Forum: United Nations Security Council

Issue: Controlling military applications of artificial intelligence focused on drone proliferation

Officer: Marina Komisarchcik

Table of Contents

Introduction

The strategic integration of artificial intelligence (AI) in military applications, with a focus on the proliferation of unmanned aerial vehicles (UAVs) or drones, has become a crucial and controversial topic in an era characterized by technological advancements. This is a global issue that is generating discussion both domestically and internationally and is becoming more and more prominent. The combat environment has changed due to the unrelenting advancement of AI-driven technologies, which has brought up important concerns regarding the moral ramifications, possible hazards, and issues of international security related to the growing deployment of intelligent drones in combat.

Understanding the many facets of this phenomenon is crucial as we dive deeper into the complex web of debates surrounding the militarization of AI. The emphasis goes beyond the technological aspects and includes the larger geopolitical and ethical factors that support the creation and application of drones with artificial intelligence. These unmanned systems, which are capable of autonomously navigating, assessing, and engaging targets, represent a paradigm shift in the nature of modern warfare and have prompted a reevaluation of the international norms and regulations that currently govern armed conflicts.

In light of this, countries all over the world are faced with a difficult decision regarding how best to balance taking advantage of AI's strategic advantages in military applications with reducing the possible risks and moral dilemmas brought on by the unchecked development of intelligent drones. In diplomatic circles and international forums, the moral implications of deadly autonomous weaponary systems and the requirement for responsible AI governance have emerged as critical global issues

Definition of Key Terms.

Artificial Intelligence (AI): The simulation of human intelligence in machines, allowing them to perform tasks that typically require human intelligence, such as visual perception, speech recognition, decision-making, and language translation.

Military Applications of AI: The utilization of artificial intelligence in various aspects of military operations, including intelligence gathering, surveillance, reconnaissance, target identification, and autonomous decision-making in combat situations.

Drone Proliferation: The widespread and increasing use of unmanned aerial vehicles (UAVs) or drones for military purposes. This includes the development, deployment, and acquisition of drone technology by military forces.

Unmanned Aerial Vehicles (UAVs): Aircraft without a human pilot on board, controlled either remotely by a human operator or autonomously through onboard computers. Drones are a subset of UAVs.

Lethal Autonomous Weapons Systems (LAWS): Weapons that can independently identify, target, and engage adversaries without human intervention. This term is often associated with the ethical concerns surrounding the use of AI in military applications.

Ethical Considerations: The examination of moral principles and values associated with the development and use of AI in military contexts, focusing on issues such as civilian casualties, adherence to international laws, and the accountability of autonomous systems

Global Security: The collective measures and policies undertaken by nations to maintain international peace and protect against threats to security, with a specific focus on how AI and drone proliferation impact global security dynamics.

International Norms and Regulations: The rules and standards established at the international level to govern the development, deployment, and use of AI in military applications, including agreements and treaties aimed at preventing the misuse of technology.

Diplomatic Circles: Forums and discussions involving diplomats, government officials, and international organizations where issues related to AI, drones, and military applications are debated, negotiated, and addressed.

Responsible AI Governance: Frameworks and policies that guide the ethical and responsible development and deployment of AI technologies, emphasizing transparency, accountability, and human oversight.

Background Information

Historical context

The ongoing technological landscape is the backdrop against which discussions regarding the management of military applications of artificial intelligence (AI) in the context of drone proliferation take place. A paradigm shift in the dynamics of modern warfare has been brought about by the increasing integration of artificial intelligence, which simulates human cognitive functions in machines, into military operations. The centerpiece of this technological revolution is the use of unmanned aerial vehicles, or drones, which go beyond traditional military tactics and bring with them a plethora of ethical and security issues on a worldwide basis.

Fundamentally, drone proliferation refers to the global military arsenals' increasing use and deployment of Unmanned Aerial Vehicles (UAVs). These self-governing systems, capable of independent navigation and decision-making, upend conventional ideas about warfare. The spread of smart drones is igniting discussions around the world about moral issues, how they affect national security, and how important it is to have responsible governance structures. The complex dynamics at play at the nexus of advanced artificial intelligence and military applications require a nuanced understanding.

