systems, ensuring reliability, security, and accountability, while building infrastructure and testing/certification centers.	Defence systems; command-and-control; operational analytics	2018 (primary), with updates and fact sheets 2023–2024
United States Army FUZE Programme[111][112]	Innovation Investment Programme	Venture-style early investment in defense technologies: accelerate prototyping; support start-ups and small businesses (xTech, Small Business Innovation Research, Manufacturing Technology efforts).	Military technologies: prototyping and rapid transition	Announced 2025 – projects ongoing 2025+
Scale AI – agreement with the United States Department of Defense[113][114]	Partnership/contract	Provide AI-ready datasets and toolchains for DoD-protected networks to enable the deployment of AI in secure operational environments.	Defence data processing and analytics	2025 (five-year agreement, up to USD 100 million)
Fiscal Year 2026 budget: increased funding for autonomous and counter-unmanned aerial vehicle systems[115]	Budgetary decision/funding	Increase funding for the procurement and research and development of unmanned and counter-unmanned systems, supporting next-generation battlefield technologies.	Defence industry; research and development; deployment	Fiscal Year 2026 (request submitted 2025; implementation 2026)

---

[108] THE WHITE HOUSE. America's AI Action Plan. *The White House*, 2025. Available at: https://www.whitehouse.gov/wp-content/uploads/2025/07/Americas-AI-Action-Plan.pdf.

[109] UNITED STATES. DEPARTMENT OF DEFENSE. *DoD Artificial Intelligence Strategy – Fact Sheet*. Department of Defense, 2018. Available at: https://media.defense.gov/2019/Feb/12/2002088964/-1/-1/1/DOD-AI-STRATEGY-FACT-SHEET.PDF.

[110] UNITED STATES. DEPARTMENT OF DEFENSE. *Summary of the 2018 Department of Defense Artificial Intelligence Strategy: Harnessing AI to Advance Our Security and Prosperity*. Department of Defense, 2019. Available at: https://media.defense.gov/2019/Feb/12/2002088963/-1/-1/1/summary-of-dod-ai-strategy.pdf.

[111] WELCH, Carley. *Army Launches VC-Style Model FUZE Program to Invest Early in Promising Military Tech*. Breaking Defense, 2025. Available at: https://breakingdefense.com/2025/09/army-launches-vc-style-model-fuze-program-to-invest-early-in-promising-military-tech/.

[112] JUDSON, Jen. *Army Adopts Venture Capital Model to Speed Tech to Soldiers*. Defense News, 2025. Available at: https://www.defensenews.com/land/2025/09/15/army-adopts-venture-capital-model-to-speed-tech-to-soldiers/.

[113] AXIOS. *Exclusive: Scale AI Strikes Deal with the Pentagon. Axios*, 17 September 2025. Available at: https://www.axios.com/2025/09/17/scale-ai-deal-pentagon.

[114] GOVCONWIRE. *Scale AI to Provide Advanced AI Tools Under $100 M Pentagon Agreement. GovConWire*, 18 September 2025. Available at: https://www.govconwire.com/articles/scale-ai-dod-ota-agreement-donovan-gen-ai.

[115] DIKSHIT, Twesha; SINGH, Rashika. *Small US Defense Stocks Soar on rush for Next-Gen Battlefield Tech. Reuters*, 18 September 2025. Available at: https://www.reuters.com/business/aerospace-defense/small-us-defense-stocks-soar-rush-next-gen-battlefield-tech-2025-09-18/.

Table 3. People's Republic of China – Principal artificial-intelligence documents and initiatives:

Document / Initiative	Type	Main purpose / Description	Application area	Time frame
Global Action Plan for AI Governance[116]	Primary national / international plan	Establish principles for AI governance, including safety, controllability, and inclusiveness, and promote infrastructure, standards, and international cooperation to ensure the safe and equitable development of AI.	Civilian and defense sectors; international coordination	2025–present
New Generation Artificial Intelligence Development Plan – foundational document[117][118][119]	Strategic roadgic map	Set strategic objectives through 2030, focusing on technological leadership, AI industrialization, and expansion of computing capacity, which will serve as the basis for subsequent national initiatives.	Science, industry, and defense	2017 (targets to 2030; subsequent Programme updates)
Development of computing infrastructure and green energy for artificial intelligence[120]	Infrastructure initiative	Build national data centers and computing platforms; promote energy-efficient AI solutions; and support access for partners in the Global South.	Science, industry, defense	2025–2030 (implemented under the 2025 plan)
Technical and defense programmers: autonomous platforms and robotics[121][122]	Technical / defense programmers	Develop uncrewed aerial vehicles, uncrewed ground vehicles, and robotic complexes; integrate AI into command, control, communications, computers, intelligence, surveillance, and reconnaissance systems.	Defense, intelligence, and logistics	Phased deployment 2025–2030

