
## About the Article

Main question: Can existing laws adequately govern Autonomous Weapons Systems (AWS)? Argument: A regulatory framework, not a ban, ensures accountability and civilian protection. Conclusion: Current international law can regulate AWS responsibly while allowing strategic use.

## About the Author

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## 1. Introduction

Technological innovation is transforming the conduct of war, sparking debate over whether existing accountability frameworks can adequately govern its use. Among the new projects, Autonomous Weapons System (AWS) have been at the centre of an increasingly polarized debate. Humanitarian organizations emphasize the ethical and legal risks, advocating for strict regulation or even a comprehensive ban. In contrast, states highlight the strategic benefits of these technologies and the practical reality that technological innovation is unlikely to be halted. The coexistence of these positions creates a persistent tension: humanitarian concerns retain undeniable validity, yet the continues development and partial deployment of AWS suggest that a complete ban at this stage may be premature. In this context, further research remains essential, both to inform potential regulatory frameworks and to endure that humanitarian considerations are integrated into future decision-making. However, in the absence of a universally agreed definition of what these systems entail, states and stakeholders have been developing multiple definitions arguing on whether these new weapons comply with international standards or are inherently dangerous and should therefore be banned altogether. The United States Department of Defense Directive No 3000.09 on Autonomy in Weapon Systems defined AWS as:

***"[a] weapon system that, once activated, can select and engage targets without further intervention by a human operator. This includes human-supervised autonomous weapon systems that are designed to allow human operators to override operation of the weapon system, but can select and engage targets without further human input after activation"***
***(McDougall, 2019)***

**Autonomous Weapons System (AWS):**
**Weapons that can select and engage targets without human input**

The European Union, while not having a universally agreed definition, adopts the International Committee of the Red Cross definition as:

***„Any weapon system with autonomy in its critical functions. That is, a weapon system that can select (i.e. search for or detect, identify, track, select) and attack (i.e. use force against, neutralize, damage or destroy) targets without human intervention". (Cottier, 2023)***

From these two definitions it is evident that Meaningful Human Control (MHC) is a crucial aspect in the determination of whether Autonomous Weapon Systems (AWS), as an umbrella term including both Lethal Autonomous Weapons System (LAWS) and Full Autonomous Weapons (FAW), conform with international law and can, therefore, be further advanced or are inherently too dangerous and their development should be banned. The lack of a universally accepted definition renders the debate on the legality of AWS particularly complex as multiple terms like FAW and LAWS are often used interchangeably. While these two terms do share similarities they have a slightly different scope. Lethal Autonomous Weapons System (LAWS) is a term that emphasizes the use of lethal force without meaningful human control, and it has been popular especially among promoters of a total ban. On the other hand, Fully Autonomous Weapons (FAW) is a term encompassing the most extreme examples of autonomous weapons requiring no human input whatsoever (Lewis, 2015). This paper focuses on autonomous weapons system as a generic term. This article will present the polarized debate between supporters of a pre-emptive ban, who argue that AWS are incompatible with the requirements of international humanitarian law (in particular, the principles of accountability,

distinction and proportionality), and those who contend that such a ban is premature. The latter emphasize that these weapons are not unlawful per se and may, in certain contexts, offer operational advantages, such as enhanced precision and reduced risk to civilians and combatants, when developed and deployed responsibly. To this end, Section 2 outlines the international law framework on accountability; Section 3 explores the arguments supporting a ban, focusing on the accountability gap; Section 4 examines the counterarguments that question the existence of such a gap and oppose a prohibition; Section 5 considers regulatory precedents, including the landmines protocol, as possible blueprints; and Section 6 concludes with reflections on the viability of a regulatory framework for AWS.

| Categories | Target Selection & Engagement | Human Input | Lethality | Example |
|---|---|---|---|---|
| Automated Weapons | No Target selection (just automatic reaction) | High (humans set triggers) | Can be lethal | Landmines |
| Autonomous Weapon Systems (AWS) | Yes, system selects & engages once activated | Human initiates, but no further control | Mixed | Armed drones with AI target recognition |
| Fully Autonomous Weapons (FAW) | Yes, without human intervention | None (no meaningful human control) | Mixed | Hypothetical hunter drones |
| Lethal Fully Autonomous Weapons (LAWs) | Yes, system selects & engages | None | Explicitly lethal | Hypothetical armed robots making kill decisions |

