# Warfare Redefined: Lethal Autonomous Weapons Systems and the UN's Failure to Regulate

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## I. Introduction

The regulation of arms is integral to the appearance and reality of international security. In the absence of an international governing force, international institutions act as norm-establishers; the pressure to abide by treaties is largely societal. The United Nations (UN) has historically established the norms surrounding weapons. During the Cold War's arms race and an increasing international concern surrounding nuclear war, nations voiced their worry at the UN. In 1961, Ireland proposed a ban on nuclear technology distribution at the General Assembly.[2] This idea was first met with pushback, but after the Cuban Missile Crisis in October of 1962, the threat of nuclear war was realized in its entirety.[3] The global powers with nuclear capabilities — the United States, the Soviet Union, the United Kingdom, China, and France — needed to balance their interests in strengthening their military capability while also protecting international security. The Treaty on the Non-Proliferation of Nuclear Weapons (NPT) prevents the spread of nuclear weapons and nuclear technology and went into effect in 1970. The NPT is a multilateral treaty demonstrating the effort of nuclear disarmament by the powerful nuclear-weapon states. It was extended indefinitely in 1995 and joined by 191

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[2] "The Nuclear Non-Proliferation Treaty (NPT), 1968," Office of the Historian, accessed December 6, 2025, https://history.state.gov/milestones/1961-1968/npt.

[3] "The Cuban Missile Crisis, October 1962," Office of the Historian, accessed December 6, 2025, https://history.state.gov/milestones/1961-1968/cuban-missile-crisis.

states.[4] The International Atomic Energy Agency (IAEA) was established to ensure compliance with the NPT through inspections. Although nations such as South Sudan, India, Pakistan, and Israel have never joined the NPT and North Korea withdrew in 2003, it is the symbolic act of the 191 states signing the treaty and joining the shared acknowledgment of nuclear disarmament that creates international security, or at least attempts to.[5] Only nine states are believed to have nuclear weapons, but 191 states signed the NPT, demonstrating an international agreement and commitment to protecting humanity as a boundless idea rather than protecting state survival with nuclear weapons.[6] The presence of nuclear weapons may cause deterrence due to mutually assured destruction, but it also redefines warfare and its potential.

Today, the UN is discussing regulating a new weapon that will redefine war in the 21st century: Lethal Autonomous Weapons Systems (LAWS). LAWS are not a specific platform or singular weapon that is manufactured, but rather a category of capability concerning autonomy.[7] These weapons systems do not require a human to operate their function, thus they operate "autonomously." However, this system can include manual and autonomous modes. Autonomous weapons systems (AWS) can be used for defense or offense. On the defense, AWS can be used for collecting intelligence and surveilling surrounding areas. Offensive AWS or LAWS can be used to identify targets and neutralize enemies, not just for counterattacks. Lethal autonomous weapons systems can identify a

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[4] "Treaty on the Non-Proliferation of Nuclear Weapons," United Nations Office for Disarmament Affairs, accessed December 6, 2025, https://disarmament.unoda.org/en/our-work/weapons-mass-destruction/nuclear-weapons/treaty-non-proliferation-nuclear-weapons.

[5] "Fact Sheet: Nuclear Non-Proliferation Treaty (NPT)," Center for Arms Control and Non-Proliferation, last modified April 14, 2017, accessed December 6, 2025, https://armscontrolcenter.org/fact-sheet-nuclear-non-proliferation-treaty-npt/.

[6] Hans Kristensen et al., "Status of World Nuclear Forces," Federation of American Scientists, last modified March 26, 2025, accessed December 6, 2025, https://fas.org/initiative/status-world-nuclear-forces/.

[7] Rachel Stohl and Shannon Dick, *The Arms Trade Treaty and Drones* (Stimson, 2018), [Page 3].

target and attack without human intervention.[8] This is considered a "fire, forget, and find" capability where the weapons systems, often powered by AI, are launched and identify a target, "forget" the human operator, and proceed to eliminate their identified target.[9] They can also be used for base or ship defense, such as the Phalanx weapon system used by the U.S. Navy, on land and sea, to detect anti-ship missiles and close-in threats and perform kill assessments against these high-speed threats.[10] LAWS have been reportedly used in conflicts such as the Second Libyan Civil War and the Russo-Ukrainian War. The countries leading LAWS development are the United States, China, and Russia.[11] In this article, I discuss the UN's role in regulating LAWS, specific drones with autonomous capabilities, and emerging international security risks. I provide insight into how the U.S. is supplying LAWS for the Ukrainian war effort and how LAWS are particularly relevant for African countries facing military coups.

