



**H·I·S**  
HARARE INTERNATIONAL SCHOOL

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# ZIMUN XI

*The Cost of Innovation:*

*Navigating the Ethical Responsibilities of Technological  
Advancements and Societal Change for Inclusive, Sustainable  
Development in a Globalised World*



*Security Council*

*Analysing the Implications of Autonomous Weapons for Global Peace  
and Ethical Governance*

**Committee:** The Security Council

**Issue:** Analysing the Implications of Autonomous Weapons for Global Peace and Ethical Governance

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## INTRODUCTION

In the history of war and international relations, the introduction of autonomous weapons systems (AWS), commonly referred to as "killer robots," marks a turning point. Because these systems can choose and attack targets on their own without human assistance, they are developing quickly and posing serious concerns about human security, world peace, and the moral underpinnings of government. Given the wide-ranging potential effects, a thorough analysis of the opportunities and risks present at this technological frontier is important.

It is astounding how far this evolution has come. The military robotics market is expected to be worth billions of dollars globally as of 2023, and forecasts indicate exponential growth over the next ten years. According to a recent survey, 45-55% of military and AI experts think that fully autonomous weapons will probably be used in the upcoming 10-20 years. The rapidity of progress emphasizes how urgent this investigation is. The development of such technologies is also being actively pursued by nations worldwide, raising the possibility of an arms race that might have a significant impact on global stability. There are serious repercussions from this unregulated development.

As former U.S. Secretary of Defense General James Mattis observed, "The speed of technology demands new, agile thinking." Although encouraging in many ways, such rapid development also carries a lot of risks. Important ethical and legal questions are brought up when machines are given the ability to make life-or-death choices. Significant worries include algorithmic bias, the possibility of unintended escalation, and the degradation of human accountability. Immanuel Kant, a philosopher, stated, "Act only according to that maxim whereby you can at the same time that it should become a universal law." In light of AWS, we must consider whether or not we can all agree on a future in which robots, not people, decide when to use deadly force. The purpose of this report is to analyze these intricate problems.

This research examines the numerous ramifications of AWS, with an emphasis on both technological and ethical aspects. It will investigate how these systems may affect the character

of warfare, the laws of armed conflict, and the prospects for world peace. This analysis, based on a synthesis of current research, legal frameworks, and expert opinions, will give a careful assessment of the potential and difficulties connected with AWS, as well as approaches to responsible governance and international collaboration.

## DEFINITION OF KEY TERMS

**Autonomous Weapons Systems (AWS):** Machines that can select and engage targets without human intervention, using advanced algorithms and sensors.

**Lethal Autonomous Weapons (LAWs):** Autonomous systems capable of using lethal force, raising ethical and legal concerns about accountability and decision-making.

**Artificial Intelligence (AI):** The development of computer systems that can perform tasks that typically require human intelligence, such as learning, problem-solving, and decision-making.

**International Humanitarian Law (IHL):** A set of rules and principles that regulate the conduct of war and protect civilians, including the principles of distinction, proportionality, and precaution.

**Ethical Governance:** The framework of principles, norms, and institutions that guide decision-making and ensure responsible development and use of autonomous weapons.

**Machine Learning (ML):** A subset of AI that enables machines to learn from data and improve their performance over time, without being explicitly programmed.

**Robotics:** The design, construction, and operation of robots, including autonomous systems that can interact with their environment and make decisions.

**Global Peace and Security:** The stability and safety of the international community, which may be impacted by the development and deployment of autonomous weapons.

**Accountability:** The responsibility of individuals, organizations, or states for the actions of autonomous systems, including liability for any harm caused.

**Cybersecurity:** The protection of autonomous systems from cyber threats, which could compromise their safety and reliability.