[116] MINISTRY OF FOREIGN AFFAIRS OF THE PEOPLE'S REPUBLIC OF CHINA (MFA PRC). *Global AI Governance Action Plan*. FMPRC, 2025. Available at: https://www.fmprc.gov.cn/mfa_eng/xw/zyxw/202507/t20250729_11679232.html.
[117] DIGICHINA / STANFORD CYBER POLICY CENTER. *Full Translation: China's New Generation Artificial Intelligence Development Plan (2017)*. DigiChina (Stanford), 2017. Available at: https://digichina.stanford.edu/work/full-translation-chinas-new-generation-artificial-intelligence-development-plan-2017/.
[118] DIGICHINA / STANFORD CYBER POLICY CENTER. *Full Translation: China's New Generation Artificial Intelligence Development Plan (2017)*. DigiChina (Stanford), 2017. Available at: https://digichina.stanford.edu/work/full-translation-chinas-new-generation-artificial-intelligence-development-plan-2017/.
[119] CHINA AEROSPACE STUDIES INSTITUTE (CASI). *In Their Own Words: New Generation Artificial Intelligence Development Plan*. Air University (CASI), 2021. Available at: https://www.airuniversity.af.edu/Portals/10/CASI/documents/Translations/2021-03-02%20China%27s%20New%20Generation%20Artificial%20Intelligence%20Development%20Plan-%202017.pdf.
[120] MINISTRY OF FOREIGN AFFAIRS OF THE PEOPLE'S REPUBLIC OF CHINA (MFA PRC). *Global AI Governance Action Plan*. FMPRC, 2025. Available at: https://www.fmprc.gov.cn/mfa_eng/xw/zyxw/202507/t20250729_11679232.html.
[121] DIGICHINA / STANFORD CYBER POLICY CENTER. *Full Translation: China's New Generation Artificial Intelligence Development Plan (2017)*. DigiChina (Stanford), 2017. Available at: https://digichina.stanford.edu/work/full-translation-chinas-new-generation-artificial-intelligence-development-plan-2017/.
[122] MINISTRY OF FOREIGN AFFAIRS OF THE PEOPLE'S REPUBLIC OF CHINA (MFA PRC). *Global AI Governance Action Plan*. FMPRC, 2025. Available at: https://www.fmprc.gov.cn/mfa_eng/xw/zyxw/202507/t20250729_11679232.html.

International scientific-technical and standards initiatives[123][124]	Diplomatic-technical initiative	Advance cooperative platforms, promote standards, and encourage knowledge exchange, including capacity building for countries in the Global South.	International technical cooperation	2025+

Tables 2–3 show that the United States emphasizes public–private cooperation and open certification mechanisms. In contrast, the People's Republic of China pursues a state-coordinated approach focused on large-scale development and infrastructure expansion.

Moreover, the two superpowers are actively strengthening their cyber countermeasures and technological deterrence. In October 2022, the United States imposed sweeping export controls on advanced semiconductors and the equipment needed to produce them, and it subsequently enlisted partners such as the Netherlands, Japan, and South Korea to support the regime. These measures have markedly hindered China's domestic AI research, especially in autonomous weapons systems and large-scale cyber operations. At the same time, the United States is investing in national AI-driven cyber-defense systems capable of advanced threat analysis, while China is bolstering its capacity for preemptive interference with adversary satellite and communications networks. Training exercises focused on countering swarms of autonomous uncrewed vehicles are becoming increasingly routine. Thus, the modern arms race has evolved into a multifaceted contest in which technological dominance is measured not by ammunition stockpiles but by the ability to achieve rapid coordination, precision, and adaptability across digital and cyber domains.[125] In this context, there are no outright victors in the traditional sense – only a dynamic deterrence equilibrium.

7. Institutional and Legal Mechanisms

Despite a range of international agreements that restrict traditional weapons, none have been adapted to the realities of AI-driven militarization. The Wassenaar

---

[123] MINISTRY OF FOREIGN AFFAIRS OF THE PEOPLE'S REPUBLIC OF CHINA (MFA PRC). *Global AI Governance Action Plan*. FMPRC, 2025. Available at: https://www.fmprc.gov.cn/mfa_eng/xw/zyxw/202507/t20250729_11679232.html.
[124] AIR UNIVERSITY, CHINA AEROSPACE STUDIES INSTITUTE (CASI). *ITOW: China's Action Plan for Global Governance of Artificial Intelligence*. Air University (CASI), 2025. Available at: https://www.airuniversity.af.edu/CASI/Display/Article/4259425/itow-chinas-action-plan-for-global-governance-of-artificial-intelligence/.
[125] LALWANI, Nikita. *How America Can Stay Ahead of China in the AI Race: The Case for Export Control Diplomacy. Foreign Affairs*, 15 April 2025. Available at: https://www.foreignaffairs.com/united-states/how-america-can-stay-ahead-china-ai-race.

Arrangement (WA), the Missile Technology Control Regime (MTCR), and various United Nations frameworks overlook the autonomy and decision speed enabled by algorithmic systems. For the most part, these instruments are declaratory – they acknowledge the need to control emerging technologies but provide no concrete verification procedures or enforceable sanctions for noncompliance.[126]

Similarly, export control regimes for AI remain fragmented and poorly harmonized. Individual states publish their own lists of "sensitive" technologies, but the lack of standard criteria renders these efforts largely symbolic. As a result, exploitation of technological loopholes often goes unpunished, and the risk of unintended proliferation of autonomous weapons systems continues to grow.

Regarding international bodies, such as the United Nations, the UN Security Council (UNSC), UNESCO, the Organization for the Prohibition of Chemical Weapons (OPCW), and regional blocs, their mandates are too narrow and formalistic to have a meaningful influence on the development or deployment of AI-enabled weapons systems. The existing UN AI Partnership issues strictly advisory recommendations and carries no binding force. This gap between lofty declarations and tangible action creates a regulatory vacuum that leading AI powers can exploit to amass strategic advantages without legal accountability.