## II. LAWS and the United Nations

Perhaps the most central issue regarding the dialogue surrounding LAWS is the lack of an official definition or way to identify what exactly constitutes such a weapons system, which is preventing international regulations from being instituted. The United Nations has not come to a consensus understanding of LAWS; however, various nations have offered their own definition. While definitions vary, there are some shared commonalities that emerge: states focus on the lack of human intervention or interaction in the

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[8] Samuel Oyewole et al., "Autonomous Weapons Systems in Africa: Emerging Realities, Prospects, and Risks," *Journal of Applied Security Research*, May 12, 2025, [Page 6].

[9] Joe Hernandez, "A Military Drone With A Mind Of Its Own Was Used In Combat, U.N. Says," NPR, last modified June 1, 2021, accessed December 6, 2025, https://www.bpr.org/2021-06-01/a-u-n-report-suggests-libya-saw-the-first-battlefield-killing-by-an-autonomous-drone.

[10] "Phalanx Weapon System," RTX, accessed December 29, 2025, https://www.rtx.com/raytheon/what-we-do/sea/phalanx-close-in-weapon-system.

[11] Euysun Hwang, "Lethal Autonomous Weapons: The Next Frontier in International Security and Arms Control," Stanford University, last modified January 30, 2025, https://fsi.stanford.edu/sipr/content/lethal-autonomous-weapons-next-frontier-international-security-and-arms-control.

systems in question. In a 2023 convention on Certain Conventional Weapons (CCW) hosted by the Group of Governmental Experts (GGE), nations within the United Nations produced their own definition of LAWS. For example, the Russian Federation asserted that the definition should "contain the description of the types of weapons that fall under the category of LAWS, conditions for their production and testing, as well as their usage procedure."[12] The issue with this request is that potentially any weapon can adopt an autonomous system or have it programmed in, complicating this proposed policy. However, after the 2023 convention, the GGE compiled a rolling text in November of 2024, featuring the commonalities between all nations' definitions. The group found consensus that "A lethal autonomous weapon system can be characterized as an integrated combination of one or more weapons and technological components that enable the system to identify and/or select, and engage a target, without intervention by a human user in the execution of these tasks," and "Context-appropriate human control and judgement with regard to the use and effects of LAWS is essential in order to ensure its employment is in compliance with international law, and in particular IHL, including the principles and requirements of distinction, proportionality and precautions in attack."[13] Nevertheless, there is still no consensus definition of LAWS, which inhibits further discussion on preemptive bans.

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[12] *Convention on Prohibitions or Restrictions on the Use of Certain Conventional Weapons Which May Be Deemed to Be Excessively Injurious or to Have Indiscriminate Effects*, Geneva, 6-10 March and 15-19 May, 2023, Group of Governmental Experts on Emerging Technologies in the Area of Lethal Autonomous Weapons Systems. CCW/GGE.1/2023/CRP.1 https://docs-library.unoda.org/Convention_on_Certain_Conventional_Weapons_-Group_of_Governmental_Experts_on_Lethal_Autonomous_Weapons_Systems_(2023)/CCW_GGE1_2023_CRP.1_0.pdf

[13] GGE on LAWs. Rolling text, 8 November 2024. https://docs-library.unoda.org/Convention_on_Certain_Conventional_Weapons_-Group_of_Governmental_Experts_on_Lethal_Autonomous_Weapons_Systems_(2024)/Revised_rolling_text_as_of_8_November_2024_final.pdf

While this definitional ambiguity poses serious threats to the international community, the United Nations is not without small strides towards proper recognition. At this moment, the UN references a few types of weapons that typically have autonomous functions: anti-vehicle and anti-personnel mines, missile defense systems, and loitering munitions.[14] The anti-vehicle and anti-personnel mines and missile defense systems are defensive autonomous weapons systems that operate autonomously after a trigger mechanism. Although the UN considers these demonstrations of autonomous capabilities, other authors argue that these are just "automated" weapons that operate as programmed.[15] Rather, LAWS has autonomy in that the weapon can change its course of action or attack without human intervention; effectively not following preprogrammed operations without a human operator. For the loitering munition, this is a weapon, typically a drone, that flies and loiters above a designated area until a target is identified and the weapon deploys its munition from its built-in warhead. Loitering munitions have been used since the 1980s, but modern AI systems have significantly improved a loitering munition's capabilities. With the integration of AI, a loitering munition can identify a target with optical-electronic sight.[16] As states technologically advance, so will defense systems that can adopt autonomy. The UN states that AI is not a prerequisite for the autonomous capabilities of LAWS, yet the majority of reports of LAWS feature AI-powered systems. Arms manufacturing companies across the globe are beginning to develop AI-powered systems for weapons systems; therefore, if

