Review of European and Comparative Law | **2025**
Vol. 63, No. 4, 127–159
https://doi.org/10.31743/recl.18954
Received: 11 August 2025 | Accepted: 12 August 2025 | Published: 31 December 2025

International Legal Challenges in Regulating the Use of Artificial Intelligence for Military and Peacekeeping Purposes

Tomislav Dagen
PhD, Assistant Professor, Faculty of Humanities and Social Sciences, Josip Juraj Strossmayer University, Osijek; correspondence address: L. Jagera 9, Osijek, Republic of Croatia; e-mail: tdagen@ffos.hr
https://orcid.org/0000-0002-0652-2403

Keywords:
international law, international humanitarian law, artificial intelligence, peacebuilding, lethal autonomous weapon systems

Abstract: On the threshold of the Fifth Industrial Revolution, the global security order is facing renewed instability, marked by the proliferation of armed conflicts and wars. Emerging technologies, particularly artificial intelligence (AI), are increasingly viewed both as tools of military superiority and as potential disruptors of peace. This paper examines whether AI can and should be developed as an instrument of international law (*de lege ferenda*) to prevent and end armed conflicts, or whether current trajectories in technological advancement are predominantly oriented toward military applications, thereby generating future hostilities and risking violations of international humanitarian law. Through a comparative and analytical approach, the study argues that, despite the erosion of trust in international law, sustainable peace mechanisms must remain rooted in the human dimension, which continues to be the decisive factor in implementing legal norms governing the cessation of hostilities (*de lege lata*).

1. Introduction

We are witnessing an erosion of trust in international law and in the provisions of international legal mechanisms, which ought to be applicable not only to the prevention of armed conflicts and wars, but also to the physical implementation and enforcement of mechanisms capable of bringing

ISSN 2545-384X (Online)

such hostilities to an end. This erosion poses an increasing challenge to those international institutions mandated to establish and maintain peace, as well as to global political leaders and states with the capacity to apply the relevant provisions of international law and the mechanisms derived from them.

Parallel to the challenges of a deteriorating security architecture, we are also witnessing rapid technological advancements, most notably in the field of artificial intelligence (hereinafter: AI). While the very concept of AI permeates public discourse and is omnipresent in academic journals and political debates, some voices caution that we must remain aware of AI's role as a "great amplifier" – magnifying both the positive and the negative, in ways that are inextricably linked to the dual nature of human behavior.[1] We are acutely aware that technology now demonstrates the capacity to perform tasks and address challenges at levels comparable to human expertise, with AI-generated systems exhibiting enhanced efficiency when compared with conventional human methods.[2] Consequently, problem-solving in the contemporary era is increasingly associated with the development of AI as a mechanism intended to serve the benefit of humanity – particularly in domains such as climate change mitigation, medicine, economic analysis, and in areas where human action is prone to confrontation, namely the prevention of armed conflicts and the achievement of peace. Given that global transformations occur on a daily basis, and that the number of armed conflicts and wars is presently increasing, AI should be expected to respond to such challenges. In the case of AI, the accelerated pace of change inherent in its deployment brings about profound shifts not only in technology but also in the political, economic, and social spheres worldwide. In the realm of international relations, however, fear of shifts in the balance of power often constitutes a catalyst for instability within the international system.[3]

1 Michele Giovanardi, "AI for Peace: Mitigating the Risks and Enhancing Opportunities," *Data & Policy* 6 (2024): e41–2, https://doi.org/10.1017/dap.2024.37.

2 Naek Siregar et al., "The Use of Artificial Intelligence in Armed Conflict under International Law," *Hasanuddinb Law Review* 10, no. 2 (2024): 190.

3 Damir Mladić, "Umjetna inteligencija i globalna raspodjela moći," *Međunarodne studije* 21, no. 2 (2021): 113–25, https://doi.org/10.46672/ms.21.2.5.

As international law holds a central role in the future governance of artificial intelligence (AI), and notwithstanding the view that AI offers clarity, predictability, and reliability in addressing global and complex challenges, the author approaches AI in this study from an inverse perspective, thereby formulating the following research questions:

(1) is humanity, in its current technological trajectory, primarily oriented toward the development of new military technologies through AI, even though certain AI-driven systems violate provisions of international humanitarian law, as opposed to –
(2) the development of AI as a future mechanism for the prevention of armed conflicts and wars, and for the attainment of peace, in accordance with existing or prospective provisions of international law (*de lege ferenda*); or –
(3) does the implementation of international legal mechanisms for the prevention of armed conflicts and wars, as well as the achievement of peace, remain inherently rooted in the human dimension as the dominant factor in the recognition and enforcement of international legal norms (*de lege lata*)?

In terms of methodology, this research is based on empirical analysis involving the collection and processing of data concerning AI development for military applications, as well as AI initiatives aimed at strengthening international legal mechanisms for peacebuilding. Through critical evaluation, the concluding section of the paper identifies the challenges in implementing AI within the framework of international law and in shaping future human engagement with its application.

Explanation: Before the presentation of the research, and in order to make it easier for the reader to understand the individual names, explanations of the following terms will be presented, which are cited throughout the paper:

– Autonomous Weapon Systems (hereinafter: AWS) – a weapon system that can select (search, detect, identify, track, or select) and attack (use force against, neutralise, damage, or destroy) targets without human intervention;
– Lethal Autonomous Weapon Systems (LAWS) – a special class of weapon systems that use sensor packages and computer algorithms

to independently identify the target and use a built-in weapon system to attack and destroy the target without manual human control of the system;
– as it is an AI-assisted weapon that is also mentioned in the research, the same also applies to AWS/LAWS, and these abbreviations will be used in the text in the context of mentioning and referring to said weapons.

2. Artificial Intelligence in the Context of Military Challenges

Contemporary wars and armed conflicts demonstrate that technology constitutes a critical element not only in the conduct of hostilities but also in shaping geopolitical relations. The deployment of cutting-edge technology reflects not merely the economic strength of a given state but also its capacity to influence the balance of power, to manage conflicts and wars, and to exert direct influence on the attainment of military and geopolitical objectives.[4] Similar observations are made by former United States Secretary of State Antony J. Blinken, who, in his 2024 RSA Conference address titled "Technology and the Transformation of U.S. Foreign Policy," emphasized that today's technological revolutions lie at the heart of American competition with geopolitical rivals and constitute a true test of national security. It is therefore unsurprising that there is profound human fascination with the use of technology – particularly the much-discussed artificial intelligence (AI) – in pursuit of political, geopolitical, and military objectives.[5] The use of AI is not exclusively confined to traditional international actors; non-state actors also employ it to achieve their own objectives. This pursuit of political, geopolitical, and military goals by diverse entities challenges the effectiveness of the existing international legal framework, paves the way for illegitimate and unlawful actions, and expands the gray zone between peace

4 Michael C. Horowitz, "When Speed Kills: Lethal Autonomous Weapon Systems, Deterrence and Stability," *Journal of Strategic Studies* 42, no. 6 (2019): 764–88, https://doi.org/10.1080/01402390.2019.1621174.