However, unlike largely declaratory international frameworks, the United States has taken concrete institutional steps. A key example is its multi-pronged policy for regulating military AI and controlling its export. Since 2012, Department of Defense Directive 3000.09 has required that autonomous systems allow a human to make all key decisions on the use of force and has established certification procedures, including mandatory approval by senior DoD officials for any high-risk applications. Moreover, in February 2023, the United States launched the Political Declaration on the Responsible Military Use of AI and Autonomy, which has been signed by more than fifty states; it sets out ten recommendations on auditability, transparency, lifecycle testing, and human oversight. New export controls also play a significant role: beginning in October 2022, restrictions were imposed on advanced AI chips. In 2025, the "AI Diffusion Rule" introduced a licensing and quota regime by country category

---

[126] TYSHCHUK, Viktor V. *A Review of Legal Regulation Regarding the Use of Unmanned Aerial Vehicles for Border Security and the Impact of Global Technologies. International Comparative Jurisprudence*, 2024, vol. 10, no. 1, pp. 61–81. DOI: https://doi.org/10.13165/j.icj.2024.06.005.

and chip model.[127] Nevertheless, experts note a gap between stringent export-control rules and the risk of workarounds through cloud services that let foreign actors access AI resources without violating physical-export restrictions. These measures demonstrate significant legal and institutional efforts by the United States, although their effectiveness in restraining AI militarization remains uncertain.[128]

In contrast to this practical approach, China's current policy on regulating military AI remains conservative and unenforceable. In its May 2025 Foreign Ministry Position Paper, Beijing underscores principles of ethics, human control, and the need to orient AI toward positive, humanitarian goals. Yet the document provides no monitoring mechanisms or sanctions for violations.[129] Its declaratory stance is further underscored by China's refusal to endorse the Blueprint for Action on AI in the Military Domain, adopted by a majority of states at REAIM 2024 in Seoul – signaling a preference for "international consensus" over formal commitments.[130] Despite active implementation of its Military–Civil Fusion strategy – which integrates civilian innovations, from drones to C4ISR, into the defense sector – China's legislative framework remains fragmented: regulation occurs under existing laws (Cybersecurity Law, National Intelligence Law). It does not extend to fully autonomous or automated systems operating without human involvement.[131]

Thus, a critical next step is to establish an effective multilateral forum that brings together key defense-AI stakeholders, independent scientific bodies, and civil society institutions for ongoing monitoring and auditing. At the same time, universal standards for AI-system transparency and certification must be developed, clear "red lines" for autonomy must be defined, and robust sanctions must be imposed for breaches. Only by combining a renewed treaty framework, harmonized export controls, and modern technical verification tools can the formalism of existing institutions be overcome and

---

[127] KNIGHT, Will. *New US Rule Aims to Block China's Access to AI Chips and Models by Restricting the World. WIRED*, 13 January 2025. Available at: https://www.wired.com/story/new-us-rule-aims-to-block-chinas-access-to-ai-chips-and-models-by-restricting-the-world/.

[128] VILLASENOR, John. *The Tension Between AI Export Control and U.S. AI Innovation. Brookings Institution – Governance Studies*, 24 September 2024. Available at: https://www.brookings.edu/articles/the-tension-between-ai-export-control-and-u-s-ai-innovation/.

[129] GEOPOLITECHS. *China Releases Government Position. Geopolitechs*, [date unknown]. Available at: https://www.geopolitechs.org/p/china-released-government-position.

[130] LEE, Joyce. South Korea summit to target 'blueprint' for using AI in the military. *Reuters*, 10 September 2024. Available at: https://www.reuters.com/world/asia-pacific/south-korea-summit-target-blueprint-using-ai-military-2024-09-09/.

[131] DUPONT-SINHSATTANAK, Alexandre. *Modernizing a giant: assessing the impact of military-civil fusion on innovation in China's defence-technological industry* [online]. *Defence and Peace Economics*, 2025, pp. 1–27. DOI: https://doi.org/10.1080/10242694.2025.2460458.

a genuine response be mounted to the challenges of AI militarization.

CONCLUSIONS

This study examines how the race to develop general artificial intelligence (GAI) affects deterrence dynamics between the United States and the People's Republic of China, and whether current international legal regimes can mitigate the associated risks. A comparative legal review of official doctrines, an assessment of investment trends, and a set of illustrative case studies yield several concise, evidence-based conclusions.

The deployment of high-performance AI systems sharply shortens the observe–decide–act cycle, shifting many operations to a tempo set by algorithms. This technical shift weakens traditional signaling of intent. It narrows the window for human intervention, increasing the risk of misattribution, disproportionate responses, and unintended escalation across cyberspace, outer space, and uncrewed systems.

Strategic and institutional differences between the United States and China amplify these risks. The United States' approach – marked by public–private partnerships, formal human-in-the-loop procedures, and evolving export controls – contrasts with China's emphasis on vertical integration and rapid scaling. As a result, declaratory commitments do not translate uniformly into practice, and technical–economic workarounds – particularly through cloud services and supply-chain channels – undermine the effectiveness of current deterrence measures.

Multilateral legal instruments and existing control regimes are inadequate for verification and enforcement. Declaratory resolutions and regimes such as the Wassenaar Arrangement and the MTCR lack operational mechanisms to test technical performance or to impose sanctions for persistent violations, creating a permissive "legal vacuum" that erodes collective security safeguards.

The principal limitation of this study is its reliance on open-source materials and publicly available data. Internal program details and operational practices may remain opaque, and rapid technological change may render some technical conclusions provisional.

Brief practical remarks: Priority should be given to developing interoperable certification standards for highly autonomous systems that define autonomy levels, specify algorithmic accountability requirements, and prescribe baseline technical testing procedures. National doctrines should also codify meaningful human oversight

of decisions to use lethal force, reducing the gap between normative commitments and operational practice.

Key avenues for further research include an empirical examination of how export controls are circumvented, particularly through cloud provisioning and supply chain arrangements. A second priority is to design practical, verifiable procedures to validate the declared capabilities of autonomous systems in low-transparency environments.