[14] "Lethal Autonomous Weapon Systems," United Nations Office for Disarmament Affairs, accessed December 6, 2025, https://disarmament.unoda.org/en/our-work/emerging-challenges/lethal-autonomous-weapon-systems.
[15] Oyewole et al., "Autonomous Weapons," [Page 4].
[16] "Lethal Autonomous," United Nations Office for Disarmament Affairs.

states refuse to come to a consensus definition on LAWS, then international regulations on these systems will remain in limbo.[17]

Furthermore, this failure to define LAWS is preventing the UN from negotiating an international ban on LAWS or enacting any humanitarian or ethical mandate on such weapons. The UN held an informal meeting on LAWS in 2014, discussing the technical aspects of autonomy.[18] On December 2nd, 2024, the General Assembly adopted resolution 79/62 that decided to hold informal consultations, and in 2025, the United Nations met twice, in May and in September.[19] These consultations resembled symposiums where experts presented on the subject matter of LAWS. There was a briefing by the Chair of the Group of Governmental Experts on LAWS, which discussed the application of IHL and further measures.[20] There was also a briefing from Ms. Laura Bruun from the Stockholm International Peace Research Institute on individual criminal responsibility.[21] The goal of these informal consultations was to further the conversation on LAWS and allow for governmental experts to discuss the concerns of Member States. There was no voting or tangible changes to international regulations. In the 79/62 resolution that called for these

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[17] "Gotham," Palantir, accessed December 6, 2025, https://www.palantir.com/platforms/gotham/.

[18] *Report of the 2014 informal Meeting of Experts on Lethal Autonomous Weapons Systems (LAWS),* Geneva, 13-14 November 2014, CCW/MSP/2014/3. https://docs.un.org/en/ccw/msp/2014/3

[19] UN (United Nations) General Assembly. 2024. *Resolution adopted by the General Assembly on 2 December 2024. Lethal Autonomous Weapons Systems.* Seventy-ninth session. A/RES/79/62. Available at https://docs.un.org/en/a/res/79/62 (accessed December 2025).

[20] United Nations Headquarters, "Briefing by the Chair of the Group of Governmental Experts on Lethal Autonomous Weapons Systems (GGE LAWS)" May 12, 2025, https://unodaweb-meetings.unoda.org/public/2025-05/Briefing%20Chair%20GGE%20LAWS%20NY%20informal%20consultations%2012-13%20May%202025%20as%20delivered.pdf

[21] United Nations Headquarters, "LAWS informal consultation - Legal considerations Laura Bruun, SIPRI" May 12, 2025, https://unodaweb-meetings.unoda.org/public/2025-05/LAWS%20Informal%20consultations,%2012%20May%20Laura%20Bruun.pdf

consultations, the UN recognizes its concern about "the risk of an emerging arms race."[22] The international stage has seen an arms race before, during the Cold War, and its resulting mutually assured destruction. An arms race is inevitable in the case of LAWS, and without preemptive regulations, the stage is set for perhaps an even more militant power struggle.

The chief concern in the case of an international arms race surrounds current global superpowers and their current LAWS development and/or inventory. In Defense Primer: U.S. Policy on Lethal Autonomous Weapon System, it is stated that, "contrary to a number of news reports, U.S. policy does not prohibit the development or employment of LAWS. Although the United States is not known to currently have LAWS in its inventory, some senior military and defense leaders have stated that the United States may be compelled to develop LAWS if U.S. competitors choose to do so."[23] The U.S. is openly expressing a willingness and compulsion to engage in an LAWS arms race if necessitated. As a nation with nuclear power and a global superpower that recently engaged in the Cold War arms race with Russia, the U.S. is historically ready to spend defense funds on developing LAWS. This should concern the international community and invoke preemptive regulations or a ban on LAWS, which is already in discussion.

United Nations Secretary-General António Guterres supports a preemptive ban on LAWS by 2026, citing ethical concerns. In a video message sent to the informal consultations in May of 2025, Secretary General Guterres said, "Machines that have the power and discretion to take human lives without human control are politically unacceptable, morally repugnant, and should be

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[22] UN (United Nations) General Assembly. 2024. *Resolution adopted by the General Assembly on 2 December 2024. Lethal Autonomous Weapons Systems.* Seventy-ninth session. A/RES/79/62. Available at https://docs.un.org/en/a/res/79/62 (accessed December 2025).