5 Antony J. Blinken, "Technology and the Transformation of U.S. Foreign Policy," U.S. Department of State, May 9, 2024, accessed December 28, 2024, https://ru.usembassy.gov/technology-and-the-transformation-of-u-s-foreign-policy.

and war.[6] Thus, we could also refer to this as the gray zone of the (non) application of international law provisions, particularly those of International Humanitarian Law (IHL).

Achieving one's political objectives, in light of emerging geopolitical divisions worldwide and an open arms race, has created opportunities and capabilities for states to harness technological advances for military purposes, to secure dominance in global military innovation – one of the key components of power in international relations.[7] Some analysts describe the current situation even more precisely, noting that the war in Ukraine has generated a wealth of data derived directly from warfare, as well as returns on investment in defence technology companies. At the same time, the wave of conflicts across the globe has exposed a fragmented international community increasingly unable or unwilling to enforce international humanitarian law.[8] Consequently, recent and ongoing armed conflicts and wars demonstrate that the world is entering a new era of warfare, with artificial intelligence occupying a central role, as it makes armed forces faster, smarter, and more efficient. This underscores the fact that technology is a critical element in the evolution of various modes of warfare, highlighting AI's role as a force multiplier, a scenario-simulation aid, an enabler of extended weapon ranges, a generator of "smart weapons," a tool for risk reduction, and a mechanism for conducting surgically precise strikes.[9]

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6 Adolfo Arreola García, "Artificial Intelligence and Disinformation: Role in 21st Century Conflicts," *Revista Seguridad y Poder Terrestre* 3, no. 3 (2024): 116, https://doi.org/10.56221/spt.v3i3.66.

7 Ondřej Rosendorf, Michal Smetana, and Marek Vranka, "Algorithmic Aversion? Experimental Evidence on the Elasticity of Public Attitudes to 'Killer Robots,'" *Security Studies* 33, no. 1 (2023): 115–45, https://doi.org/10.1080/09636412.2023.2250259.

8 Kyle Hiebert, "The United States Quietly Kick-Starts the Autonomous Weapons Era: De-Escalation Mechanisms May Stop Future Military Accidents from Becoming Catastrophes," Centre for Interational Governance Innovation, January 15, 2024, accessed July 18, 2025, https://www.cigionline.org/articles/the-united-states-quietly-kick-starts-the-autonomous-weapons-era/.

9 Yordan Gunawan et al., "Command Responsibility of Autonomous Weapons Under International Humanitarian Law," *Cogent Social Sciences* 8, no. 1 (2022): 1–16, https://doi.org/10.1080/23311886.2022.2139906.

Technological advances in the field of artificial intelligence will lead to the development of weapons capable of taking human life without human control –so-called autonomous weapon systems (hereinafter: AWS).[10] The emergence of such weapons is referred to by some as the "Oppenheimer moment."[11] According to the definition provided by the International Committee of the Red Cross (ICRC), an AWS is any weapon system with autonomy in its critical functions – meaning a weapon system that can select (search for, detect, identify, track, or select) and attack (apply force against, neutralize, damage, or destroy) targets without human intervention.[12] Perhaps the most concise definition of such systems is given by Harwood, who describes them as "the most contentious form of technology."[13] Within this category of systems, even greater significance for the regulation of international law is attributed to lethal autonomous weapon systems (hereinafter: LAWS) and lethal autonomous weapons (hereinafter: LAW). These constitute a specific class of weapon systems that employ sensor packages and computer algorithms to independently identify targets, and that use an integrated weapon system to engage and destroy those targets without manual human control of the system.

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10 Joe Burton and Simona R. Soare, "Understanding the Strategic Implications of the Weaponization of Artificial Intelligence," in *11th International Conference on Cyber Conflict: Silent Battle*, eds. Tomas Minárik et al. (Tallinn: NATO CCD COE Publications, 2019), 3.

11 Alexander Schallenberg, Austria's Minister of Foreign Affairs, stated at the opening of the Vienna Conference on April 29, 2024 that there are growing risks associated with the use of artificial intelligence, describing the present moment as the "Oppenheimer moment" of this generation. He explained this characterization by noting that the risks posed by artificial intelligence in the military domain are comparable to the development and subsequent use of the atomic bomb in the 1940s. For further details on his speech, see: "AI and Autonomous Weapons Systems: The Time for Action Is Now," Safeworld, May 15, 2024, accessed November 28, 2024, https://www.saferworld-global.org/resources/news-and-analysis/post/1037-ai-and-autonomous-weapons-systems-the-time-for-action-is-now.

12 Neil Davison, "A Legal Perspective: Autonomous Weapon Systems Under International Humanitarian Law," in *Perspectives on Lethal Autonomus Weapon Systems* (New York: UNODA, 2018), 11, 12.

13 Stephen Harwood, "A Cybersystemic View of Autonomous Weapon Systems (AWS)," *Technological Forecasting and Social Change* 205 (2024): 2, https://doi.org/10.1016/j.techfore.2024.123514.

Although these systems are not yet widely developed, it is believed they could enable military operations in environments where communications are degraded or denied – conditions in which traditional systems may be unable to function.[14] As Horowitz notes, if such systems are deployed on the battlefield, they can select and engage targets without direct human oversight.[15] Given the definitions of AWS and LAWS, it becomes clear why such weapons receive exceptional media attention, reflected in headlines such as "AI's 'Oppenheimer Moment': Autonomous Weapons Enter the Battlefield."[16] In the body of that article, the author underscores the significance of such weapons for armed conflicts and warfare, stating that they are already being used in the war in Ukraine and in clashes between the Israeli armed forces and Hamas in the Gaza Strip – evidence that such weapons are indisputably gaining prominence in armed conflicts and wars worldwide.

Regardless of public opinion and opposition to the use of such weapons, there are also counterarguments to these views. Horowitz has found that public resistance to such weaponry diminishes when individuals are presented with scenarios in which so-called "killer robots" provide greater military utility than alternative options.[17] This suggests that Horowitz's reasoning and conclusions are best reflected in the growth of the market for such weapons and the fact that its size has risen sharply in recent years. According to some analysts, the market was valued at USD 16.36 billion in 2024 and was projected to grow to USD 17.96 billion in 2025, reaching USD 26.98 billion by 2029, with a compound annual growth rate (CAGR) of 10.7% (for more on growth data, see Fig. 1).

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14 Kelly M. Sayler, "Defense Primer: U.S. Policy on Lethal Autonomous Weapon Systems," Congressional Research Service, December 17, 2024, https://www.congress.gov/crs-product/IF11150.

15 Horowitz, "When Speed Kills," 770.

16 Nick Robins-Early, "AI's 'Oppenheimer Moment': Autonomous Weapons Enter the Battlefield," *The Guardian*, July 14, 2024, accessed December 16, 2024, https://www.theguardian.com/technology/article/2024/jul/14/ais-oppenheimer-moment-autonomous-weapons-enter-the-battlefield.

17 Michael C. Horowitz, "Public Opinion and the Politics of the Killer Robots Debate," *Research and Politics* 3, no. 1 (2016): 3, https://doi.org/10.1177/2053168015627183.