## BACKGROUND ON THE ISSUE

As stated by Marie Wareham, the Coordinator of the Campaign to Stop Killer Robots, "The development of autonomous weapons systems is a fundamental challenge to the international rule of law and the protection of civilians during armed conflict." This phrase captures the heart of the concerns about the rise of autonomous weapons systems, which are becoming an increasingly important component of modern combat. The notion of autonomous weapons, commonly known as "killer robots," refers to devices that can pick and engage targets without human interaction, employing powerful algorithms and sensors to make real-time choices.

Although there are potential advantages of autonomous weapons, such as improved accuracy, minimized soldier loss, and efficient technological capabilities, there are also key issues surrounding the use of weapons that would automatically select their targets. One big problem is accountability, when machines make life-or-death choices. As such technologies develop, it becomes less clear who, if anyone, is responsible for a failure — the manufacturer, military commander or programmer.

The rise of autonomous weapons demanded and still demands careful regulation to ensure civilian protection, uphold international law, and address the ethical implications surrounding their use.

## CURRENT CONTEXT

Rheinmetall has joined hands with U.S. software company Auterion to create standardized operating procedures for autonomous combat drones on the battlefield. The two companies will join forces to develop a common platform that will improve interoperability across different unmanned systems due to higher demand for the application of drones in warfare. Likewise, the Royal Australian Air Force (RAAF) is also making significant investments to upgrade its air combat fleet, including the development of the MQ-28A Ghost Bat, an autonomous platform, in partnership with Boeing Defence Australia. This is consistent with Australia's drive to incorporate sophisticated autonomous technologies into its military.

The rate of innovation in AWS has prompted global efforts to set up regulatory systems. On 2 December 2024, the United Nations General Assembly voted on Lethal Autonomous Weapons Systems resolution with a landslide majority: 166 votes against 3 (Belarus, Democratic People's Republic of Korea, and the Russian Federation), and 15 abstentions. The resolution attests to increasing anxiety in the international community on the use of AWS and the need for end-to-end regulation. In his 2023 New Agenda for Peace, the UN Secretary-General reaffirmed the call for a legally binding instrument to ban deadly autonomous weapons systems that can operate

independently without human direction or control and are not able to satisfy international humanitarian law. He invited states to negotiate for such a tool by 2026, urging them to engage with the legal and ethical issues surrounding AWS.

The deployment of AWS gives rise to deeply ethical and legal concerns. The International Committee of the Red Cross (ICRC) defines lethal autonomous weapon systems as any weapon system possessing autonomy in its critical functions—i.e., a weapon system that can select and engage targets autonomously, without human involvement. This kind of autonomy contravenes widely accepted principles of international humanitarian law, specifically the distinction, proportionality, and necessity requirements governing the use of force. Additionally, the moral implications of AWS are profound. The possibility of machines independently making life-or-death choices has tested responsibility and moral accountability in the use of such systems. With the advancement in AI technology, the global community is struggling with how technological progress can be balanced with the maintenance of human dignity and the protection of civilian lives.

The contemporary age of autonomous weapons systems is characterized by rapid development in technology, heightened global attempts at regulating, and deep-rooted ethical and juridical controversy. With each state moving towards developing and deploying the same, the need for the international community to convene extensive dialogue is in the formulation of strong frameworks which regulate the use of AWS with a view to promoting their development as in accordance with international humanitarian law and ethics.

## **MAJOR COUNTRIES AND ORGANIZATIONS INVOLVED**

### **1. United States**

The United States is among the leaders in developing and deploying autonomous weapons systems. Being one of the most militarily powerful countries with significant investment in robotics and artificial intelligence (AI), the U.S. government has been actively looking for the integration of autonomous systems into its defense strategy. The Pentagon itself has been part of various research programs that have focused on developing more autonomous military technology, such as unmanned aerial vehicles (UAVs) and robotic ground systems. But the U.S. is also concerned about the potential implications of the weapons in the sense of accountability and ensuring that human control is still included in military operations.

The U.S. stance regarding autonomous weapons has been generally hesitant to a pre-emptive prohibition of the technologies. They favor the creation of international norms that emphasize responsibility and effective control without inhibiting innovation.