Figure 1: Visual comparison of autonomy in weapon systems

## 2. Accountability in Armed Conflict: the international law framework

The main challenge around autonomous weapons regards what has been called the accountability gap. Due to their nature, AWS cannot be held accountable for criminal conduct as they are not responsible moral agents. Moreover, the increasing separation between the weapon system actions and any proximate human makes it extremely complex to identify the proper agent to be held accountable. In the context of armed conflict and autonomous weapons systems, the debate on accountability revolves around individual criminal responsibility as defined in Artt. 25-28 of the International Criminal Court (ICC) Rome Statute. Art. 30 of the Rome Statute additionally poses a high threshold for the mental element, highlighting that the material elements of each crime must be committed with intent and knowledge (International Criminal Court, 2011). Differently, the Additional Protocol I to the 1949 Geneva Convention provides under art. 85(3) that a behaviour that constitutes a war crime must be

conducted wilfully. Legally speaking, "wilfully" is often interpreted including also the concept of recklessness (Bo et al., 2022). The lack of proximity between a human and the AWS actions makes it particularly hard to establish this requisite mental element on the part of any human (McDougall, 2019). The centrality of the mental element in prosecuting criminal responsibility increases the complexity of ensuring accountability for crimes involving AWS. Due to the difficulty in linking a human directly to wrongful actions committed by an autonomous weapon, proposals arose for a new requirement: Meaningful Human Control. While there is no fully universal definition, this new standard was introduced as to somewhat ensure human oversight and, if necessary, human responsibility.

## 3. One side of the debate: Accountability Gap and The Case for a Ban

The debate over autonomous weapons gained momentum around 2012-2013 when various organizations and scholars started debating over ethical and legal implications of these systems. Since 2013 multiple countries called for a preventive ban hoping to negotiate a treaty within the Convention on Certain Conventional Weapons (CCW) framework (Sauer, 2016). The petition against autonomous system was presented by the Campaign to Stop Killer Robot, a coalition of civil society and stakeholders led by Human Rights Watch (HRW). The latter published an insightful paper in 2012 leading the anti-AWS debate. Mirroring most of the concerns shared by the Campaign, HRW highlighted how human decision-making in armed conflict entails complex assessments to ensure a discriminate and proportionate application of force in compliance with international humanitarian law. According to the group, such elaborate assessments are unlikely to be replicated in software code, thus raising doubts on whether autonomous system can be designed to operate respecting international standards. From a legal perspective, the accountability gap has been reiterated consistently as a crucial issue as machines cannot be court-martialled leaving no redress to injured or killed civilians. Lastly, from an ethical point of view, HRW argues that allowing autonomous weapons to use lethal force, thus relinquishing life-and-death decision-making to an algorithm that cannot be held accountable for its actions, violates basic human dignity (Human Rights Watch, 2012). In its 2012 consideration, HRW focuses on civilian protection. According to the group, regardless of possible future technological advancement, fully autonomous weapons inherently lack the human qualities necessary to meet the rules of international humanitarian law. Furthermore, by eliminating human involvement fully autonomous weapons undermine other important principles. Following the reasoning provided, fully autonomous weapons are not restrained by human emotions and compassion, by reducing military casualties they lower the threshold for political leaders to engage in armed conflict, and lastly, there is the question about accountability as a form deterrence and remedy for victims. These concerns undermine civilian protection leading HRW to recommend a full prohibition of development, production and use of fully autonomous weapons through an international legally binding instrument (Human Rights Watch, 2012). In light of these considerations, in 2012, as only precursors to Fully Autonomous Weapons existed, advocates called for a preventive arms control for autonomous weapons systems on an international humanitarian law basis. In 2015, the HRW group published another report calling once again for a ban but basing its reasoning on the issue of accountability. HRW argued that no existing body of law „provided adequate accountability of individuals directly or indirectly involved in the use of fully autonomous weapons" (Human Rights Watch, 2015). As the debate evolved, in 2025 HRW published another review on autonomous weapons and implications for human dignity and human rights. In this most recent paper, the group reiterated how the inherent characteristic of AWS of selecting and engaging targets based on sensor processing rather than human inputs infringes multiple fundamental obligations. However, in the

**A regulatory framework can ensure AWS use complies with international law and accountability**

recommendation section, while a prohibition treaty is still mentioned, the main request seemed to have pivoted towards stronger regulation (Human Rights Watch, 2025).