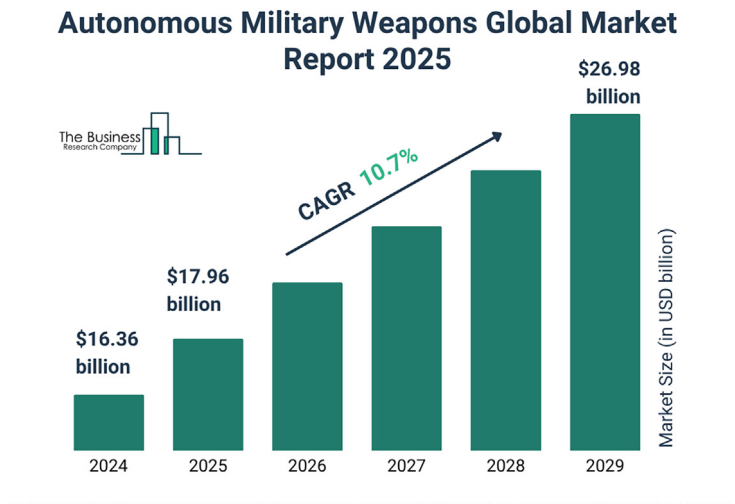

Fig. 1. Autonomous Military Weapons Global Market Report 2025 – By Type (Autonomous, Semi-autonomous), By Product (Missiles, Rockets, Guided Bombs, Target Pods, Others), By Platform (Land, Airborne, Naval) – Market Size, Trends, And Global Forecast 2025–2034 (The Business Reaserch Company, 2025, accessed December 4, 2025, https://www.thebusinessresearchcompany.com/report/autonomous--military-weapons-global-market-report)

3. AI-Enabled Weapons in the Context of International Law Challenges

3.1. Existing Realities of International Law – *de lege lata*

In parallel with the development and deployment of AI-enabled weapons, it is necessary to examine whether such weapons can be considered within the framework of:

(1) The definition of International Humanitarian Law (IHL), understood as: (a) a branch of international law that governs relations among states and the rights and obligations of the parties to a conflict in the conduct of hostilities, with the aim of protecting persons who do not, or no longer, take part in hostilities – namely the sick and wounded, prisoners

of war, and civilians;[18] (b) the body of law regulating relations between states, international organizations, and other subjects of international law, which, as a branch of public international law, consists of rules that, for humanitarian reasons, require – during armed conflicts – the protection of persons who are not, or are no longer, directly participating in hostilities, and the limitation of the means and methods of warfare.[19]

(2) The provisions of international public law, specifically international humanitarian law, i.e., the law of armed conflict (*jus in bello*), namely the Geneva Conventions (Convention for the Amelioration of the Condition of the Wounded and Sick in Armed Forces in the Field; Convention for the Amelioration of the Condition of the Wounded, Sick, and Shipwrecked Members of Armed Forces at Sea; Convention Relative to the Treatment of Prisoners of War; Convention Relative to the Protection of Civilian Persons in Time of War of August 12, 1949; Additional Protocols to the Geneva Conventions of August 12, 1949 for the Protection of Victims of International Armed Conflicts (Protocol I) – adopted in Geneva, June 8, 1977, Additional Protocols to the Geneva Conventions of August 12, 1949 for the Protection of Victims of Non-International Armed Conflicts (Protocol II) – adopted in Geneva, June 8, 1977,[20] Additional Protocol to the Geneva Conventions of August 12, 1949 on the Additional Distinctive Emblem (Protocol III) – adopted in Geneva, December 8, 2005.[21]

In the context of assessing the compliance of AI-enabled weapons – particularly AWS/LAWS – with the provisions of the Geneva Conventions, the primary focus is on their conformity with:

(1) Common Article 3 of all four Conventions, which stipulates that: "Persons taking no active part in the hostilities, including members of armed forces who have laid down their arms and those placed hors de

18 "War and International Humanitarian Law," International Committee of the Red Cross, October 29, 2010, accessed July 17, 2025, www.icrc.org/eng/war-and-law/overview-war-and-law.htm.

19 "What Is International Humanitarian Law?," International Committee of the Red Cross, July 5, 2024, accessed July 17, 2025, https://www.icrc.org/en/document/what-international-humanitarian-law.

20 Croatian Parliament, Official Gazette of the Republic of Croatia, No. 5/1994, of 12 May 1994.

21 Croatian Parliament, Official Gazette of the Republic of Croatia, No. 4/2007, of 25 April 2007.

combat by sickness, wounds, detention, or any other cause, shall in all circumstances be treated humanely (…);"

(2) Article 1(2) of the Additional Protocol to the Geneva Conventions of August 12, 1949 relating to the Protection of Victims of International Armed Conflicts (Protocol I);[22]

(3) Article 35, which stipulates that in every armed conflict, the right of the parties to choose methods or means of warfare is not unlimited, and prohibits the use of weapons, projectiles, substances, and methods of warfare of a nature to cause superfluous injury or unnecessary suffering;

(4) Article 36, which requires that when studying, developing, acquiring, or adopting a new weapon, means, or methods of warfare, a High Contracting Party is obligated to determine whether its employment would, in some or all circumstances, be prohibited by this Protocol or any other rule of international law;

(5) Article 51(5), which prohibits attacks expected to cause incidental loss of civilian life, injury to civilians, damage to civilian objects, or a combination thereof; and

(6) Article 52, which provides for the general protection of civilian objects.

From the aforementioned definitions and cited provisions of International Humanitarian Law (IHL), it is evident that for such weapons to be permissible under international law, they must comply with the standards

[22] The cited provision is derived from the preamble of the Hague Convention on the Laws and Customs of War on Land of July 29, 1899 and is also known as the Martens Clause. It is named after Fyodor Fyodorovich Martens, the representative of the Russian Empire at the First Hague Conference in 1899, who proposed it. The clause states: "Until a more complete code of the laws of war is issued, the High Contracting Parties deem it expedient to declare that, in cases not included in the regulations adopted by them, the inhabitants and the belligerents remain under the protection and the rule of the principles of international law, as they result from the usages established among civilized nations, from the laws of humanity, and the requirements of the public conscience." This clause is still regarded as a fundamental principle of international humanitarian law today. For more information on the Hague Convention, see: "Laws and Customs of War on Land (Hague II); July 29, 1899," Yale Law School, accessed March 8, 2025, https://avalon.law.yale.edu/19th_century/hague02.asp, as well as about the Clause itself in Theodor Meron, "The Martens Clause, Principles of Humanity, and Dictates of Public Conscience," *The American Journal of International Law* 94, no. 1 (2000): 78–89, https://doi.org/10.2307/2555232.