## **2. Russia**

Russia is also among the leading nations in the development of autonomous defense technologies, specifically unmanned vehicles and drones. The Russian military has closely watched with great interest the implementation of AI systems for intelligence gathering, surveillance, and combat. Russia has been keen on applying completely autonomous systems for battlefield environments and has seen the potential benefits to be achieved by minimizing human risk.

However, as in the United States, Russia has hesitated to commit to an international treaty banning autonomous weapons, perceiving that doing so would limit their own military options and put them at a disadvantage. Russia's stance illustrates the geopolitics of today's competition in the creation and deployment of sophisticated military technology.

## **3. China**

China is among the world's fastest-growing countries to adopt and utilize autonomous weapons systems. China has spent a lot of money on AI and robotics and is working to become the global leader in military technology. China's future military strategy includes both artificial intelligence-based autonomous systems and conventional weapons platforms. The nation has allegedly created a wide range of drones and robot systems for reconnaissance and attack missions, some of which are intended for autonomous combat operations.

China has also stood against a ban on autonomous weapons, claiming the move would put brakes on the development and defeat national security targets. Consequently, China is at the forefront in the international conversation, calling for regulation but not a global prohibition.

## **4. European Union**

The European Union (EU) is a league of nations playing a major role in ethical governance of autonomous weapons. EU member states, including Germany, France, and the United Kingdom, have also expressed concerns over autonomous systems at war, in particular regarding accountability, human rights, and weapons escalation. The EU has promoted robust international legislation to regulate autonomous weapons, emphasizing human control and decision-making supervision of military procedures.

The EU is also promoting an international convention that bans fully autonomous death weapons and maintains human judgment as the central factor in warfare. They aim to fill the gap between technology and morals as well as global security.

## **5. International Committee of the Red Cross (ICRC)**

The ICRC is also spearheading the global discussion on autonomous weapons as a humanitarian concern. As a body dedicated to the protection of civilians and respect for international

humanitarian law (IHL), the ICRC has expressed concerns regarding the possibility of AWS contravening the fundamental principles of IHL, such as proportionality, distinction, and precaution.

The ICRC aims to ensure autonomous weapons adhere to the current standards in law and ensure that human accountability is ensured in every phase of their use. The organization also demanded international discussion and agreements regarding the regulation of the use of autonomous weapons and ensuring they do not get utilized in a manner that would intensify suffering or violate humanitarian principles.

## **6. United Nations (UN)**

The United Nations, its agencies notwithstanding, such as the UN Office for Disarmament Affairs (UNODA), have been instrumental in fostering global debate regarding autonomous weapons regulation. The UN has held a number of meetings, where member states negotiated how best to ensure that autonomous systems were responsibly utilized and international law, including the Geneva Conventions, was preserved.

The UN also looks at the general impact of AWS upon global security and the threat of an arms race. Whereas some of the UN member nations call for banning it, others say that regulations should be put in place so that these technologies can be used properly, under human influence, and within the framework of international law.

## **7. Non-Governmental Organizations (NGOs)**

There are some NGOs that also strive to create awareness and campaign for responsible control of autonomous weapons. Human Rights Watch and the Campaign to Stop Killer Robots have been working together with governments to achieve a legally binding treaty banning fully autonomous weapons. These organizations are concerned with the humanitarian threats of AWS, including the potential for abuse, targeting civilians, and the difficulty of attributing responsibility to actors for actions carried out by autonomous systems.

# **TIMELINE OF KEY EVENTS**

## **1. 1940s-1950s: Initial Experimentation with Automation and Robotics**

**World War II and Cold War Era:** Autonomous robots and weapons took shape during the era of and shortly after World War II. The initial automatist technology, like the V-2 rockets of Nazi

Germany, presented the idea of weapons that would function to some extent autonomously. They were the first indications of the automation to come of autonomous war technology.