## 4. The other side of the debate: Questioning the Accountability Gap

On the other side of the debate on Autonomous Weapons System compliance with international humanitarian law, scholars have maintained that not only it is factually possible to place human responsibility when AWS are unlawfully or negligently deployed, questioning the existence of an accountability issue altogether, but they also openly oppose an outright ban on two different grounds. On one hand a pre-emptive ban risks stopping the development of a weapons that can protect combatants and reduce the risk for civilians, directly complying with two foundational objectives of international humanitarian law; on the other hand, enough consensus among different geopolitical actors is unlikely to be achieved at this stage of AWS development, which makes the case for regulation significantly stronger. Responding directly to the HRW case of 2012, Professor Michael Schmitt presents strong counterarguments to the supra mentioned narrative calling for a ban (Schmitt, 2015). Firstly, Schmitt argues that the foundational assumption that Autonomous Weapons System (understood as "human out of the loop" systems) necessarily violate international humanitarian law because they are inherently indiscriminate and cause unnecessary suffering to combatants and civilians is extremely flawed. Instead, he argues that an assessment on compliance with distinction and proportionality principles must be based on a case-by-case analysis, considering the type of weapon, the environment in which it is deployed and the scope of its deployment. In other words, HRW claims blur the line between IHL prohibition on weapons per se and unlawful use of otherwise useful weapons (Dunlap, 2016). Secondly, he addresses the accountability gap debate. Schmitt clearly demonstrates that across multiple scenarios it is already possible, under international humanitarian law and criminal law, to identify and held humans responsible. For instance, were the AWS to be deployed in an unlawful manner, the commander authorizing its use would be responsible under the relevant law. Similarly, were the AWS to be designed for conduct not compliant with IHL, the developers could be held accountable. Furthermore, should the armed forces of a state use AWS in an unlawful manner, state responsibility could be effectively invoked (Schmitt, 2015). Building on Professor Schmitt's response, Charles Dunlap, Jr went further and questions the HRW assimilation of personal accountability with the legality of the weapon itself (Dunlap, 2016). Citing Art. 36 of Protocol I of the Geneva Conventions, Dunlap asserts that the legality of a weapons should be measured on how the weapon is used and not depending on whether responsibility can be determined. Expanding on previous possible attributions suggested by Schmitt, Dunlap explains further their reasoning. AWS, like any weapon, must be developed and tested so that their intended acts against life and property can be reasonably anticipated in order for designers, commanders, operators, and others associated with autonomous weapons to escape culpability (Dunlap, 2016). The argument furthered by supporters of this side of the debate is that in the remote circumstances that a machine goes rogue, no one can be punished provided that reasonable steps have been taken to avoid such an unexpected result. It follows, then, that if at any point in the development, design, and deployment chain reasonable assessments have not been made to guarantee respect for the IHL principles of distinction and proportionality, those who failed to adequately foresee unlawful conduct may be held personally responsible under international criminal law. Considering the above reflections and being aware that AWS development is to be closely monitored because there are challenges to IHL rules, especially concerning weapons using machine-learning systems, Schmitt and Dunlap conclude that an outright ban based on the inherent nature of AWS as an IHL violating system is unfounded. Additionally, due to the strategic advantage these weapons may offer to states' national security arsenals, they both recommend working on sensible regulation which are likelier to be favourably welcomed by multiple countries.