of *jus ad bellum*, specifically the principle of distinction, as well as with *jus in bello*, namely the principle of proportionality. According to Gunawan et al., the principle of distinction requires that weapons, techniques, and methods of warfare must be capable of differentiating between legitimate targets and non-legitimate ones, as well as the ability to employ proportional use of force, including against civilians, provided the attacks remain proportionate.[23] Furthermore, it remains unclear and unknown how AI within such weapons can recognize or is expected to recognize those provisions of IHL related to the command and responsibility of commanders in the context of distinguishing between combatants and civilians, military and civilian objectives, wounded soldiers and soldiers in action, and soldiers and medical personnel. Additionally, Davison raises the question of how it can be determined, and expected, that an attack carried out by such weapons will not cause incidental civilian casualties or damage to civilian objects, or a combination thereof, which in a given case would be excessive in relation to the anticipated concrete and direct military advantage, as required by the principle of proportionality. He further questions how an attack can be aborted or suspended if it becomes apparent that the target is not a military objective or is entitled to special protection, or if it is anticipated that the attack would violate the proportionality rule, as demanded by the rules concerning precautions in attack.[24] Furthermore, Lachow, in his research, raises questions about whether autonomous weapons can reliably distinguish, under challenging battlefield conditions, between combatants and civilians – and target only the former without causing excessive civilian casualties.[25] Some scholars, such as Rosendorf and others, express legal concerns, questioning whether machines can be held accountable for striking incorrect targets. They also raise moral concerns, arguing that delegating life-and-death decision-making authority to robots violates

23 Gunawan et al., "Command Responsibility of Autonomous Weapons," 7, 8.

24 Davison, "A Legal Perspective," 7.

25 Irving Lachow, "The Upside and Downside of Swarming Drones," *Bulletin of the Atomic Scientists* 73, no. 2 (2017): 99, https://doi.org/10.1080/00963402.2017.1290879, according to Michael Schmitt, "Autonomous Weapon Systems and International Humanitarian Law: A Reply to Critics," *Harvard National Security Journal* (2013): 1–37, https://dx.doi.org/10.2139/ssrn.2184826.

human dignity.[26] To all these open questions, the answer might be that such weapons, i.e., these systems, are not specifically regulated by international law or IHL provisions.

3.2. International Legal Regulation of the Use of AI-Enabled Weapons – *de lege ferenda*

3.2.1. Third Countries, International and Regional Organizations

As Davison points out in his study prepared for the International Committee of the Red Cross, any AWS must be capable of being used, and must in fact be used, in accordance with the provisions of IHL. He argues that the responsibility for ensuring that autonomous weapon systems are employed in compliance with international law lies in the human dimension, where humans, by their own will, generate AWS.[27] In this context, to ensure that AWS operations remain under meaningful human control and are legally framed, a study conducted by Boulanin and other researchers at SIPRI (Stockholm International Peace Research Institute) recommends that government officials, scientists, and civil society representatives should engage in discussions regarding the range of legal, ethical, and security challenges potentially associated with emerging technologies in the field of LAWS.[28]

Beyond the legal question of the legitimacy of using AWS, perhaps the primary issue concerns the ethics of their operation. The ethical dilemma surrounding AI-driven AWS systems arises from the fact that these systems may operate based on a framework of indiscriminate target selection, i.e., enemies and targets without discrimination. This raises significant questions about how such systems can comply with the provisions of IHL. Some scholars argue that while certain targets may be considered legitimate to attack, there are also illegitimate targets.[29] Regardless of the distinction between legitimate and illegitimate targets, the question of responsibility remains critical. If AWS operate autonomously, without human engagement or direct military command – i.e., outside the traditional hierarchical

[26] Rosendorf, Smetana, and Vranka, "Algorithmic Aversion?," 126, 127.

[27] Davison, "A Legal Perspective," 11, 12.

[28] Vincent Boulanin, Netta Goussac, and Laura Bruun, *Autonomous Weapon Systems and International Humanitarian Law: Identifying Limits and the Required Type and Degree of Human–Machine Interaction* (Stockholm: SIPRI Publications, 2021), 1–55.

[29] Harwood, "A Cybersystemic View," 8, 9.

military command structure – how can a human be held accountable for the actions carried out by the machine? Furthermore, some authors raise the thesis or scientific inquiry as to whether it is morally and/or ethically acceptable for a machine, through AI, to decide who shall be killed, who shall be spared, and who shall live.[30]

Building upon the aforementioned, it is indisputable that a certain degree of legal and political activism is both necessary and currently underway among political actors at the national and international levels, as well as within organizations, the academic community, and researchers, to legally shape the application of AI in military contexts. In this regard, under the auspices of the Ministry of Foreign Affairs of the Kingdom of the Netherlands, the global REAIM forum (2023) adopted a platform for all stakeholders – governments, industry, civil society, academia, and think tanks – to foster a shared understanding of the capabilities, dilemmas, and vulnerabilities associated with military artificial intelligence.[31] Based on this platform, further political and legal activism is reflected in the Political Declaration on Responsible Military Use of Artificial Intelligence and Autonomy, adopted by the United States on November 9, 2023, and signed by 51 states. This declaration recognizes the importance of legal regulation in accordance with international humanitarian law regarding AI employed for military purposes. Specifically, it asserts that the military use of AI capabilities must be responsible, including such use within military operations, under a responsible human chain of command and control.[32] It should also be emphasized, in the context of a comparative analysis of legal frameworks as well as activities directed towards national or international legislative activism, that the United States does not legally restrict the development of AWS/LAWS. Instead, through specific acts – most notably the updated

30 Peter Asaro, "On Banning Autonomous Weapon Systems: Human Rights, Automation, and the Dehumanization of Lethal Decision-Making," *International Review of the Red Cross* 94, no. 886 (2012): 699, https://doi.org/10.1017/S1816383112000768.

31 See more on the official website of the Dutch government: "REAIM. Call to Action," Government of the Netherlands, February 16, 2023, accessed April 2, 2025, https://www.government.nl/documents/publications/2023/02/16/reaim-2023-call-to-action.

32 "The Political Declaration on Responsible Military Use of Artificial Intelligence and Autonomy," U.S. Department of State, November 9, 2023, accessed April 28, 2025, https://www.state.gov/political-declaration-on-responsible-military-use-of-artificial-intelligence-and-autonomy-2/.

Department of Defense Directive 3000.09 of January 25, 2023 – it requires that such weapon systems be developed in a manner that ensures commanders and operators retain an appropriate level of human judgment in decisions concerning the use of force. Furthermore, the Directive mandates that individuals who authorize, direct, or operate AWS/LAWS do so with due care and in compliance with the law of armed conflict, applicable treaties, and system-safety rules. Significantly, the Directive underscores that the development of these weapons may incorporate AI capabilities, provided that such integration adheres to the ethical principles of AI established by the U.S. Department of Defense, as well as its strategy and framework for implementing Responsible Artificial Intelligence (RAI).[33]

Within the broader context of international legal activism, the First Committee of the UN General Assembly approved a draft resolution on lethal autonomous weapons on November 12, 2023, forwarding it to the General Assembly. The draft resolution questions the ethical nature of such weapons, stating that even if an algorithm can determine what is lawful under IHL, it can never determine what is ethical.[34] In response to this proposal, the United Nations adopted the General Assembly Resolution on Lethal Autonomous Weapon Systems on December 22, 2023. The resolution requests the Secretary-General to seek opinions from Member States and other stakeholders regarding lethal autonomous weapon systems, including ways to address the associated challenges and concerns arising from humanitarian, legal, security, technological, and ethical perspectives, as well as the role of humans in the use of force itself.[35] Other international actors, specifically Human Rights Watch (HRW), submitted a communication to the United Nations Secretary-General on May 6, 2024, concerning the use of AWS/LAWS. In this submission, HRW (2024) highlights that AWS/LAWS would contravene fundamental principles of humanity and the dictates of public conscience as established by the Martens Clause and international humanitarian law (IHL). From the perspective of international legal activism and *de lege ferenda* regulation of these weapons, HRW

[33] Department of Defense, USA, Office of the Under Secretary of Defense for Policy. DoD Directive 3000.09, "Autonomy in Weapon Systems," January 25, 2023.