**Cold War:** The United States and the Soviet Union started creating various automated systems, such as missiles and drones, during the Cold War that paved the way for autonomous weapons in the future.

## **2. 1970s-1990s: Unmanned Aerial Vehicles (UAVs) development**

**1970s:** Technology of drones and UAVs to be used as military reconnaissance vehicles was developed further. Remotely controlled UAVs were the first but marked the direction to future autonomy in military systems.

**1990s:** The US military started to deploy UAVs such as the Predator drone for surveillance and, subsequently, for precision strikes. The drones paved the way for more autonomous systems with advanced sensors and features, such as semi-autonomous flight and targeting.

## **3. 2000s: Autonomous Technology Advances**

**2000s:** Artificial intelligence (AI), machine learning, and robotics advancements started to pick up speed. In the early 2000s, UAVs like the MQ-9 Reaper were used in war zones to carry out airstrikes with minimal human input. Although remotely operated, these systems also started questioning the involvement of human input in war from an early stage.

**2004:** The U.S. Department of Defense's Defense Advanced Research Projects Agency (DARPA) sponsored the DARPA Grand Challenge, a contest to create autonomous ground vehicles. The contest served to spur innovation in autonomous vehicle technology, some of which would find its way into military applications.

**2008:** The Convention on Certain Conventional Weapons (CCW) opened the United Nations debates on the threat of autonomous weapon systems for the first serious diplomatic discussion of the issue.

## **4. 2010s: Fast-paced Technology Developments and Increasing Ethical Concerns**

**2010-2014:** The pace at which fully autonomous weapons systems were being developed accelerated rapidly. Drone warfare and robotic systems were already starting to showcase abilities that would not be human-controlled in some situations, like making decisions autonomously and recognizing targets. Initially, the systems were used for monitoring, but eventually military strategists were thinking of utilizing them on the battlefield.

**2013:** The United Nations Human Rights Council held a session discussing the ethics of killer robots, and the outcome was that there was a demand for further regulation on the systems. Discussion on whether or not AWS might be able to disregard international humanitarian law intensified.



**2015:** The Campaign to Stop Killer Robots was initiated, an international human rights coalition of NGOs calling for a ban on fully autonomous machines that can decide and target by themselves. The campaign raised the issue of dangers such technologies are likely to constitute, specifically on the grounds of accountability and likely misuse in non-military surroundings.

**2016:** A turning point was reached in the debate when more than 1,000 robotics and AI specialists signed an open letter urging a ban on autonomous weapons. The letter highlighted the security and moral issues of putting life-or-death decisions in the hands of machines.

**2017:** The United Nations Convention on Certain Conventional Weapons (CCW) convened a Group of Governmental Experts (GGE) to address the matter of lethal autonomous weapons. It was a significant step towards institutionalizing international discussion of the regulation and governance of AWS.

**2018:** The first official session of the UN was held on autonomous weapons, during which the GGE reconvened to debate guidelines on the potential use of these systems. The global community remained divided, however, as to whether to call for a preemptive ban or to implement controls over their use.

## **5. 2020s: International Calls for Regulation and Growing Deployment**

**2021:** The International Committee of the Red Cross (ICRC) released a report cautioning against the humanitarian threat of autonomous weapons. The ICRC was concerned about whether or not such systems could contravene international humanitarian law, particularly if there is insufficient human responsibility for actions carried out by autonomous systems.

**2022:** With development in AWS proceeding, the world's largest military powers, namely the U.S., China, and Russia, conducted joint and independent military maneuvers with AI-driven systems and robotics technologies. The maneuvers demonstrated the new role of autonomous systems in contemporary warfare.

## **RELEVANT UN RESOLUTIONS, TREATIES, & EVENTS**

The following are some of the most important UN resolutions and documents on autonomous weapons systems:

**First Committee Resolution on Lethal Autonomous Weapons Systems (2023):** In November 2023, the UN General Assembly's First Committee adopted a resolution that discussed lethal autonomous weapons systems and emphasized the necessity of human control over decision-making that uses lethal force.