Without harmonized technical standards and robust verification procedures, the continued diffusion of general artificial intelligence (GAI) into the military sphere risks undermining the foundations of stable deterrence and increasing the likelihood of unintended escalation.

REFERENCES

AHMED, Mustak. Artificial Intelligence, Nuclear Warfare, and Towards Laws: A Study on Limitations of Existing International Laws and Treaties [online]. Preprints.org, 30 June 2025. [Accessed 7 July 2025]. DOI: https://doi.org/10.20944/preprints202506.2483.v1. Available at: https://www.preprints.org/manuscript/202506.2483/v1 [Accessed 2 November 2025].

AIR UNIVERSITY, China Aerospace Studies Institute (CASI). In Their Own Words: New Generation Artificial Intelligence Development Plan [online]. *Air University (CASI)*, 19 March 2021. Available at: https://www.airuniversity.af.edu/Portals/10/CASI/documents/Translations/2021-03-02%20China%27s%20New%20Generation%20Artificial%20Intelligence%20Development%20Plan-%202017.pdf [Accessed 2 November 2025].

AIR UNIVERSITY, China Aerospace Studies Institute (CASI). ITOW: China's Action Plan for Global Governance of Artificial Intelligence [online]. *Air University (CASI)*, 26 July 2025. Available at: https://www.airuniversity.af.edu/CASI/Display/Article/4259425/itow-chinas-action-plan-for-global-governance-of-artificial-intelligence/ [Accessed 2 November 2025].

AXIOS. Exclusive: Scale AI Strikes Deal with the Pentagon [online]. *Axios*, 17 September 2025. Available at: https://www.axios.com/2025/09/17/scale-ai-deal-pentagon [Accessed 2 November 2025].

BONDAR, Kateryna. *Ukraine's Future Vision and Current Capabilities for Waging AI-Enabled Autonomous Warfare* [online]. Washington, DC: Center for Strategic and International Studies, 6 March 2025. Available at: https://www.csis.org/analysis/ukraines-future-vision-and-current-capabilities-waging-ai-enabled-autonomous-warfare [Accessed 2 November 2025].

BONDAR, Kateryna; ALLEN, Samuel. *The russia–Ukraine Drone War: Innovation on the Frontlines and Beyond* [online]. Washington, DC: Center for Strategic and International Studies, 28 May 2025. Available at: https://www.csis.org/analysis/russia-ukraine-drone-war-innovation-frontlines-and-beyond [Accessed 2 November 2025].

CHAN, Kyle; SMITH, Gregory; GOODRICH, Jimmy; DiPIPPO, Gerard; PILZ, Konstantin F. *Full Stack: China's Evolving Industrial Policy for AI* [online]. Santa Monica, CA: RAND Corporation, June 2025. Document No. PE A4012-1. DOI: https://doi.org/10.7249/PEA4012-1. Available at: https://www.rand.org/pubs/perspectives/PEA4012-1.html [Accessed 2 November 2025].

CHERKAOUI Roudani. *Cyber Deterrence, and Digital Resilience: Towards a New Doctrine of Global Defense* [online]. *Modern Diplomacy*, 18 June 2025. Available at: https://www.moderndiplomacy.eu/2025/06/18/cyber-deterrence-and-digital-resilience-towards-a-new-doctrine-of-global-defense/ [Accessed 2 November 2025].

CHESSEN, Matt; MARTELL, Craig. *Beyond a Manhattan Project for Artificial General Intelligence* [online]. RAND Commentary, 24 April 2025. Available at: https://www.rand.org/pubs/commentary/2025/04/beyond-a-manhattan-project-for-artificial-general-intelligence.html [Accessed 2 November 2025].

CHRISTIE, Edward Hunter; ERTAN, Amy; ADOMAITIS, Laurynas; KLAUS, Matthias. *Regulating Lethal Autonomous Weapon Systems: Exploring the Challenges of Explainability and Traceability* [online]. *AI and Ethics*, vol. 4, 2024, pp. 229-245. DOI: https://doi.org/10.1007/s43681-023-

00261-0. Available at: https://link.springer.com/article/10.1007/s43681-023-00261-0 [Accessed 2 November 2025].

CLAPP, Sebastian. *Defence and Artificial Intelligence* [online]. European Parliamentary Research Service Briefing, April 2025. Available at: https://www.europarl.europa.eu/RegData/etudes/BRIE/2025/769580/EPRS_BRI(2025)769580_EN.pdf [Accessed 2 November 2025].

CRA. DoD FY 2025 PBR [online]. GovAffairs Blog, 17 April 2024. Available at: https://cra.org/govaffairs/blog/2024/04/dod-fy2025-pbr/ [Accessed 2 November 2025].

CROOTOF, Rebecca; KAMINSKI, Margot E.; PRICE II, W. Nicholson. *Humans in the Loop* [online]. *Vanderbilt Law Review*, vol. 76, no. 2 (2023), pp. 429–484. Available at: https://scholarship.law.vanderbilt.edu/vlr/vol76/iss2/2 [Accessed 2 November 2025].

DIGICHINA / Stanford Cyber Policy Center. *Full translation: China's New Generation Artificial Intelligence Development Plan (2017)* [online]. DigiChina (Stanford), July 2017. Available at: https://digichina.stanford.edu/work/full-translation-chinas-new-generation-artificial-intelligence-development-plan-2017/ [Accessed 2 November 2025].