[34] United Nations General Assembly, First Committee, Lethal Autonomous Weapons Systems, draft resolution A/C.1/78/L.56, November 1, 2023.

[35] United Nations, Secretary-General, Report on Resolution 78/241, 2023.

proposes the adoption of a legally binding international instrument – an international treaty – applicable to all weapon systems that select and engage targets based on sensor processing without human intervention. As a concluding recommendation, HRW advocates that such a treaty should include a general obligation to maintain meaningful human control over the use of force, prohibit weapon systems that autonomously select and attack targets and inherently pose fundamental moral and legal challenges, and incorporate specific positive obligations aimed at ensuring meaningful human control over all other systems that select and engage targets.[36]

Further legal and political activism is evidenced by the fact that numerous regional initiatives have actively pursued the legal regulation of weapons assisted by artificial intelligence, such as the regional conference of the Caribbean Community (CARICOM). At this conference, Central American states adopted the "Declaration on Autonomous Weapons Systems," expressing concern over the development of lethal autonomous weapons and endorsing the necessity of meaningful human control over the use of force. Similar efforts can be observed in other regional initiatives, such as those by Indo-Pacific countries and the Economic Community of West African States (ECOWAS) Conference held in Sierra Leone in April 2024.[37] Building on these initiatives and in accordance with UN Resolution 78/241, world leaders convened at the United Nations Headquarters on September 22–23, 2024, for the Summit of the Future, where they adopted the "Pact for the Future" along with its annexes: the "Global Digital Compact" and the "Declaration on Future Generations." The significance of these documents, particularly the Pact for the Future, lies in the adoption of Chapter 27(b), which urgently calls for the advancement of discussions on lethal autonomous weapons through the Group of Governmental Experts on New Technologies in the Area of Lethal Autonomous Weapons Systems, with the aim of developing an instrument – without prejudging

36 "Submission to the United Nations Secretary – General on Autonomous Weapons Systems," Human Rights Watch, May 6, 2024, accessed July 6, 2025, https://www.hrw.org/news/2024/05/06/submission-united-nations-secretary-general-autonomous-weapons-systems.

37 "Caricom States Call for Urgent Negotiation of New International Legally Binding Instrument to Prohibit and Regulate Autonomous Weapons," Caricom Caribbean Community, September 11, 2023, accessed June 28, 2025, https://caricom.org/caricom-states-call-for-urgent-negotiation-of-new-international.

its nature – while recognizing that international humanitarian law fully applies to all weapon systems, including the potential development and use of lethal autonomous weapons systems.[38] Following these initiatives, the United Nations General Assembly is scheduled to adopt, on December 2, 2024, a political resolution expressing concern about the development of lethal autonomous weapons and calling for further steps toward their legal regulation.[39]

3.2.2. European Union

In the context of a comparative analysis of the legal regulation of the use of artificial intelligence–enabled weaponry (AWS/LAWS), it must first be emphasized that matters of defense and defense policy remain, to a large extent, within the competences of the Member States of the European Union, notwithstanding the fact that security and defense policies form an integral part of the Union's Common Foreign and Security Policy. Furthermore, when such weaponry is considered in the context of national security, pursuant to Article 4(2) of the Treaty on European Union, the legal regulation and operational deployment of these weapons remain within "national jurisdiction."[40] Irrespective of these provisions of the Treaty on European Union, and despite the fact that resolutions of the European Parliament are not binding upon Member States – having greater political than legal weight – the EU has nevertheless exhibited a certain degree of activism through the Parliament by adopting positions concerning the role and dimension of AWS/LAWS, and AI-enabled weaponry more broadly. In this regard, the European Parliament Resolution on Autonomous Weapon Systems of 12 September 2018 emphasized that meaningful human involvement and oversight are indispensable to the decision-making process concerning lethal force, as ultimate responsibility for life-and-death decisions rests with human actors. International law, in particular international

38 "Pact for the Future, Global Digital Compact, and Declaration on Future Generations," United Nations, September 2024, accessed May 13, 2025, https://www.un.org/en/summit-of-the-future.

39 UN General Assembly, Resolution 79/62, Lethal Autonomous Weapons Systems, A/RES/79/62 (December 2, 2024).

40 CJEU Judgment of 18 December 2014, The Queen, on the application of Sean Ambrose McCarthy and Others v. Secretary of State for the Home Department, Case C 202/13, ECLI:EU:C:2014:2450.

humanitarian law and international human rights law, is identified therein as the primary framework governing the use of such weaponry, as is the case for all categories of armaments.[41]

As the EU has not explicitly codified the military use of artificial intelligence nor the deployment of lethal autonomous weapon systems as such – beyond the scope of international humanitarian law – it has adopted a compromise approach. This is reflected in Article 10(6) of Regulation (EU) 2021/697 of the European Parliament and of the Council establishing the European Defence Fund, a binding legal instrument which states:

> (…) actions for the development of lethal autonomous weapons without the possibility of meaningful human control over the selection and engagement decisions when carrying out strikes against humans are not eligible for support from the Fund, without prejudice to the possibility of providing funding for actions for the development of early warning systems and countermeasures for defensive purposes.[42]

Santopinto observes that this provision embodies a certain ambiguity: while the EU seeks to prohibit financing of lethal autonomous technologies through the Defence Fund, it does not impose "human control" as an absolute constraint, but rather requires that the machine enable the path towards a "human decision" at the moment when a target must be identified. Thus, the requirement for human control is not synonymous with the imposition of a human decision.[43] Although the Regulation does not explicitly prohibit Member States from conducting research and development in this field, it is significant that the long-anticipated EU Artificial Intelligence Act – the first comprehensive legal framework on AI worldwide – excludes military and security applications from its scope, thereby

41 European Parliament Resolution of 12 September 2018 on Autonomous Weapon Systems (2018/2752(RSP)) (OJ C433, 23 December 2019).

42 Article 10 of the Regulation (EU) 2021/697 of the European Parliament and of the Council of 29 April 2021 establishing the European Defence Fund.

43 Federico Santopinto, "The EU, Artificial Military Intelligence and Autonomous Lethal Weapons," IRIS – Institut De Relations Internationale et Stratetegiques, April 2024, p. 14, accessed December 19, 2024, https://www.iris-france.org/en/185422-the-eu-artificial-military-intelligence-and-autonomous-lethal-weapons/.

limiting its provisions to civilian AI.[44] The legal regulation of AI and the adoption of the aforementioned act – as we have noted, the first of its kind worldwide – will demonstrate the EU's role in global AI governance, often referred to as the "Brussels Effect." The Brussels Effect represents a market-based mechanism through which the EU exports its regulatory standards via relatively soft enforcement, leveraging the power of its internal market. This phenomenon manifests *de facto* when companies comply with EU standards for purely economic reasons, thereby aligning their practices globally with a single regulatory framework. It also occurs *de jure* when third countries transpose EU regulatory approaches into their domestic legal systems, often under political pressure to keep pace with technological advancement, which may, however, simultaneously undermine their own democratic processes.[45] Through this *de facto* effect, we can discern the trajectory the EU has pursued in the context of regulating AI: one primarily shaped by market considerations and economic relations.