[https://press.un.org/en/2023/gadis3731.doc.htm?utm\\_source=chatgpt.com](https://press.un.org/en/2023/gadis3731.doc.htm?utm_source=chatgpt.com)

**Convention on Certain Conventional Weapons (CCW):** The CCW is the world's main instrument for weapon control of indiscriminate effect. It has been addressing lethal autonomous weapons systems since 2016 via its Group of Governmental Experts (GGE).

[https://disarmament.unoda.org/the-convention-on-certain-conventional-weapons/background-on-laws-in-the-ccw/?utm\\_source=chatgpt.com](https://disarmament.unoda.org/the-convention-on-certain-conventional-weapons/background-on-laws-in-the-ccw/?utm_source=chatgpt.com)

**Group of Governmental Experts (GGE) Reports:** The GGE has published a number of reports regarding killer robots, such as the report of the 2021 session. These reports give us an idea of international discussions and suggestions regarding regulation of these technologies.

[https://meetings.unoda.org/ccw/convention-certain-conventional-weapons-seventh-group-governmental-experts-2021?utm\\_source=chatgpt.com](https://meetings.unoda.org/ccw/convention-certain-conventional-weapons-seventh-group-governmental-experts-2021?utm_source=chatgpt.com)

**ICRC Commentary on CCW GGE 'Guiding Principles':** The International Committee of the Red Cross (ICRC) released commentary on the 'Guiding Principles' of the CCW GGE, providing insight into the humanitarian implications of autonomous weapons systems.

[https://documents.unoda.org/wp-content/uploads/2020/07/20200716-ICRC.pdf?utm\\_source=chatgpt.com](https://documents.unoda.org/wp-content/uploads/2020/07/20200716-ICRC.pdf?utm_source=chatgpt.com)

The documents are available through the United Nations Office for Disarmament Affairs (UNODA) and the UN Digital Library.

## POSSIBLE SOLUTIONS

### **1. International Convention or Treaty Prohibiting Fully Autonomous Weapons**

**Recommendation:** The most often cited remedy is likely the signing into force of a binding international convention prohibiting the creation, manufacture, and deployment of fully autonomous weapons that are capable of killing or maiming individuals without human oversight. This would be like the global prohibitions on chemical weapons.

**Rationale:** Supporters such as the Campaign to Stop Killer Robots contend that fully autonomous weapons have no accountability and are extremely risky for international humanitarian law and human rights. An outright ban would stop the misuse of these weapons in conflict.

### **2. "Human-in-the-loop" Regulation**

**Proposal:** Another option is to make sure human agency is preserved in the decision loop if AWS are used. This is possible by insisting on a "human-in-the-loop" architecture where there is a

human operator still in the central deciding on the use of lethal force, even when the operation is carried out independently by the system.

Rationale: This would be to promote accountability in that human judgment would be utilized in deciding to use force, counteracting concerns on the ability of autonomous systems to commit unaccountable mistakes or violations of international law.

### **3. Increased Transparency and Accountability Mechanisms**

Proposal: Militaries and governments must open to the public what their AWS capability, deployments, and operational norms are. Public disclosure of the manner in which such systems are structured, tested, and deployed in combat would be involved in this transparency.

Rationale: Transparency would facilitate easier international monitoring to be done better and allow nations, groups, and the public to evaluate the dangers of AWS. It would also establish mechanisms for accountability to prevent misuse or irresponsible use of these weapons.

### **4. Developing Clear International Guidelines for Ethical Use**

Proposal: The UN and other global institutions can create a set of worldwide ethical standards on the use of autonomous systems against armed conflicts. These standards can be based on existing paradigms of international humanitarian law (IHL) and human rights law in identifying clear boundaries on what is acceptable when it comes to autonomous weapons.