[23] Kelley M. Sayler, "Defense Primer: U.S. Policy on Lethal Autonomous Weapon Systems," Congress.gov, last modified January 2025, accessed December 6, 2025, https://www.congress.gov/crs-product/IF11150.

banned by international law. I reiterate my call for the conclusion of a legally binding instrument by 2026 … First, human control over the use of force is essential. We cannot delegate life-or-death decisions to machines. And second, time is running out to take preventative action."[24] Secretary-General Guterres is correct; time is running out to regulate preemptively. Reports of LAWS use have emerged in conflicts in Europe and Africa. While the NPT was enforced after the threat of nuclear war drew close, there is an opportunity today for a multilateral disarmament treaty for LAWS. However, the U.S. does not support this preemptive ban, stating in the paper "Humanitarian benefits of emerging technologies in the area of lethal autonomous weapon systems" submitted by the U.S. to the GGE for CCW, "automated target identification, tracking, selection, and engagement functions can allow weapons to strike military objectives more accurately and with less risk of collateral damage or civilian casualties."[25] The U.S. is correct in that LAWS can potentially reduce the cost of war and collateral damage. There are many humanitarian benefits to AI target identification to reduce mass casualties in battles. However, AI target identification raises human rights issues as well, whether or not an AI-powered weapon can identify a soldier surrendering or can distinguish soldiers from opposing sides wearing similar uniforms. These issues are further addressed in the section discussing LAWS deployment in African countries.

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[24] "Secretary-General's video message to the informal consultations on Lethal Autonomous Weapons Systems," video, United Nations, May 12, 2025, accessed December 6, 2025, https://www.un.org/sg/en/content/sg/statements/2025-05-12/secretary-generals-video-message-the-informal-consultations-lethal-autonomous-weapons-systems.

[25] *Group of Governmental Experts of the High Contracting Parties to the Convention on Prohibitions or Restrictions on the Use of Certain Conventional Weapons Which May Be Deemed to Be Excessively Injurious or to Have Indiscriminate Effects,* "Humanitarian benefits of emerging technologies in the area of lethal autonomous weapon systems" submitted by the United States of America. Geneva, 9-13 April 2018. CCW/GGE.1/2018/WP.4 https://ogc.osd.mil/Portals/99/Law%20of%20War/Practice%20Documents/US%20Working%20Paper%20-%20Humanitarian%20benefits%20of%20emerging%20technologies%20in%20the%20area%20of%20LAWS%20-%20CCW_GGE.1_2018_WP.4_E.pdf?ver=O0lg6BIxsFt57nrOuz3xHA%3D%3

As a counter to the U.S.'s paper, many question the validity of the belief that employing LAWS may make warfare safe for noncombatants, emphasizing the ability for automated target identification to offer a streamlined opportunity for massacres and genocides. If LAWS are in the possession of terrorist organizations with the intention to harm civilians, then the assistance of AI target identification will enable their efforts and potentially lead to mass casualties. As an international institution intended to promote communication between states, reduce the security dilemma, and facilitate peace, the UN has yet to regulate or ban LAWS; however, warfare in the 21st century has been quick to adopt them, and the time for legislation is now more than ever before.

## III. LAWS in the Russo-Ukrainian War

Perhaps the most significant stage on which LAWS issues have manifested is in the ongoing conflict between Ukraine and Russia. At the 80th session of the UN General Assembly in New York, Ukrainian President Zelenskyy said, "It's only a matter of time, not much, before drones are fighting drones, attacking critical infrastructure and targeting people all by themselves, fully autonomous and no human involved, except the few who control AI systems … We are now living through the most destructive arms race in human history because this time, it includes artificial intelligence."[26] The technological advancements since Russia invaded Ukraine in 2022 have reconstructed the playing field, with both sides now exemplifying autonomous technology in their warfare tactics.

To begin, Ukraine is now forming a defensive line with what are known as *Sky Sentinel*s, unmanned aerial vehicles powered by artificial

[26] Alex Leff, "Ukraine's Zelenskyy issues a stark warning about a global arms race and AI war," NPR, last modified September 24, 2025, accessed December 6, 2025, https://www.npr.org/2025/09/24/nx-s1-5552206/ukraine-zelenskyy-un-general-assembly-trump.

intelligence for air defense.[27] This development is in response to an increase in Russian drone attacks. The Sky Sentinels require no human intervention and possess capabilities that surpass any highly-skilled sniper. They are Ukrainian-made turrets intended to eliminate air threats from Russia's Shahed drones and cruise missiles.[28] The turret is ground-based and equipped with an M2 machine gun.[29] The automated turrets can hit drones moving at 250 meters per second, and operate with a 360-degree horizontal rotation and 90-degree vertical rotation. The Ukrainian army is preparing for serial production, already raising 2.7 million dollars for manufacturing.[30] The Sky Sentinels are examples of autonomous weapons systems with lethal capabilities used for defense or counteroffensive hits; they only identify targets in response to attacking drones.