The introduction of AI in military applications has provoked debates within the diplomatic community, where agreements and policies are negotiated. Representatives and policymakers struggle to draw moral lines and deal with urgent issues like civilian casualties and respect for international law. Because of the increased stakes involved in the development and use of lethal autonomous weapons systems (LAWS), the international norms and laws governing armed conflicts need to be reevaluated. The crux of diplomatic engagements is the delicate balance that nations must strike between harnessing the strategic advantages of AI in military contexts and mitigating potential risks. This is because nations must navigate the complexities of this rapidly evolving technological landscape

while upholding standards of global security.

Countries and Organisations Involved

Countries:

United States:

Development and Deployment: The U.S. remains a dominant force in military technology, with significant investments in AI-powered military applications such as drones. Entities like the Department of Defense (DoD) and defense contractors actively contribute to the development and deployment of advanced drone systems.

Strategic Positioning: The U.S. utilizes drones for various military operations globally, including surveillance, reconnaissance, and targeted strikes. Their extensive drone program often leads to debates surrounding ethical and legal implications, particularly concerning civilian casualties.

China:

Emerging Power: China has rapidly emerged as a formidable force in AI and drone technology. The People's Liberation Army (PLA) actively integrates these capabilities into its military strategy, showcasing advancements in autonomous systems for diverse applications.

Strategic Competition: China's advancements in drone technology pose a challenge to U.S. dominance in this field. The competition between the U.S. and China extends beyond technological development, encompassing geopolitical influence and strategic positioning.

Russia:

Investments in AI:Russia's military investments in AI technologies, including drones, highlight its commitment to modernizing its armed forces. The development and

deployment of unmanned systems for reconnaissance and other military purposes underscore Russia's pursuit of technological superiority.

Geopolitical Dynamics: Russia's involvement in AI-driven military applications adds complexity to global security dynamics, particularly concerning its interactions with NATO member states and neighbouring regions.

United Kingdom:

Research and Development: The UK, through its Ministry of Defence (MoD) and defence contractors, contributes to the advancement of AI and drone technologies. Its involvement in research and development initiatives underscores its commitment to maintaining a technological edge in military operations.

International Collaboration:The UK's collaboration with NATO allies and EU member states reflects its engagement in collective efforts to address ethical and legal considerations surrounding the use of AI in military contexts.

International Organisations:

United Nations:

The UN serves as a platform for international dialogue on the responsible use of AI in military applications. Its efforts to address ethical and legal concerns surrounding autonomous weapons systems aim to foster consensus among member states.

NATO:

NATO's discussions on emerging technologies, including AI and drones, are crucial for ensuring a unified approach to security challenges. Collaborative efforts within NATO

facilitate information sharing and coordination among member states.

European Union:

The EU's focus on ethical AI governance aligns with its broader initiatives aimed at promoting responsible technological innovation. Discussions within the EU framework contribute to the development of guidelines for the ethical use of AI in military contexts.

International Committee of the Red Cross (ICRC):

The ICRC's advocacy for compliance with international humanitarian law underscores the importance of considering the humanitarian implications of AI-driven military applications. Its engagement in discussions on autonomous weapons systems emphasizes the need for ethical considerations in armed conflict scenarios

5. Relevant UN treaties and resolutions

UN Security Council Resolution 1540 (2004):

This resolution primarily focuses on preventing the proliferation of weapons of mass destruction (WMDs) and related materials to non-state actors. However, its scope could be expanded to address AI-controlled military technologies and drones.

One approach could involve advocating for amendments or supplementary resolutions that explicitly include provisions regarding the proliferation of AI-controlled military technologies, emphasising the need for responsible use and regulation.

Convention on Prohibitions or Restrictions on the Use of Certain Conventional Weapons (CCW) - Protocol IV:

Protocol IV to the CCW specifically deals with explosive remnants of war. While not directly related to drones, its principles may be relevant to the use of armed drones, particularly concerning civilian protection.