Rationale: Ethical standards would offer a framework for military forces to construct, develop, and deploy autonomous weapons so that they respect the fundamental principles of humanity, necessity, and proportionality.

### **5. Establishing AI Safety Standards**

Proposal: Governments, through technology firms and international bodies, can create comprehensive AI safety standards and certification procedures exclusively for military technologies, i.e., autonomous weapons.

Rationale: Such standards would ensure AWS function safely, predictably, and in conformity with international law. This would reduce risks due to the unpredictability or breakdown of AI warfare systems, leading to unforeseen consequences.

### **6. Support for Multilateral Disarmament Negotiations**

Proposal: Governments must continue to engage in multilateral disarmament negotiations in the UN and other global forums, such as the CCW, so that all states are engaged in regulating AWS and any regulation or treaty is global in reach.

Rationale: Multilateral negotiations would guarantee that no state is left behind in the regulation process, avoiding a technological race and ensuring that the entire international community collaborates to prevent the malicious use of autonomous weapons.

### **7. Civil Society Involvement and Activism**

Proposal: NGOs and civil society groups need to continue pushing for strict regulations and awareness of the ethical implications of autonomous weapons. Public pressure can encourage governments to take firmer positions on restricting AWS use and moving towards disarmament treaties.

Rationale: Civil society has an important role to play in ensuring that governments are accountable and military technology development is aligned with ethical standards. By raising the level of public consciousness and activism, governments can be made to respond more responsibly and transparently in AWS development.

### **8. Conflict Prevention and Non-lethal Technologies Development**

Proposal: Instead of depending on independent lethal force, the emphasis may be placed on the creation of non-lethal technologies and systems aimed at disabling threats without damage. This would involve the deployment of autonomous systems for defense duty with the intention of disabling adversary systems instead of destroying or eliminating them.

Justification: Non-lethal options would reduce the dangers of AWS causing indiscriminate killing or escalating conflict. These options may be used to incapacitate but not kill, thus maintaining harm to a minimum to combatants and civilians.

## WORKS CITED

### Specifics:

<https://www.stopkillerrobots.org/>

<https://www.icrc.org/en/asssues/autonomous-weapons>

<https://disarmament.un.org/>

<https://www.sipri.org/>

<https://press.un.org/en>

<https://digitallibrary.un.org/>

<https://disarmament.unoda.org/the-convention-on-certain-conventional-weapons/>

<http://webtv.un.org/>

[https://press.un.org/en/2023/gadis3731.doc.htm?utm\\_source=chatgpt.com](https://press.un.org/en/2023/gadis3731.doc.htm?utm_source=chatgpt.com)

[https://documents.unoda.org/wp-content/uploads/2020/07/20200716-ICRC.pdf?utm\\_source=chatgpt.com](https://documents.unoda.org/wp-content/uploads/2020/07/20200716-ICRC.pdf?utm_source=chatgpt.com)

[https://meetings.unoda.org/ccw/convention-certain-conventional-weapons-seventh-group-governmental-experts-2021?utm\\_source=chatgpt.com](https://meetings.unoda.org/ccw/convention-certain-conventional-weapons-seventh-group-governmental-experts-2021?utm_source=chatgpt.com)

### Think Tanks and Research Organizations:

<https://www.brookings.edu/>

<https://carnegieendowment.org/>

<https://www.csis.org/>

<https://www.crisisgroup.org/>

### Government and Military Websites:

<https://www.defense.gov/>

<https://www.af.mil/>

<https://www.gov.uk/government/organisations/ministry-of-defence>

<https://www.defence.gov.au/>

<https://eng.mil.ru/>

### Academic Databases and Journals:

<https://www.jstor.org/>

<https://muse.jhu.edu/>

<https://scholar.google.com/>

<https://www.sciencedirect.com/>

### Specialized News and Information Sources:

<https://www.defensenews.com/>

<https://breakingdefense.com/>

<https://thebulletin.org/>