While the Sky Sentinels are employed only as counterattacks for Ukraine's defensive line, they represent the lean into automated warfare that both sides have taken. Ukraine has reportedly used the Bayraktar TB2 drone, the Switchblade 300 and 600, and the Phoenix Ghost Unmanned Aerial System.[31] The Turkish-made Bayraktar TB2 drones have also been used in other conflicts, such as the Second Libyan War discussed in section 4. The TB2 drones are tactical unmanned aerial vehicles with fully autonomous flight capabilities. They can carry anti-tank missiles and 4 Laser Guided Smart Ammunition with a 150

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[27] "Sky Sentinel: fundraiser for peaceful nights," United24, accessed December 6, 2025, https://u24.gov.ua/sky-sentinel.
[28] "Sky Sentinel," United24.
[29] Oleksandr Yan, "Sky Sentinel: Ukraine to produce anti-aircraft turrets for intercepting drones and cruise missiles," MilitaryNYI, last modified May 27, 2025, accessed December 6, 2025, https://militarnyi.com/en/news/sky-sentinel-ukraine-to-produce-anti-aircraft-turrets-for-intercepting-drones-and-cruise-missiles/.
[30] "Sky Sentinel," United24.
[31] "Weapons systems with autonomous functions used in Ukraine," Automated Decision Research, accessed December 6, 2025, https://automatedresearch.org/news/weapons-systems-with-autonomous-functions-used-in-ukraine/.

kg payload capacity and operational altitude of 16,000 feet.[32] The Switchblades are loitering munitions that act as a flying scout for targets and release small explosive weapons from their payload. For finding and tracking targets, the Switchblades software has feature and object recognition, but it's not a completely lethal autonomous weapons system because a human operator can call off an attack.[33] The Phoenix Ghost is produced by U.S.-based Aevex Aerospace and resembles the aforementioned Switchblade drones, as they are lethal aerial weapons.[34] The U.S. has committed to providing these autonomous weapons systems to Ukraine for war efforts in a 4.5 billion dollar security assistance package, including 700 Switchblade Tactical Unmanned Aerial Systems and 121 Phoenix Ghost Tactical Unmanned Aerial Systems.[35]

On the other side, Russia's drone attacks feature two uses of LAWS: the KUB-BLA and the Lancet drone. Both are manufactured by the Russian arms company Kalashnikov and Zala Aero.[36] The KUB-BLA drone is a loitering munition that specializes in hitting ground targets and using artificial intelligence visual identification (AIVI) and modular cameras for the drone's classification of targets.[37] The AIVI is integral to the drone's autonomy and demonstrates how

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[32] "Bayraktar TB2," Baykar Tech, accessed December 6, 2025, https://www.baykartech.com/en/uav/bayraktar-tb2/#:~:text=OVER%20400%20THOUSAND%20HOURS%20OF%20OPERATIONAL%20FLIGHT&text=An%20onboard%20avionic%20suite%20with,400.000%20of%20operational%20flight%20hours.

[33] Kelsey D. Atherton, "Everything to know about Switchblades, the attack drones the US gave Ukraine," Popular Science, last modified July 31, 2023, accessed December 6, 2025, https://www.popsci.com/technology/switchblade-drones-explained/.

[34] Tara Copp, "Kyiv Asked for a New Kamikaze Drone to Fight Russia. The Air Force Delivered Phoenix Ghost," Defense One, last modified April 21, 2022, accessed December 6, 2025, https://www.defenseone.com/technology/2022/04/kyiv-asked-new-kamikaze-drone-fight-russia-air-force-delivered-phoenix-ghost/365945/.

[35] "Fact Sheet on U.S. Security Assistance for Ukraine," U.S. Department of War, last modified May 10, 2022, accessed December 6, 2025, https://www.war.gov/News/Releases/Release/Article/3027295/fact-sheet-on-us-security-assistance-for-ukraine/.

[36] "Weapons systems," Automated Decision Research.

[37] "Unmanned aeriel vehicles," Kalashnikov, accessed December 6, 2025, https://en.kalashnikovgroup.ru/catalog/bespilotny-letatelnye-apparaty.

loitering munitions will use artificial intelligence for target identification. However, there are no recent reports of the KUB-BLA conducting battlefield kills, and it would be difficult to determine and prove if full autonomy is used lethally. As for the Lancet drone, it is an unmanned aerial vehicle, operating as a loitering munition. It also specializes in identifying targets, but it also possesses its own navigation field and optical-electronic sight.[38] It has a higher payload and can be fitted with high-explosive warheads. The Zala Aero and Kalashnikov group have been key in developing lethal autonomous weapons systems for the Russian army in the Russo-Ukrainian War since 2022.[39]