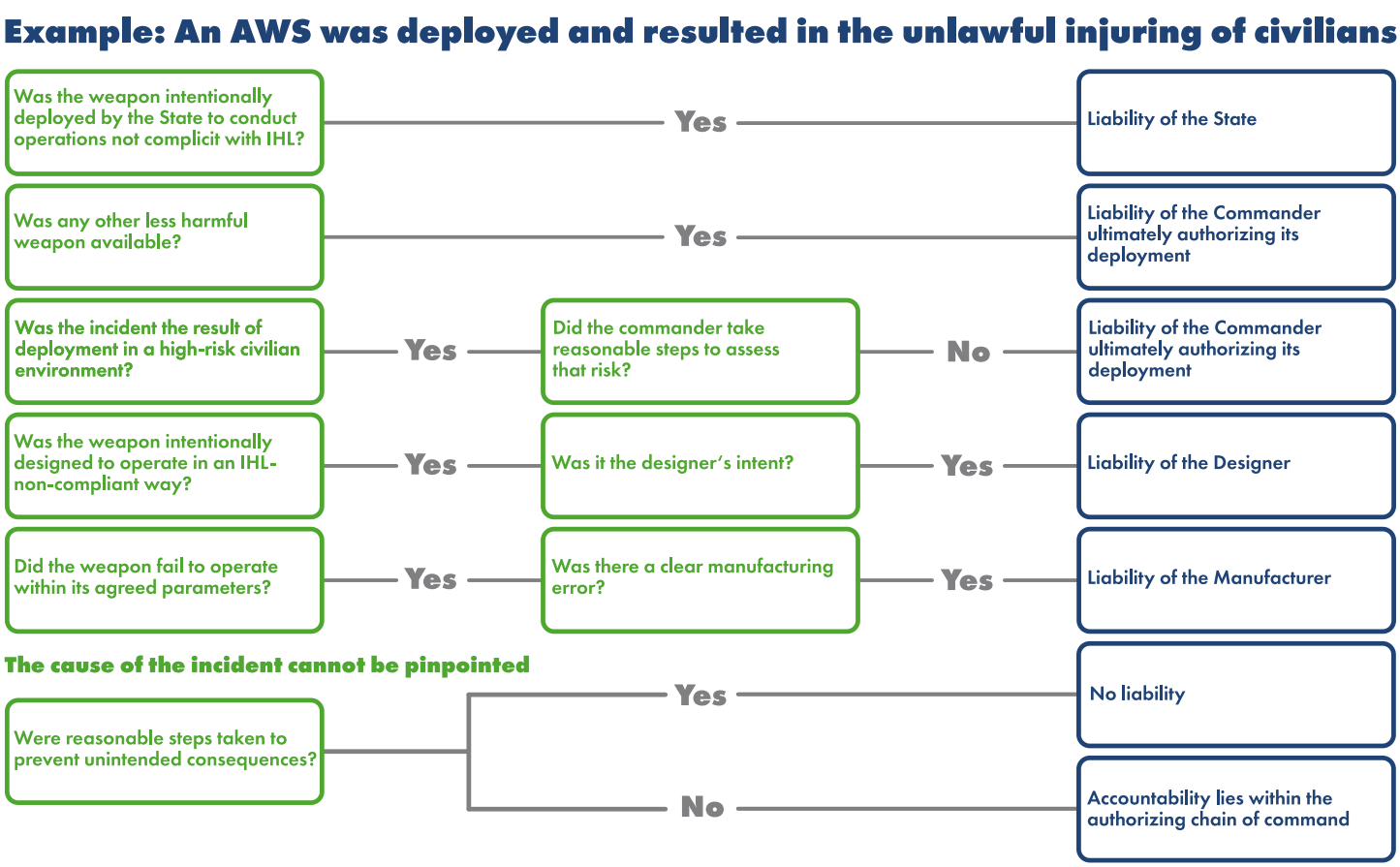


Figure 2: Example of possible accountability attributions in the event of an AWS deployment and subsequent unlawful conduct of the machine.

## 5. Landmines regulatory scheme as a possible blueprint

Between 2014 and 2015, John Lewis presented a convincing case on using the Amended Protocol regulating landmines as a blueprint for an AWS regulation. The proposal highlights how once activated both weapon systems have the capacity to target and kill without further human input and both weapons are deployed with specific defined parameters thus raising similar questions about distinction. Drawing from the 1996 Amended Protocol on landmines, a model framework was developed for FAWs. The Protocol focuses on a clear definition of lawful environments in which to deploy landmines to allow military advantage while guaranteeing civilian safety and a focus on commander decision-making given the nature of the weapon. Similarly, a framework for FAWs would entail a clear definition of:

- characteristics that AWS must have to ensure distinction and proportionality
- characteristics of the environment distinguishing from remote battlefields to areas in which civilian concentration is higher.
- characteristics of the opposing force especially concerning the enemy evasion techniques which might affect AWSs ability to comply with the distinction principle
- the level of residual human control

Moreover, regarding the issue of accountability, the proposed framework poses the focus of responsibility on the commander's decision to deploy the weapon (Lewis, 2015). Creating a regulatory framework from existing protocols reinforces the argument that existing international law is sufficient to limit the use of AWS in compliance with the law and therefore, a pre-emptive ban is unjustified.

## 6. Conclusion

Ultimately, while concerns about the level of autonomy in AWS remain valid, existing international laws and principles provide a sufficient framework to regulate the development and deployment of these emerging strategic systems. As technology evolves, it cannot be excluded that a ban or a more structured treaty might eventually become the most appropriate option to ensure compliance with international humanitarian law and international criminal law. However, given the current state of technological development and the legal avenues for attributing accountability, the call for a pre-emptive ban should give way to a regulatory framework that restricts the use of these weapons to contexts where they can achieve military advantage while ensuring civilian protection.

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