DIKSHIT, Twesha; SINGH, Rashika. Small US defense stocks soar on rush for next-gen battlefield tech. Reuters [online], 18 September 2025. Available at: https://www.reuters.com/business/aerospace-defense/small-us-defense-stocks-soar-rush-next-gen-battlefield-tech-2025-09-18/ [accessed: 4 November 2025].

DING, Yi; JIAN, Tianjiao. *The Impact of the U.S. AI Militarization on China: U.S. Strategic Stability* [online]. *Global Review*, vol. 17, no. 2 (March/April 2025). Available at: https://fddi.fudan.edu.cn/fddien/0a/ad/c19513a723629/page.htm [Accessed 2 November 2025].

DUBBER, Timothy; LAZAR, Seth. Military AI Cyber Agents (MAICAs) Constitute a Global Threat to Critical Infrastructure. *arXiv preprint* [online], arXiv:2506.12094 [cs.CY], 2025. DOI: https://doi.org/10.48550/arXiv.2506.12094. Available at: https://arxiv.org/abs/2506.12094 [Accessed 2 November 2025].

DUPONT-SINHSATTANAK, Alexandre. Modernizing a giant: assessing the impact of military-civil fusion on innovation in China's defence-technological industry [online]. Defence and Peace Economics, 2025, pp. 1–27. DOI: https://doi.org/10.1080/10242694.2025.2460458. Available at: https://www.tandfonline.com/doi/full/10.1080/10242694.2025.2460458#abstract [Accessed 2 November 2025].

ERSKINE, Toni. *Before Algorithmic Armageddon: Anticipating Immediate Risks to Restraint When AI Infiltrates Decisions to Wage War* [online]. *Australian Journal of International Affairs*, vol. 78, no. 2 (May 2024), pp. 175–190. DOI: https://doi.org/10.1080/10357718.2024.2345636. Available at: https://www.tandfonline.com/doi/full/10.1080/10357718.2024.2345636 [Accessed 2 November 2025].

ERSKINE, Toni; MILLER, Steven E. *AI and the Decision to Go to War: Future Risks and Opportunities* [online]. *Australian Journal of International Affairs*, vol. 78, no. 2 (2024), pp. 135–147. DOI: https://doi.org/10.1080/10357718.2024.2349598. Available at: https://www.tandfonline.com/doi/full/10.1080/10357718.2024.2349598 [Accessed 2 November 2025].

EUROPEAN DEFENCE AGENCY. *Cyber resilience: A prerequisite for autonomous systems – and vice versa* [online]. *European Defence Agency Webzine*, Issue 16 (2018). Available at: https://eda.europa.eu/webzine/issue16/cover-story/cyber-resilience-a-prerequisite-for-autonomous-systems-and-vice-versa/ [Accessed 2 November 2025].

EUROPEAN COMMISSION. *Regulation (EU) 2024/1689 of the European Parliament and the Council on Artificial Intelligence* [online]. *Official Journal of the European Union*, 13 June 2024. Available at: https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=OJ%3AL%3A2024%3A1689%3A01%3A01%3AEN%3AHTML [Accessed 2 November 2025].

FISHER, Michael; MASCARDI, Viviana; ROZIER, Kristin Yvonne; SCHLINGLOFF, Bernd-Holger; WINIKOFF, Michael; YORKE-SMITH, Neil. *Towards a Framework for Certification of Reliable Autonomous Systems* [online]. arXiv preprint arXiv:2506.12094 [cs.CY], submitted 24 January 2020. Available at: https://arxiv.org/abs/2001.09124 [Accessed 2 November 2025].

GEOPOLITECHS. *China Releases Government Position* [online]. *Geopolitechs*, [date unknown]. Available at: https://www.geopolitechs.org/p/china-released-government-position. [accessed: 4 November 2025].

GONZÁLEZ-JULIANA, Álvaro; ILDEFONSO MENDONÇA, M. J. *Social control over the use of artificial intelligence systems by the Public Administration* [online]. *Revista Jurídica Portucalense*, no.

37 (2025), pp. 370–391. DOI: https://doi.org/10.34625/issn.2183-2705(37)2025.ic-18. Available at: https://revistas.rcaap.pt/juridica/article/view/41220 [Accessed 2 November 2025].

GOVCONWIRE. Scale AI to Provide Advanced AI Tools Under $100 M Pentagon Agreement [online]. *GovConWire*, 18 September 2025. Available at: https://www.govconwire.com/articles/scale-ai-dod-ota-agreement-donovan-gen-ai [Accessed 2 November 2025].

GUO, Jie. *The Ethical Legitimacy of Autonomous Weapons Systems: Reconfiguring War Accountability in the Age of Artificial Intelligence* [online]. *Ethics & Global Politics*, vol. 18, no. 3 (2025), pp. 27-39. DOI: https://doi.org/10.1080/16544951.2025.2540131. Available at: https://www.tandfonline.com/doi/full/10.1080/16544951.2025.2540131 [Accessed 2 November 2025].

HEIM, Lennart. *China's AI Models Are Closing the Gap, but America's Real Advantage Lies Elsewhere* [online]. RAND Commentary, 2 May 2025. Available at: https://www.rand.org/pubs/commentary/2025/05/chinas-ai-models-are-closing-the-gap-but-americas-real.html [Accessed 2 November 2025].

HUNTER, Lance Y.; ALBERT, Craig D.; HENNINGAN, Christopher; RUTLAND, Josh. *The Military Application of Artificial Intelligence Technology in the United States, China, and russia, and Its Implications for Global Security* [online]. *Defense & Security Analysis*, vol. 39, no. 2 (April 2023), pp. 207–232. DOI: https://doi.org/10.1080/14751798.2023.2210367. Available at: https://www.tandfonline.com/doi/full/10.1080/14751798.2023.2210367 [Accessed 2 November 2025].