This approach is consistent with the jurisprudence of the Court of Justice of the European Union, which has addressed AI exclusively in the context of civilian applications (e.g., data protection and processing under the GDPR, copyright, the right of access to environmental information, and freedom of establishment).[46] Thus, while it is commendable that the EU has taken the lead in developing a regulatory framework for AI, the Union simultaneously finds itself, given geopolitical realities and an increasingly unstable security architecture, in a challenging and disadvantageous position. This is particularly evident in the legal and geopolitical dilemma of having to allow the development of new weapons and related technologies, including AWS/LAWS, in order to respond effectively to evolving security threats, while at the same time as a global leader in the protection of

44 Regulation (EU) 2024/1689 of the European Parliament and of the Council of 13 June 2024 laying down harmonised rules on artificial intelligence and amending Regulations (EC) No 300/2008, (EU) No 167/2013, (EU) No 168/2013, (EU) 2018/858, (EU) 2018/1139 and (EU) 2019/2144 and Directives 2014/90/EU, (EU) 2016/797 and (EU) 2020/1828 (Artificial Intelligence Act) (OJ L, 2024/1689, 12 June 2024).

45 Ana Bradford, *The Brussels Effect: How the European Union Rules the World* (New York: Oxford University Press, 2020), 251, https://doi.org/10.1093/oso/9780190088583.001.0001.

46 For further reference on the case-law, see: Court of Justice of the European Union, Cases C-250/25, C-129/24, C-336/23, C-817/19.

human rights, maintaining its commitment to safeguarding human dignity, international law, and international humanitarian law. This dual imperative presents a profound challenge in light of the operational realities of AWS/LAWS.[47]

In conclusion, it can be established that there is a global trend towards the development of AI for military purposes, and that such efforts currently occupy a dominant position in relation to the international legal regulation of AI in military contexts, particularly through AWS/LAWS. The strengthening of the defense industry and investment in AWS/LAWS not only generate economic profitability but also influence the positioning of states within systems of political, geopolitical, and military power. Therefore, in order to advance the protection of human security, human dignity, and global peace, a broader international political consensus is required, together with global political and legal activism aimed at ensuring the responsible use of AI in military environments, as well as the legal regulation and subjection of AI-enabled weaponry to the provisions of international law.

4. AI as an International Legal Mechanism for the Termination of Armed Conflicts/Wars and the Achievement of Peace

Given the substantial resources invested in the use of AI for military defence – as evidenced and demonstrated in Table 1 of this study – these efforts have been predominantly directed towards replacing human presence on the battlefield and enhancing military decision-making processes. Contemporary armed conflicts and wars across the globe demonstrate that technology constitutes a crucial element in the development of various war campaigns, thereby violating provisions of International Humanitarian Law (IHL). This raises the question of whether new mechanisms, enabled by technology, are both possible and necessary – mechanisms capable of overcoming today's global crisis concerning the identity of international legal norms, the belief in the sustainability of international law, and the capacity to halt ongoing and future armed conflicts/wars while achieving peace.

47 Diego Badell and Lewin Schmitt, "Contested Views? Tracing European Positions on Lethal Autonomous Weapon Systems," *European Security* 31, no. 2 (2022): 242–61, https://doi.org/10.1080/09662839.2021.2007476.

In other words, can the science and technology underpinning AI development contribute primarily to the prevention of wars?[48] The author of this paper would go further and pose the question of whether it is possible to develop algorithm-based technologies that are not dominant in conducting warfare but are instead capable of terminating armed conflicts and wars. Further scholarly inquiry thus moves towards asking whether AI could at least achieve Galtung's concept of "negative" peace, or whether the termination of armed conflicts/wars will remain primarily within the human dimension of action. In addressing this research question, it must be acknowledged that the current scientific and professional literature on the development and application of AI is extensively focused on the ethical issues surrounding its creation and deployment. Consequently, as Giovanardi notes, there is comparatively little literature that explicitly addresses the impact of AI on peace and conflict.[49] The fact that humanity's fascination with employing AI to achieve political and military objectives is not a novelty in today's world is widely acknowledged. Some contend that there are ongoing efforts to end violent conflicts and build peace that are increasingly digitalised, with peacebuilding and conflict prevention organizations beginning to rely more heavily on digital information and communication technologies.[50] As conventional mechanisms for the cessation of armed conflicts/wars and the achievement of peace become operationally questionable, yet remain legally relevant, a pressing question emerges: should the conventional methods for preventing armed conflicts/wars and fostering peace – methods that have thus far fallen within the domain of human agency – be replaced by artificial intelligence? Such a transformation could potentially revolutionise international peace and security, while enabling practitioners and policymakers to reduce the time and resource intensity associated with data collection, analysis, and the generation of policy options aimed at

48 Robert Trappl, Johannes Fürnkranz, and Johann Petrak, "Artificial Intelligence for the Avoidance of Crises and Wars," Austrian Research for Artificial Intelligence, 2024, accessed July 27, 2025, https://www.ofai.at/projects/peace.

49 Giovanardi, "AI for Peace," 2, 3.

50 Andreas Timo Hirblinger et al., "Digital Peacebuilding: A Framework for Critical–Reflexive Engagement," *International Studies Perspectives* 24, no. 3 (2023): 265, https://doi.org/10.1093/isp/ekac015.

establishing peace.[51] In practical terms, this would mean that the resources in question could be redirected towards complex tasks such as dialogue, negotiation, trust-building, and strategic decision-making. Therefore, in order to define the general actions, procedures, and solutions that AI should offer in the context of achieving peace, it is first necessary to identify the minimum conditions or *sui generis* provisions of international law and international legal mechanisms for the prevention of armed conflicts/wars and the attainment of peace, which would be relevant for AI application. If we consider one of the most fundamental principles of international law – the prohibition of the threat or use of force, as codified in Article 2(3)–(4) of the UN Charter, in conjunction with Article 51 as an exception to this principle in situations of self-defence and the restoration of international peace and security – an open question remains as to the extent to which AI can prohibit the threat or use of force. One possible solution could be sought in the deployment of autonomous weapon systems (AWS) designed to prevent threats, attacks, and war itself through preventive measures, thereby invoking the *jus ad bellum* principle. Furthermore, if we address the application of international legal mechanisms for terminating armed conflicts/wars – specifically, Articles 1(1), 33(1), 41, and 42 of the UN Charter, which stipulate that effective collective measures shall be taken for the prevention and removal of threats to peace – there remains the question of how AI can respond to the operationalization of such measures and mechanisms. If the resolution of disputes is sought through negotiation, enquiry, mediation, conciliation, arbitration, or other peaceful means of the parties' own choice, it is uncertain whether AI can support such methods or address the challenges associated with their implementation. In other words, it must be assessed whether AI is technologically adequate and sufficiently capacitated to terminate armed conflicts/wars through algorithmic solutions – bearing in mind that it operates on algorithmic logic under predefined conditions – and whether it could impose peace. A related issue concerns whether AI-enabled decision-support systems could influence a state's decision to initiate military action against another state or domestic group, or to