The Russo-Ukrainian War has become an autonomous arms race, just as the UN anticipated with the development of LAWS and President Zelenskyy warned at the 80th UN General Assembly Session.[40] Between Ukraine's future mass production of Sky Sentinels and the Russian arms company Kalashnikov integrating AIVI for improved target identification, the Russo-Ukrainian war will single-handedly reshape which weapons are used in war. LAWS will pervade future conflicts, and arms manufacturers working to supply these conflicts will prepare for future wars. The U.S. has already committed to providing 4.5 billion dollars in defense and weapons for security assistance. Through this, the U.S. is able to test its manufactured weapons, such as the Phoenix Ghost. U.S. software company Palantir Technologies has developed the operating system Gotham, which can be integrated into a weapon for enhanced target identification and target effector pairing, optimizing the "AI-powered kill chain."[41] It is clear that

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[38] "Russia engages Kub and Lancet kamikaze drones in Ukraine," Army Recognition, last modified June 9, 2022, accessed December 6, 2025, https://www.armyrecognition.com/archives/archives-land-defense/land-defense-2022/russia-engages-kub-and-lancet-kamikaze-drones-in-ukraine.

[39] "Russia engages," Army Recognition.

[40] Samuel Bendett and David Kirichenko, "Ukraine Symposium – The Continuing Autonomous Arms Race," Lieber Institute West Point, last modified February 19, 2025, accessed December 6, 2025, https://lieber.westpoint.edu/continuing-autonomous-arms-race/.

[41] "Gotham," Palantir.

global superpowers and great players in weapons manufacturing will use current conflicts to test their developments. There are societal and political implications to the Russo-Ukrainian conflict, but what cannot be ignored is its significant role in how LAWS will be used for its offensive capabilities.

## IV. Use and Deployment in African countries

The discussion around LAWS often neglects its research, development, and deployment in African countries. The alarm about the risks of autonomous weapons has existed since 2007. At the South African National Defense Force Battle School in the Northern Cape, a computerized cannon system malfunctioned, killing nine soldiers and injuring 14 others.[42] While discussion surrounding LAWS has increased in recent years, the presence of autonomous weapons has been felt for decades. This malfunction incident demonstrates the risks attached to automated weapons and their potential victims. Nevertheless, the possible benefits of AI-enabled weapons interest countries across all continents.

In Morocco, the Mohammed VI Polytechnical University of Morocco is researching the integration of artificial intelligence into the military.[43] The Moroccan military has collaborated with the university on AI-enabled UAVs and currently possesses the second largest fleet of military UAVs in Africa after Egypt, with 223 aircrafts.[44] Across the African continent, 404.36 million dollars worth of autonomous weapons systems, including UAVs and UCAVs, were purchased, totaling 167 platforms according to the SIPRI Arms Transfers Database. These weapons all have varying degrees of autonomy, mostly

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[42] Oyewole et al., "Autonomous Weapons," [Page 2].

[43] "Morocco plans to incorporate AI in military gear for air and ground surveillance," Hespress, last modified December 13, 2023, accessed December 6, 2025, https://en.hespress.com/76354-morocco-plans-to-incorporate-ai-in-military-gear-for-air-and-ground-surveillance.html.

[44] "Morocco has second largest fleet of military drones in Africa," Hespress, last modified December 28, 2024, accessed December 6, 2025, https://en.hespress.com/99490-morocco-has-second-largest-fleet-of-military-drones-in-africa.html.

defensive capabilities such as fully autonomous flight capabilities and identification systems. The main suppliers were China, France, Iran, Israel, Turkey, and the United States; the main recipients were Burkina Faso, Algeria, Mali, Morocco, and Nigeria.[45]

It is clear that developing AI-enabled weapons is appealing to African countries not just for its military benefits but also to remain as technologically advanced as other countries. This is what leads to unintended arms races. Once the military capability of a nation increases, surrounding nations need to improve their own to match the others. This is true for potential and past conflicts and their consequences. The most well-known case of LAWS deployment in an African conflict is in Libya. The multilateral Libyan civil war lasted from 2014 to 2020. The nation was divided into two governments after the U.S.-backed intervention in 2011 that toppled Libya's leader Muammar al-Qaddafi.[46] These two main governments are the Libyan National Army, led by General Khalifa Haftar, and the UN-backed Government of National Accord. Haftar's LNA attempted to overthrow the GNA in April of 2019 by seizing the capital, Tripoli.[47] In response to the conflict, Prime Minister Faiez Serraj of the GNA launched Operation Peace Storm to attack the LNA. In this attack, the GNA utilized Turkish-made weapons systems such as the Bayraktar TB-2 and the TAI Anka S UCAVs. In a March 2021 report, the United Nations Security Council recognized the weapons systems and platforms used by the GNA as lethal autonomous weapons. "Logistics convoys and retreating Haftar's Affiliated Forces (HAF) were subsequently hunted down and remotely engaged