HUNTER, Lance Y.; ALBERT, Craig D.; RUTLAND, Josh; TOPPING, Kristen; HENNIGAN, Christopher. *Artificial intelligence and information warfare in major power states: how the US, China, and russia are using artificial intelligence in their information warfare and influence operations* [online]. *Defense & Security Analysis*, vol. 40, no. 2 (April 2024), pp. 235–269. DOI: https://doi.org/10.1080/14751798.2024.2321736. Available at: https://www.tandfonline.com/doi/full/10.1080/14751798.2024.2321736 [Accessed 2 November 2025].

IBM. *What Is Artificial Intelligence (AI)?* [online]. *IBM Think*, 9 August 2024. Available at: https://www.ibm.com/think/topics/artificial-intelligence [Accessed 2 November 2025].

IBM. *What Is Artificial General Intelligence (AGI)?* [online]. *IBM Think*, 17 September 2024. Available at: https://www.ibm.com/think/topics/artificial-general-intelligence [Accessed 2 November 2025].

JOHNSON, James. *Artificial Intelligence and Future Warfare: Implications for International Security* [online]. *Defense & Security Analysis*, vol. 35, no. 2 (2019), pp. 147–169. DOI: https://doi.org/10.1080/14751798.2019.1600800. Available at: https://www.tandfonline.com/doi/full/10.1080/14751798.2019.1600800 [Accessed 2 November 2025].

JOHNSON, James. *The AI Commander Problem: Ethical, Political, and Psychological Dilemmas of Human-Machine Interactions in AI-enabled Warfare* [online]. *Journal of Military Ethics*, vol. 23, nos. 3-4 (2023), pp. 246–271. DOI: https://doi.org/10.1080/15027570.2023.2175887. Available at: https://www.tandfonline.com/doi/full/10.1080/15027570.2023.2175887 [Accessed 2 November 2025].

JUDSON, Jen. *The Army adopts a venture capital model to speed technology to soldiers* [online]. *Defense News*, 15 September 2025. Available at: https://www.defensenews.com/land/2025/09/15/army-adopts-venture-capital-model-to-speed-tech-to-soldiers/ [Accessed 2 November 2025].

KARATARAKIS, Emmanouil M. *What Thucydides Tells Us About 2025 Superpower Relations* [online]. *The Cipher Brief*, 27 March 2025. Available at: https://www.thecipherbrief.com/column_article/what-thucydides-tells-us-about-2025-superpower-relations [Accessed 2 November 2025].

KNIGHT, Will. *"New US Rule Aims to Block China's Access to AI Chips and Models by Restricting the World"* [online]. *WIRED*, 13 January 2025. Available at: https://www.wired.com/story/new-us-rule-aims-to-block-chinas-access-to-ai-chips-and-models-by-restricting-the-world/ [Accessed 2 November 2025].

LALWANI, Nikita. *How America Can Stay Ahead of China in the AI Race: The Case for Export Control Diplomacy* [online]. *Foreign Affairs*, 15 April 2025. Available at: https://www.foreignaffairs.com/united-states/how-america-can-stay-ahead-china-ai-race [Accessed 2 November 2025].

LEE, Joyce. South Korea summit to target 'blueprint' for using AI in the military. *Reuters* [online], 10 September 2024. Available at: https://www.reuters.com/world/asia-pacific/south-korea-summit-target-blueprint-using-ai-military-2024-09-09/ [Accessed 2 November 2025].

MAATHUIS, Clara; COOLS, Kasper. *Digital Sovereignty Control Framework for Military AI-Based Cybersecurity* [online]. arXiv preprint arXiv:2509.13072 [cs.CR], submitted 16 September 2025. DOI: https://doi.org/10.48550/arXiv.2509.13072. Available at: https://arxiv.org/abs/2509.13072 [Accessed 2 November 2025].

MACASKILL, William; MOORHOUSE, Fin. *Preparing for the Intelligence Explosion* [online]. Forethought Research, 11 March 2025. Available at: https://www.forethought.org/research/preparing-for-the-intelligence-explosion [Accessed 2 November 2025].

MARCELLINO, William; VARSHNEY, Lav; SHENK, Anton; ROBLES, Nicolas M.; BOUDREAUX, Benjamin. *Charting Multiple Courses to Artificial General Intelligence* [online]. *RAND Corporation*, Santa Monica, CA, April 2025. Document No. PE-A3691-1. DOI: https://doi.org/10.7249/PEA3691-1. Available at: https://www.rand.org/pubs/perspectives/PEA3691-1.html [Accessed 2 November 2025].

MINISTRY OF DEFENCE OF UKRAINE. *The Defence Forces Expand Their Fleet of Ground Robots with a Unique Amphibious System* [online]. Ministry of Defence of Ukraine News [en], 17 April 2025. Available at: https://mod.gov.ua/en/news/the-defence-forces-expand-their-fleet-of-ground-robots-with-a-unique-amphibious-system [Accessed 2 November 2025].

MINISTRY OF FOREIGN AFFAIRS OF THE PEOPLE'S REPUBLIC OF CHINA (MFA PRC). *Global AI Governance Action Plan* [online]. FMPRC, 26 July 2025. Available at: https://www.fmprc.gov.cn/mfa_eng/xw/zyxw/202507/t20250729_11679232.html [Accessed 2 November 2025].

MITRE, Jim. *Five Questions: Jim Mitre on Artificial General Intelligence and National Security* [online]. RAND Commentary, 7 May 2025. Available at: https://www.rand.org/pubs/commentary/2025/05/five-questions-jim-mitre-on-artificial-general-intelligence.html [Accessed 2 November 2025].