[51] Ola Mohajer, "Robot Diplomacy: How AI Could Usher in a New Era of World Peace," The Hill, September 21, 2023, accessed April 7, 2025, https://thehill.com/opinion/international/4211989-robot-diplomacy-how-ai-could-usher-in-a-new-era-of-world-peace/.

commence a preventive armed conflict/war.[52] The answer to these questions can be partially seen in the example of the use of AI for peacebuilding through the UN's understanding of the facts that it is changed by the means of conflict, so the means for achieving and maintaining peace must also change. Therefore, in order to respond to the challenges of technology development and conflicts in the world, the UN Department of Political and Peacebuilding Affairs (DPPA) established a dedicated unit called the Innovation Cell in 2020, which in its one part develops the application of new technologies to support inclusive peace processes. The new technologies would relate to the implementation of inclusive peace processes through large/mass digital dialogues enabled by the use of AI, and therefore the UN will go to peace negotiations in conflict zones through partnerships with artificial intelligence companies such as Remesh.[53] The AI-assisted software incorporates AI systems to search thousands of data points in dozens of languages, allowing the UN to engage populations in conflict zones in what it calls large-scale digital dialogues. This technology enables the simultaneous acquisition of qualitative insights into the opinions of all participants, and such digital dialogues supported by artificial intelligence can significantly improve the inclusiveness of different opinions and attitudes in peace processes. Such technology was used by the United Nations Support Mission in Yemen and Libya in such a way that the AI software was set up as a website for stakeholders in vulnerable regions. This software is designed to evaluate open responses on the Internet of up to 1,000 people at the same time and thus reach a consensus in near real time. The software helped the UN understand which groups in conflict zones are most concerned during face-to-face conversations with political leaders.[54] Based on this software, i.e. through the UN Digital Dialogues, the UN acted in the context of peacebuilding in Haiti in 2022, where the aim of the dialogue was to hear the opinions of the public in Haitian Creole about the situation in the country

52 United Nations, Charter of the United Nations, signed at San Francisco, June 26, 1945.

53 More about the use of AI software in peacebuilding, i.e., use of digital dialogues, see: "Futuring Peace," UN DPPA Innovation, accessed April 24, 2025, https://futuringpeace.org/about.

54 See more in Dalvin Brown, "The United Nations Is Turning to Artificial Intelligence in Search for Peace in War Zones," *The Washington Post*, April 23, 2021, accessed June 28, 2025, https://www.washingtonpost.com/technology/2021/04/23/ai-un-peacekeeping/.

and the work of the UN Integrated Office in Haiti, that is, the goal was to collect answers about the support that the UN can provide to the Haitian people. This software and digital dialogue methodologywere also used in Iraq in 2021 and Lebanon in 2022.[55]

Further efforts can also be observed in the fact that the United Nations engaged a private AI company to address the Israeli–Palestinian crisis. CulturePulse's AI model promised to create a realistic virtual simulation of Israel and the Palestinian territories.[56] However, given the events in Israel from October 7, 2023 onwards, it is evident that this project neither materialised nor achieved its intended significance in the context of preventing armed conflicts/wars, bringing them to an end, and establishing peace. In a broader analysis of the application of international legal mechanisms – specifically through the lens of AI deployment and the influence of technological innovations on peacebuilding – we must also consider concepts such as PeaceTech, Global PeaceTech, Peace Innovation, and Digital Peacebuilding. These terms refer to technological tools that have emerged from the interdisciplinary work of certain companies, institutes, laboratories, and other governmental and non-governmental organizations. As Bell describes, such actors form an "ecosystem of scientists, research institutes, civil society organizations, public institutions, private companies, philanthropic foundations, and venture capitalists" working on technologies for peace, including AI for peacebuilding.[57] Specifically, if we look at just one of the mentioned platforms, e.g., PeaceTech, we can see that according to this platform, the introduction of new technologies represents an unexplored space for cooperation and for developing peace both at the international and transnational levels. In reality, it seems that through the project Long-Term Divisions: Building Bridges in Virtual Spaces, through an online seminar, we learn about the digital literacy of peacebuilders and about the

55 "Futuring Peace," 53.

56 See more on this in David Gilbert, "The UN Hired an AI Company to Untangle the Israeli-Palestinian Crisis," WIRED, November 2, 2023, accessed June 2, 2025, https://www.wired.com/story/culturepulse-ai-israeli-palestinian-crisis/.

57 Christine Bell, in her recent book and research, places particular emphasis on new technologies for peacebuilding. See more in *PeaceTech: Digital Transformation to End Wars* (Cham: Palgrave Macmillan, 2024), https://doi.org/10.1007/978-3-031-38894-1.

processes and implications of how technological tools can be best used in long-term peacebuilding work.[58]

Further possibilities of using AI for peace-related purposes are analyzed by Zable and a group of authors, who conclude that AI can be employed to promote peace. They categorize its application into three temporal frameworks: before the conflict, during the conflict, and after the conflict.[59] The role of AI in peace promotion is also acknowledged by the United States Institute of Peace (USIP), which observes that the launch of OpenAI's ChatGPT in the autumn of 2022 attracted substantial global attention to both the risks and the benefits of AI. This attention also encompassed many uncertainties regarding the capacity of private companies to employ such technologies in the service of peace and security. For this reason, USIP argues that peacebuilding organizations can and should play a key role in collaborating with private companies, multilateral institutions, and governments to develop and implement AI in ways that inform and shape its application towards enhancing peace and preventing conflict. Specifically, activities aimed at establishing a future AI agenda would include the deployment of unarmed autonomous drones capable of monitoring lines of contact and ceasefire violations; supporting monitoring missions in processing imagery related to violence; observing the disarmament of combatants, and identifying war crimes. As part of peace negotiations, community agreements, or dialogue processes, USIP suggests that AI could also play a role in monitoring social media for hate speech targeting marginalised and vulnerable groups – actions that could influence the pursuit of fair and sustainable solutions.[60]

Therefore, if the role of individuals, institutions, and international legal mechanisms for the prevention of armed conflicts and the achievement of peace *de lege ferenda* is to be reduced to minimal human involvement, such

[58] See more on this in "Programme 2024–2025," The Interdisciplinary PeaceTech Network, accessed July 28, 2025, https://peacetech.group/peacetech-exchange/peacebuilder-led.

[59] Adam Zable et al., "How Artificial Intelligence Can Support Peace," Kluz Prize for Peacetech, October 11, 2024, accessed July 21, 2025, https://www.kluzprize.org/updates/how-artificial-intelligence-can-support-peace.