[45] Oyewole et al., "Autonomous Weapons," [Page 10-11].
[46] Center for Preventive Action, "Civil Conflict in Libya," Global Conflict Tracker, last modified July 15, 2024, accessed December 6, 2025, https://www.cfr.org/global-conflict-tracker/conflict/civil-war-libya.
[47] Patrick Wintour and Chris Stephen, "Battle for Tripoli escalates as fighting nears Libyan capital," The Guardian, last modified April 7, 2019, accessed December 6, 2025, https://www.theguardian.com/world/2019/apr/07/libya-us-forces-evacuated-haftar-seeks-military-control.

by the unmanned combat aerial vehicles or the lethal autonomous weapons systems such as the STM Kargu-2 and other loitering munitions" the report found.[48] Furthermore, these LAWS were "programmed to attack targets without requiring data connectivity between the operator and the munition: in effect, a true 'fire, forget and find' capability." This "fire, forget and find" capability refers to the LAWS process that "once fired can guide itself to its target."[49]

The STM Kargu-2 is a rotary-wing attack drone manufactured by the Turkish defence company STM Defense Technologies Engineering. The travel range is 5 kilometers with a maximum speed of 72km/h. The Kargu attack drone is equipped with built-in artificial intelligence and a user-friendly ground control unit interface, allowing for the drone to be operated autonomously or in manual modes. The Kargu also has a rotary-wing combat UAV that carries munitions that are dispersed on detonation.[50] While the UN report did not specify whether or not the Kargu-2 was operating autonomously or manually during the attack, the important aspect is that the HAF were retreating. The HAF were not considered hors d'combat (a soldier out of combat due to illness or injury and immune from attack); rather, they were routing troops that could still be attacked. Yet, the Kargu-2's target identification capabilities from its AI-integrated system make it debatable whether the attack drone can identify a target as injured or surrendering and can suspend the attack without human intervention.[51] For these reasons, LAWS potentially are incompatible with IHL.

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[48] *Letter dated 8 March 2021 from the Panel of Experts on Libya established pursuant to resolution 1973 (2011) addressed to the President of the Security Council,* United Nations Security Council, March 8, 2021. S/2021/229 https://docs.un.org/en/S/2021/229

[49] Hernandez, "A Military," NPR.

[50] "Kargu Rotary-Wing Attack Drone," Airforce Technology, last modified June 4, 2021, accessed December 6, 2025, https://www.airforce-technology.com/projects/kargu-rotary-wing-attack-drone/.

[51] Hitoshi Nasu, "The Kargu-2 Autonomous Attack Drone: Legal & Ethical Dimensions," Lieber Institute West Point, last modified June 10, 2021, accessed December 6, 2025, https://lieber.westpoint.edu/kargu-2-autonomous-attack-drone-legal-ethical/.

Although the UN's 548-page report on the Second Libyan Civil War did not report a battlefield kill by a lethal autonomous weapons system, it is suggested that there is a possibility of a kill during the 2020 attack, which would be the first confirmed LAWS death.[52]

There is another pressing human rights issue with LAWS: who is in possession of the weapons systems? Although autonomous weapons can potentially reduce civilian casualties, if LAWS are in the possession of authoritarian regimes that do not distinguish between civil and militant resistance, there is a great danger posed to civilians resisting these regimes. Non-state armed groups or terrorist organizations can also obtain LAWS through conflicts.[53] In May of 2024, the U.S. allegedly lost three MQ-9 Reaper UCAVs to Yemen's Houthis Rebels, a Zaydi Shiite movement fighting Yemen's Sunni-majority government.[54] Each Reaper costs 30 million dollars.[55] The MQ-9 Reaper is a remotely piloted aircraft armed with AGM-114 Hellfire missiles, GBU-38 Joint Direct Attack Munitions, and GBU-54 Laser Joint Direct Attack Munitions.[56] Yemen's Houthis Rebels have been attacking shipments across the Red Sea and successfully seizing weapons such as the MQ-9 Reaper.[57] This demonstrates that in different hands, the deployment of LAWS can be used to assist aggressive rebel movements such as the Houthis rebels.

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[52] *Letter dated 8 March 2021 from the Panel of Experts on Libya established pursuant to resolution 1973 (2011) addressed to the President of the Security Council,* United Nations Security Council, March 8, 2021. S/2021/229 https://docs.un.org/en/S/2021/229

[53] Oyewole et al., "Autonomous Weapons," [Page 18].