MITRE, Jim; PREDD, Joel B. *Artificial General Intelligence's Five Hard National Security Problems* [online]. RAND Corporation, February 2025. Document No. PE-A3691-4. DOI: https://doi.org/10.7249/PEA3691-4. Available at: https://www.rand.org/pubs/perspectives/PEA3691-4.html [Accessed 2 November 2025].

MUMUNI, Alhassan; MUMUNI, Fuseini. *Large language models for artificial general intelligence (AGI): A survey of foundational principles and approaches* [online]. arXiv preprint arXiv:2501.03151 [cs.AI], submitted 6 January 2025. DOI: https://doi.org/10.48550/arXiv.2501.03151. Available at: https://arxiv.org/abs/2501.03151 [Accessed 2 November 2025].

NIAZI, L. K. *Militarization of Artificial Intelligence and Implications for Global Security – A Strategic Theory Perspective* [online]. *Social Sciences Spectrum*, vol. 4, no. 1 (2025), pp. 21–29. DOI: https://doi.org/10.71085/sss.04.01.198. Available at: https://sss.org.pk/index.php/sss/article/view/198 [Accessed 2 November 2025].

NGUYEN, Luong Vuong. *Swarm Intelligence-Based Multi-Robotics: A Comprehensive Review* [online]. *Applied Math*, vol. 4, no. 4 (October 2024), pp. 1192-1210. DOI: https://doi.org/10.3390/appliedmath4040064. Available at: https://www.mdpi.com/2673-9909/4/4/64 [Accessed 2 November 2025].

OSIMEN, Goddy Uwa; NEWO, Oluwamurewa; FULANI, Oluwakemi Morola. Artificial Intelligence and Arms Control in Modern Warfare. *Cogent Social Sciences* [online], 2024, vol. 10, no. 1, Article 176, 36 pp. DOI: https://doi.org/10.1080/23311886.2024.2407514. Available at: https://www.tandfonline.com/doi/full/10.1080/23311886.2024.2407514#abstract [Accessed 2 November 2025].

PASKOV, Patricia; SODER, Lisa; SMITH, Everett. *Toward Best Practices for AI Evaluation and Governance: A Proposal for a European Union General-Purpose AI Model Evaluation Standards Task Force* [online]. *RAND Corporation*, Santa Monica, CA, June 2025. Document No. PE-A3624-1. DOI: 10.7249/PEA3624-1. Available at: https://www.rand.org/pubs/perspectives/PEA3624-1.html [Accessed 2 November 2025].

POLLPETER, Kevin; BARRETT, Elizabeth; HERLEVI, April. *Deterring China's Use of Force in the Space Domain* [online]. CNA, Arlington, VA, 28 May 2025. Available at: https://www.cna.org/analyses/2025/05/deterring-chinas-use-of-force-in-the-space-domain [Accessed 2 November 2025].

RAUF, Abdul; IQBAL, Sajid. *Impact of Artificial Intelligence in Arms Race, Diplomacy, and Economy: A Case Study of Great Power Competition between the US and China* [online]. *Global Foreign Policies Review*, vol. VI, no. III (2023), pp. 44–63. DOI: https://doi.org/10.31703/gfpr.2023(VI-III).05. Available at: https://www.gfprjournal.com/article/impact-of-artificial-intelligence-in-arms-race-diplomacy-and-economy-a-case-study-of-great-power-competition-between-the-us-and-china [Accessed 02 November 2025].

REUTERS. South Korea summit announces blueprint for using AI in military domain [online]. Reuters, 10 September 2024. Available at: https://www.reuters.com/technology/artificial-intelligence/south-korea-summit-announces-blueprint-using-ai-military-2024-09-10/ [Accessed 2 November 2025].

ROMAN, Lindsay D. *Forging the Future: ARCYBER Integrates AI to Transform Cyberspace Operations* [online]. *U.S. Army*, 31 July 2025. Available at: https://www.army.mil/article/287462/forging_the_future_arcyber_integrates_ai_to_transform_cyberspace_operations [Accessed 2 November 2025].

RUIZ Estrada, Mario Arturo. *Full Autonomous Artificial Intelligence in Attack or Defense Decisions Making in Military Drones Box: The Neuron Drone Box* [online]. SSRN Electronic Journal, posted 17 June 2025. DOI: https://doi.org/10.2139/ssrn.5303709. Available at: https://ssrn.com/abstract=5303709 [Accessed 2 November 2025].

SCHMID, Stefka; LAMBACH, Daniel; DIEHL, Carlo; REUTER, Christian. *Arms Race or Innovation Race? Geopolitical AI Development* [online]. *Geopolitics*, vol. 30, no. 4 (2025), pp. 1907–1936. DOI: https://doi.org/10.1080/14650045.2025.2456019. Available at: https://www.tandfonline.com/doi/full/10.1080/14650045.2025.2456019 [Accessed 2 November 2025].

SEBO, S.; STOLL, B.; SCASSELLATI, B.; JUNG, M. F. *Robots in Groups and Teams: A Literature Review* [online]. *Proceedings of the ACM on Human Computer Interaction*, vol. 4, CSCW2, Article 176 (October 2020), 36 pp. DOI: https://doi.org/10.1145/3415247. Available at: https://dl.acm.org/doi/10.1145/3415247 [Accessed 2 November 2025].