Advocating for amendments or additional protocols to the CCW could address the specific challenges posed by AI-controlled drones, such as ensuring compliance with international humanitarian law and minimizing civilian harm.

UNODC Resolution on Illicit Trafficking of Small Arms and Light Weapons:

Resolutions related to the illicit trade of small arms and light weapons may offer insights into regulatory frameworks and enforcement mechanisms.

Exploring ways to adapt these resolutions to cover the illicit trafficking and use of AI-controlled military technologies, including drones, could involve emphasizing the importance of monitoring and controlling the transfer of such technologies to unauthorized actors.

UNODC Resolution on Cybercrime and Transnational Organized Crime:

Resolutions addressing cybercrime and transnational organized crime within the UNODC framework highlight the need for international cooperation and legal frameworks to address emerging threats.

Proposing amendments to incorporate language specifically addressing the potential misuse of AI in drone proliferation could involve enhancing measures for cybersecurity and preventing unauthorized access to AI systems used in military applications.

UN General Assembly Resolutions on Disarmament and Technology:

Recent General Assembly resolutions on disarmament and emerging technologies provide a platform for addressing the responsible use and proliferation of AI in military applications.

Proposing resolutions or amendments that specifically address the ethical and legal implications of AI-controlled drones could involve promoting transparency, accountability, and adherence to international norms and standards.

International Civil Aviation Organization (ICAO) Guidelines:

While not directly under UNODC, ICAO guidelines on civil aviation safety and security offer insights into regulatory frameworks for drone proliferation.

Referencing or adapting these guidelines to cover the security implications of AI in drones could involve integrating measures for cybersecurity, airspace management, and safety protocols to mitigate risks associated with AI-controlled drone operations.

-

Previous Attempts to Solve the Issue

The Convention on Certain Conventional Weapons (CCW):

Despite ongoing discussions within the CCW framework and regular meetings of the Group of Governmental Experts (GGE) since 2014, the absence of binding agreements suggests challenges in reaching consensus among member states.

Divergent national interests and differing perspectives on the regulation of lethal autonomous weapons systems (LAWS) have hindered progress towards effective regulatory measures within the CCW framework.

The lack of concrete outcomes despite years of deliberation underscores the complexities involved in addressing the implications of AI-controlled military technologies within international forums.

The Campaign to Stop Killer Robots:

While the Campaign to Stop Killer Robots has succeeded in raising awareness and engaging in public discourse, the voluntary nature of its advocacy efforts limits its ability to enforce a preemptive ban on fully autonomous weapons.

Despite efforts to influence policymakers, navigating geopolitical dynamics and vested interests poses challenges in translating awareness-raising initiatives into concrete policy actions.

The campaign's impact may be constrained by the voluntary participation of states and the need for consensus-building among diverse stakeholders.

Ethical AI Guidelines by Tech Companies:

Although tech companies like Google and Microsoft have established ethical guidelines, the voluntary nature of these initiatives lacks enforceability and may not address broader systemic challenges associated with AI in military contexts.

While companies have engaged in internal discussions about the ethical implications of AI, inconsistencies in the implementation of guidelines across the industry hinder their effectiveness in regulating AI-controlled military technologies.

- The gap between ethical principles and practical applications underscores the challenges in ensuring responsible AI use in military applications and highlights the limitations of voluntary guidelines in addressing complex ethical dilemmas.

National Legislation and Policies:

Despite discussions and guidelines from entities like the Department of Defense in the United States, the absence of comprehensive legislation specific to autonomous weapons systems indicates challenges in developing cohesive regulatory frameworks at the national level.

Variations in national approaches and the absence of harmonised regulations across countries contribute to a fragmented regulatory landscape, hindering efforts to effectively govern AI-driven warfare and mitigate associated risks.

The complexities of regulating AI in military applications pose challenges for policymakers, resulting in delays in the development and implementation of comprehensive legislation addressing autonomous weapons systems.