[54] "Who are Yemen's Houthis?," Wilson Center, last modified July 7, 2022, accessed December 6, 2025, https://www.wilsoncenter.org/article/who-are-yemens-houthis.

[55] Jon Gambrell, "Another US MQ-9 Reaper drone goes down in Yemen, images purportedly show," AP News, last modified May 29, 2024, accessed December 6, 2025, https://apnews.com/article/yemen-houthi-rebels-us-military-reaper-drone-7acd2a91856fe78e5d0c5c308e9460a8.

[56] "MQ-9 Reaper," Air Force, accessed December 6, 2025, https://www.af.mil/About-Us/Fact-Sheets/Display/Article/104470/mq-9-reaper/.

[57] Gambrell, "Another US MQ-9," AP News.

For the African continent, there are potential benefits to the deployment of LAWS or non-lethal autonomous weapons systems. Many African countries, such as Gabon and Niger, that face military coup d'etat and state-centric regional tension can benefit from autonomous weapons to build their defense capabilities.[58] Non-lethal autonomous weapons systems can improve intelligence gathering and frontline support for many nations.[59] For nations with minimal defense spending facing security challenges, AWS lowers the cost of war and enables nations to protect themselves against external and internal obstacles, such as pirates, terrorists, and traffickers.

An interest in LAWS or AWS is pervading the African continent, and as we continue the conversation on international regulations on these new weapons systems, it's important to consider each continent and nation's potential benefits or risks of using these technologies.

## V. Conclusion

Autonomy is becoming a battlefield advantage. The norms and terms of warfare have been redefined over the centuries during the great wars, from trench warfare in WWI to drone warfare today. If the UN, as an international institution, fails to regulate LAWS just because of a failure to come to a consensus definition, then future conflicts will become autonomous weapons wars, as seen in the Russo-Ukrainian War.

LAWS do have prospects in reducing the cost of war. They can eliminate human errors in intelligence gathering and other operational decision-making. This is what makes them appealing to countries with a growing interest in research and development. In the aforementioned 2023 convention on CCW, the Russian Federation raised concerns that the potential definition of LAWS should not limit research in the fields of robots and artificial

[58] Alex Vines, "Understanding Africa's Coups," Georgetown Journal of International Affairs, last modified April 13, 2024, accessed December 6, 2025, https://gjia.georgetown.edu/2024/04/13/understanding-africas-coups/.
[59] Oyewole et al., "Autonomous Weapons," [Page 13].

intelligence.[60] Similarly, LAWS is appealing to a large number of countries in the Global South that do not have the same level of defense spending as the U.S. LAWS can minimize the cost of mobilization, medical bills, and military and civilian casualties. They are also appealing to non-state actors and governments for their information collection capabilities and operational reach.[61] However, the risks of lethal autonomous weapons can outweigh their benefits. An arms race is appearing not just in conflicts like the Russo-Ukrainian war, but in countries across the globe. The adoption of LAWS with its offensive capabilities threatens other nations. LAWS are a part of a nation's military capabilities, and nations cannot fall behind in regional development, especially when bordering countries threaten security. In a speech to General and Flag Officers at Quantico, Virginia, Secretary of War Pete Hegseth said, "This is a moment of urgency, mounting urgency. Enemies gather. Threats grow. There is no time for games. We must be prepared. If we're going to prevent and avoid war, we must prepare now… You see, this urgent moment of course requires more troops, more munitions, more drones, more Patriots, more submarines, more B-21 bombers. It requires more innovation, more AI in everything and ahead of the curve, more cyber effects, more counter UAS, more space, more speed."[62] Global superpowers such as the U.S. will begin developing their LAWS arsenal, in the interest of being "ahead of the curve."

LAWS will pervade all continents and all future wars. With AI-powered weapons systems comes the fear of target recognition, which could lead to mass civilian casualties or targeting certain ethnic groups. Albert Einstein once said, "I know not with what weapons WWIII will be fought, but WWIV will be fought with sticks and stones." This sentiment rings true today as warfare is being redefined right before our eyes. Questions of accountability and security

[60] CCW_GGE1_2023_CRP.1
[61] Stohl and Dick, *The Arms*, [Page 1].
[62] Pete Hegseth, "Secretary of War Pete Hegseth Addresses General and Flag Officers" (speech, Quantico, VA, September 30, 2025).

are being raised, and human rights issues are coming to the foreground. It is pertinent that the UN, as an international institution, begin regulating LAWS to establish norms surrounding LAWS' compatibility or lack thereof with IHL. With all these unmanned systems and AI systems identifying and eliminating their targets, the question of accountability and human empathy becomes salient: Will the drone back off when you surrender?