SHAHZAD, Muhammad M.; SAEED, Zubair; AKHTAR, Asima; MUNAWAR, Hammad; YOUSAF, Muhammad H.; BALOACH, Naveed K.; HUSSAIN, Fawad. *A Review of Swarm Robotics in a NutShell* [online]. *Drones*, vol. 7, no. 4 (2023), Article 269, 36 pp. DOI: https://doi.org/10.3390/drones7040269. Available at: https://www.mdpi.com/2504-446X/7/4/269 [Accessed 2 November 2025].

SHARMA, Shalini. *The Rise of Artificial Intelligence in Military: A Global Perspective* [online]. *International Journal of Political Science and Governance*, vol. 7, no. 6 (2025), pp. 11–16. DOI: https://doi.org/10.33545/26646021.2025.v7.i7a.578. Available at: https://www.journalofpoliticalscience.com/archives/2025.v7.i7.A.578 [Accessed 2 November 2025].

STRYKER, Cole. *What Are Large Language Models (LLMs)?* [online]. *IBM Think*, 10 September 2025. Available at: https://www.ibm.com/think/topics/large-language-models [Accessed 2 November 2025].

SWOPE, Clayton; BINGEN, Kari A.; YOUNG, Makena; LAFAVE, Kendra. *Space Threat Assessment 2025* [online]. Washington, DC: Center for Strategic and International Studies, 25 April 2025. Available at: https://aerospace.csis.org/wp-content/uploads/2025/10/250425_Swope_Space_Threat.pdf [Accessed 02 November 2025].

SYBIKOWSKA, Bogdana. The New Cold War: Cyber Frontline. *Polish Political Science Review* [online], 2022, vol. 10, no. 2, pp. 14–31. DOI: https://doi.org/10.2478/ppsr-2022-0010. Available at: https://reference-global.com/article/10.2478/ppsr-2022-0010 [Accessed 2 November 2025].

THE WHITE HOUSE. *America's AI Action Plan* [online]. *The White House*, 10 July 2025. Available at: https://www.whitehouse.gov/wp-content/uploads/2025/07/Americas-AI-Action-Plan.pdf [Accessed 2 November 2025].

TYSHCHUK, Viktor V. *A Review of Legal Regulation Regarding the Use of Unmanned Aerial Vehicles for Border Security and the Impact of Global Technologies* [online]. *International Comparative Jurisprudence*, vol. 10, no. 1 (2024), pp. 61–81. DOI: https://doi.org/10.13165/j.icj.2024.06.005. Available at: https://ojs.mruni.eu/ojs/international-comparative-jurisprudence/article/view/8158 [Accessed 2 November 2025].

UNITED STATES. DEPARTMENT OF DEFENSE. *DOD Artificial Intelligence Strategy – Fact Sheet* [online]. Department of Defense, 2018. Available at: https://media.defense.gov/2019/Feb/12/2002088964/-1/-1/1/DOD-AI-STRATEGY-FACT-SHEET.PDF [Accessed 2 November 2025].

UNITED STATES. DEPARTMENT OF DEFENSE. *Summary of the 2018 Department of Defense Artificial Intelligence Strategy: Harnessing AI to Advance Our Security and Prosperity* [online]. Department of Defense, 12 February 2019. Available at: https://media.defense.gov/2019/Feb/12/2002088963/-1/-1/1/summary-of-dod-ai-strategy.pdf [Accessed 2 November 2025].

VILLASENOR, John. *"The Tension Between AI Export Control and U.S. AI Innovation"* [online]. *Brookings Institution – Governance Studies*, 24 September 2024. Available at:

https://www.brookings.edu/articles/the-tension-between-ai-export-control-and-u-s-ai-innovation/ [Accessed 2 November 2025].

VOLOSHCHUK, Vadym; BANAKH, Serhii; KOVALCHUK, Olha. *Artificial Intelligence in Military Strategy: New Approaches to Command Management* [online]. *Actual Problems of Law*, no. 1 (May 2025), pp. 69–74. DOI: https://doi.org/10.35774/app2025.01.069. Available at: https://appj.wunu.edu.ua/index.php/apl/article/view/2008 [Accessed 2 November 2025].

WELCH, Carley. *The Army launches a VC-style model, FUZE program, to invest early in promising military technology* [online]. *Breaking Defense*, 15 September 2025. Available at: https://breakingdefense.com/2025/09/army-launches-vc-style-model-fuze-program-to-invest-early-in-promising-military-tech/ [Accessed 2 November 2025].

WRIGHT, Nicholas; MIKLAUCIC, Michael; VEAZIE, Todd (ed.). *Human, Machine, War: How the Mind-Tech Nexus Will Win Future Wars* [online]. Maxwell Air Force Base, AL: Air University Press, April 2025. Available at: https://media.defense.gov/2025/Apr/18/2003694020/-1/-1/1/B-188%20HMW%20FINAL%204.8.25%20-%20WITH%20508%20CHECK.PDF [Accessed 2 November 2025].

YANG, Boquan; LI, Jixiong; ZENG, Ting. *A Review of Environmental Perception Technology Based on Multi-Sensor Information Fusion in Autonomous Driving* [online]. *World Electric Vehicle Journal*, vol. 16, no. 1 (2025), Article 20. DOI: https://doi.org/10.3390/wevj16010020. Available at: https://www.mdpi.com/2032-6653/16/1/20 [Accessed 2 November 2025].

ZENG, Jinghan. *The US Factor in Chinese Perceptions of Militarized Artificial Intelligence* [online]. *International Affairs*, vol. 101, no. 2 (March 2025), pp. 677–689. DOI: https://doi.org/10.1093/ia/iiae323. Available at: https://academic.oup.com/ia/article/101/2/677/7976648 [Accessed 2 November 2025].