[60] Heather Ashby, "A Role for AI in Peacebuilding," United States Institute of Peace, December 6, 2023, accessed December 7, 2024, https://www.usip.org/publications/2023/12/role-ai-peacebuilding.

an approach will only function if AI tools are developed in a transparent and ethical manner so as to complement human and political efforts towards ending wars.[61] Transparent and ethical development is closely linked to the quality of the data entered into AI systems for algorithmic processing. In this regard, the United Nations Institute for Disarmament Research (UNIDIR), in its report "AI and International Security," emphasises that the primary risk areas associated with artificial intelligence lie in the domain of peace and security. Three global categories of security risks are identified: miscalculation, escalation, and proliferation. This means that outcomes ultimately depend on the data first entered into the system by humans, from which AI then generates algorithmic solutions. The first risk concerns the use of AI in presenting biased or inaccurate operational pictures, which could undermine decisions regarding the use of force or pave the way for the deterioration of international relations. The second risk focuses on the potential of AI technologies to contribute to the intentional or unintentional escalation of conflicts. The third risk refers to the misuse of AI for the development and proliferation of new weaponry, including weapons of mass destruction.[62]

In conclusion to this chapter, it is evident that non-state actors are investing in the development of AI in the field of peace establishment and implementation, envisaging it as a tool to support human decision-making in peacebuilding, the execution of such decisions, and the monitoring of their implementation. However, we have yet to witness technological advancements that would indicate the capacity of technology to replace human involvement in the execution of those international legal mechanisms which – despite the current erosion of confidence in them – remain firmly within the domain of human agency in the context of preventing armed conflicts and wars. This means that the prevention of armed conflicts/wars and the achievement of peace through the application of international

61 Claire Wilmot, "Can AI Bring Peace To The Middle East?," The Bureau of Investigative Journalism, December 19, 2024, accessed April 14, 2025, https://www.thebureauinvestigates.com/stories/2024-12-19/can-ai-bring-peace-to-the-middle-east/.

62 Iona Puscas, "AI and International Security: Understanding the Risks and Paving the Path for Confidence-Building Measures," UNIDIR, 2023, accessed May 12, 2025, https://unidir.org/publication/ai-and-international-security-understanding-the-risks-and-paving-the-path-for-confidence-building-measures/.

legal mechanisms still depends on the political will of those who would employ them (for example, in the context of the war in Ukraine) and on their choice of a specific mechanism to be applied for the purpose of ending a given armed conflict or war. Therefore, this chapter concludes with the observation that the human factor remains, at present, the decisive element in the implementation of international law and the mechanisms for conflict prevention and peacebuilding – meaning that solutions are still ultimately achieved at the negotiating table.

5. Conclusion

The world is undeniably confronted with the dilemma of how to direct technological development, particularly in the field of artificial intelligence. Bridging technology and international law represents a challenge of contemporary times, as well as a personal challenge for the author of this study. A legitimate question arises as to whether AI will become a tool for strengthening international law and the mechanisms for establishing peace, or, conversely, a means of intensifying armed conflicts and undermining the security architecture. The analysis presented in this research clearly demonstrates that human activity in the domain of technological advancement is more progressive in developing AI applications that enhance armed conflicts and military technologies – often disregarding principles of international humanitarian law – than in creating AI-driven mechanisms for the implementation of international legal norms and conflict-prevention strategies aimed at achieving peace (*de lege ferenda*). Although digital tools and platforms designed for peacebuilding do exist, and are primarily developed within the civil and non-governmental sectors, it is evident that their scope and application remain disproportionate when compared to the rapid development of military technologies, particularly AI-enabled weapon systems.

The fact that the European Union stands as the world's first leader in legislatively regulating the application of AI is indisputable. However, the currently disrupted security architecture – both in the European and global context – together with the crisis in the implementation of international law, undeniably favors the development of AWS/LAWS. As Bonsegna observes, many states, particularly those within the EU, are thus confronted with a normative-strategic dilemma: whether to pursue the development

of such weapons in order to remain aligned with other states that are simultaneously advancing these technologies without regard to international humanitarian law, or to remain consistent in upholding and protecting the rule of law, particularly international law, which is presently undergoing a profound crisis of implementation.[63] Such dilemmas must not influence states, nor the international bodies responsible for the establishment and enforcement of international law, in their broader commitment to global legal-political activism and to the international legal regulation (*de lege ferenda*) of AWS/LAWS. Moreover, legal-political activism, as well as public policy, should remain guided by the fundamental principle that only human beings are capable of making real-time decisions concerning matters of life and the operational use of such weapons in military activities.

With regard to the application of international legal mechanisms for the prevention of conflicts and wars, as well as for the achievement of peace, it is evident that – regardless of technological advancements and the emergence of global PeaceTech initiatives aimed at providing software-based assistance in peacebuilding processes – such ideas and efforts occasionally demonstrate success. Nevertheless, the factual realities of ongoing wars and armed conflicts across the globe indicate that the implementation of existing international legal mechanisms for peacebuilding still remains within the human domain and dependent on human action (*de lege lata*). At the same time, however, it is clear that human efforts alone, within the framework of the currently disrupted security architecture, often fail to produce the desired outcomes in the pursuit of peace.

Notwithstanding the foregoing, it is indisputable that human action, grounded in international legal norms and ethical principles, must continue to remain the dominant factor in shaping emerging technologies, including artificial intelligence. This applies both to the development of new technologies (including weaponry) that should not generate future conflicts, and to the implementation of existing and prospective international legal mechanisms aimed at achieving peace. Accordingly, in order to bridge the current gap between the rapid expansion of AI for military purposes and

[63] Nicola Bonsegna, "Integrating Autonomous Weapon Systems with Artificial Intelligence Into European Defense," The Defence Horizon Journal, May 26, 2025, accessed July 25, 2025, https://tdhj.org/blog/post/ai-autonomous-weapons-europe/.

the comparatively limited development of AI in the service of peacebuilding, it is essential that international actors entrusted with the establishment and enforcement of peace strengthen both awareness of and confidence in international law. A broader form of activism – legal, political, and *de lege ferenda* – is equally necessary, involving not only individuals but also non-governmental and other civil society actors. Such activism should foster a global conviction that AI-driven technologies must serve primarily the objectives of peace and humanitarian law, rather than becoming a source of further destabilization, which ultimately results in armed conflicts, wars, and human casualties. These activist efforts should be directed both towards national policymaking and towards international legal entities mandated with the protection and enforcement of international law.

Finally, as a concluding evaluation of this paper, we quote ChatGPT which in response to the author's inquiry on whether AI can stop the war in Ukraine, "stated that AI cannot end the war in Ukraine because decisions about war and peace are made by political leaders, military commanders, and international institutions". This leaves readers of this work and research with further reflections on whether and to what extent technology should or can always replace human agency. We also cite the opinions of Giovanardi (2024) and Harper (2024), whose views best capture the realities of contemporary times and the use of AI. Giovanardi reflects that despite widespread awareness that AI can be weaponized as a tool of power politics and military competition, relatively less systematic attention is devoted to what such technology can do for peace.[64] Harper concludes, sharing the view that "if military decision-making by artificial intelligence becomes the norm, opportunities for peace may be lost."[65]

64 Giovanardi, "AI for Peace," 8.

65 Erica Harper, "Will AI Fundamentally Alter How Wars Initiated, Fought and Concluded?," Humanitarian Law and Policy, September 26, 2024, accessed May 25, 2025, https://blogs.icrc.org/law-and-policy/2024/09/26/will-ai-fundamentally-alter-how-wars-are-initiated-fought-and-concluded/.

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