Research and Academic Initiatives:

While academic contributions provide valuable insights into the ethical dimensions of AI in military applications, the translation of research findings into actionable policy measures remains a challenge.

The gap between academic research and policy implementation highlights the need for greater collaboration between researchers and policymakers to bridge knowledge gaps and develop robust regulatory frameworks.

Despite efforts to enhance understanding of the challenges and potential solutions, the failure to translate academic insights into concrete policy actions underscores the complexities involved in regulating AI-controlled military technologies.

Possible Solutions

Establishment of a UNODC Working Group on AI Arms Control:

It recommends the creation of a specialized working group within UNODC dedicated to AI arms control, particularly in monitoring and preventing the illicit trafficking of AI-controlled military technologies.

Integration of AI Control Measures into Existing Anti-Terrorism Conventions:

Suggests amending existing UNODC conventions related to counter-terrorism to include measures controlling the development and use of AI in drones for unlawful purposes.

UNODC-led Capacity Building Programs:

Advocates for UNODC-led capacity building programs to assist member states, particularly those with limited resources, in developing regulatory frameworks for AI-controlled drones, alongside training initiatives focusing on ethical use and risk identification.

International Intelligence Sharing Mechanism:

Proposes establishing an international mechanism, coordinated by UNODC, for sharing intelligence related to the development and proliferation of AI-controlled military technologies, emphasizing collaboration among member states to prevent illicit technology transfer.

Regulating Private Sector Involvement:

Addresses the involvement of private entities in AI-controlled drones' development, proposing measures to regulate their activities and emphasizing transparency to prevent misuse of AI technologies.

UNODC Certification and Verification Process:

Introduces the concept of a UNODC-led certification and verification process for member states' AI-controlled military technologies, defining criteria for certification, including adherence to ethical standards and international law compliance.

Legal Framework for Extraterritorial Jurisdiction:

Considers establishing an international legal framework to allow states to exercise extraterritorial jurisdiction in cases involving illicit AI-controlled drone use, ensuring mechanisms for prosecuting entities engaged in illegal activities.

Bibliography

Rosen, B. (2023, November 16). AI and the Future of Drone Warfare: Risks and Recommendations. Just Security. https://www.justsecurity.org/89033/ai-and-the-future-of-drone-warfare-risks-and-recommendations/

Missiroli, A. (2020, 5 mayo). NATO Review - Game of Drones? How new technologies affect deterrence, defence and security. NATO Review. https://www.nato.int/docu/review/articles/2020/05/05/game-of-drones-how-new-technologies-affect-d eterrence-defence-and-security/index.html

Petrovski, A., & Radovanović, M. (2022). APPLICATION OF DRONES WITH ARTIFICIAL INTELLIGENCE FOR MILITARY PURPOSES. ResearchGate. https://www.researchgate.net/publication/364324778_APPLICATION_OF_DRONES_WITH_ARTIF ICIAL_INTELLIGENCE_FOR_MILITARY_PURPOSES

Burt, P. (2022, 9 septiembre). Skyborg: AI control of military drones begins to take of . Drone Wars UK. https://dronewars.net/2022/01/03/skyborg-ai-control-of-military-drones-begins-to-take-off

Horowitz, M. C., Kahn, L., & Mahoney, C. (2020). The future of Military applications of Artificial Intelligence: a role for Confidence-Building Measures? Orbis, 64(4), 528-543. https://doi.org/10.1016/j.orbis.2020.08.003

Morgan, F. E. (2020, 28 abril). Military applications of artificial intelligence: ethical concerns in an uncertain world. RAND. https://www.rand.org/pubs/research_reports/RR3139-1.html

Johnson, J. (2020). Artificial intelligence, drone swarming and escalation risks in future warfare. RUSI Journal, 165(2), 26-36. https://doi.org/10.1080/03071847.2020.1752026

Raimon, M. (2021, 7 octubre). Los drones, un arma polémica cada vez más usada en los conflictos armados. Expansión. https://expansion.mx/mundo/2021/10/07/drones-arma-cada-vez-mas-usada-en-guerra-afganistan