

# Reconstruction of The Principle of Proportionality In The Use of Artificial Intelligence-Based Weapons Systems Based on International Humanitarian Law

Yusty Foxdey Rahawarin

Universitas Caritas Indonesia

Corresponding Author: uthyuthy89@gmail.com

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## ABSTRACT

*The development of artificial intelligence (AI) in weapons systems has transformed the decision-making process in armed conflict, particularly in the stages of target identification, target verification, estimation of losses to civilians, and the use of force. These changes raise questions about the application of the principle of proportionality in International Humanitarian Law, which essentially requires an assessment of the anticipated incidental losses to civilians and civilian objects against concrete and direct military advantages. This study aims to analyze the legal construction of the principle of proportionality in the use of AI-based weapons systems, identify the problems of its application, and formulate a reconstruction of the principle of proportionality that can guarantee humanitarian protection amidst the development of modern weapons technology. This study employs normative legal research methods combining legislative, conceptual, and case approaches. The research results show that the principle of proportionality remains applicable to the use of artificial intelligence-based weapons systems through various provisions of International Humanitarian Law, including Article 36, Article 51 paragraph (5) letter b, and Article 57 of Additional Protocol I of 1977. The applicable legal construction still faces limitations in providing operational parameters for decision-making algorithms, system uncertainty, automation bias, opacity, dynamic changes in situations, and the limits of human control in the proportionality assessment process. This research offers a Dynamic Human-Controlled Proportionality Model that puts human legal judgment, explainable decision-making, dynamic reassessment, uncertainty-based civilian protection, and traceable human responsibility as the key elements of reconstructing the principle of proportionality in the use of artificial intelligence-based weapons systems.*

**Keywords:** Principle of Proportionality, Artificial Intelligence, Weapons Systems, International Humanitarian Law, Meaningful Human Control.

## INTRODUCTION

Advances in weapon technology have fundamentally changed the nature of modern armed conflict. Warfare, previously dominated by the direct use of force through military personnel and conventional weaponry, has evolved toward the use of digital technology capable of processing information, identifying objects, predicting threats, and supporting military decision-making (Richoawan, 2026). Drones, unmanned systems, automated targeting systems, machine learning, and AI-enabled decision-support systems are all part of this transformation (Tinambunan, 2026). These changes relate not only to improvements in the technical capabilities of weapons but also touch on more fundamental processes, namely, how targets are identified and how decisions to use force are made.

International Humanitarian Law plays a crucial role in limiting the development of these methods and means of warfare (Widayanti, 2019). IHL has evolved from the laws of war, which were initially oriented toward regulating relations between states and methods of warfare, to a legal system that prioritizes the protection of human beings (Sari, 2021). The increasingly complex development of armed conflict does not

eliminate the applicability of International Humanitarian Law (IHL) principles, including when states use weapons technology that was previously unknown at the time most of these legal instruments were developed (Subrata, 2025). IHL is required to maintain humanitarian values amid changing forms of warfare that are increasingly influenced by technological developments.

Protecting civilians is one of the main foundations of IHL. The use of military force cannot be separated from the principle of military necessity, but military interests are also limited by the principle of humanity (Hariadi, 2025). The relationship between these two principles has given rise to several rules that limit the means and methods of warfare, particularly through the principles of distinction, proportionality, and precaution. These principles work in an interconnected manner to limit the impact of armed conflict on civilians and civilian objects (Yusuf, 2026). The principle of proportionality cannot be understood in isolation because its application relates to target identification, estimating the impact of attacks, and the obligation to take appropriate steps to reduce the risks to civilians.

The principle of proportionality holds a crucial position because it serves as a legal instrument for assessing the boundary between the intended military advantage and potential incidental harm to civilians or civilian objects (Alamsyah, 2024). An attack cannot be justified if the anticipated civilian harm is excessive compared to the concrete and direct military advantage (Imasfy, 2025). This assessment involves several complex elements, such as expected incidental civilian harm, collateral damage, concrete and direct military advantage, and the concept of excessiveness (Pribadi, 2026). Each element cannot always be translated into a precise numerical measure because the conditions of an attack can vary based on the characteristics of the target, geographic environment, presence of the civilian population, available information, and intended military objective.

The nature of proportionality as a form of legal assessment becomes a crucial issue when the decision-making process involves artificial intelligence. Proportionality assessments traditionally proceed from the assumption that a human, particularly a commander or other military decision-making authority, makes judgments based on the available information before an attack is launched (Meir, 2025). Humans must estimate the likelihood of civilian harm and compare it with the expected military advantage. This process is predictive in nature, but it is not simply a statistical calculation because it incorporates legal considerations and assessments of constantly changing factual circumstances.

Artificial intelligence operates differently from human judgment. AI systems operate through data processing, algorithms, parameters, patterns, probabilities, and predictions based on the information available within the system (Ordiyasa, 2026). Its military uses include surveillance, intelligence gathering and analysis, target identification, target classification, threat assessment, damage estimation, and even recommendations for the use of force (Kom, 2025). These capabilities can increase the speed and capacity of information processing, especially when humans must deal with enormous amounts of data. Legal issues arise when the results of this processing significantly influence the final decision regarding who or what will be targeted for attack.

AI-based weapon systems also exhibit varying degrees of human involvement. The human-in-the-loop model places humans as the final decision-makers before a specific action is taken by the system (Prabowo, 2025). The human-on-the-loop model allows the system to perform certain functions autonomously, while humans provide oversight and still have the possibility to intervene (Irawan, 2025). The human-out-of-the-loop model grants the system a much higher degree of autonomy, thus significantly limiting human involvement in individual decisions regarding the use of force (Djojosugito, 2025). These differing levels of involvement have direct consequences for the application of the principle of proportionality, as the greater the autonomy of a system, the more complex the question of who actually assesses the risks and benefits of an attack becomes.

Autonomous Weapon Systems are one of the most contentious forms of technological development in IHL. These systems not only use automated technology to perform predetermined functions but also have the ability to select or attack targets based on specific autonomous functions once activated (Putri, 2024). This level of autonomy must be distinguished from conventional automated weapons that operate based on patterns or mechanisms directly determined by humans. The main issue lies in the potential gap between the initial human decision and the system's subsequent use of force against a specific target. This gap raises questions about humans' ability to maintain a grasp of the actual circumstances during an attack.

The concept of meaningful human control is crucial in addressing this issue. The formal presence of a human in a system does not necessarily mean that the human has substantive control over the use of force (Ardi, 2026). An operator may be present in front of the system and have the authority to press the approval button, but their role is limited if they do not understand the basis for the AI's recommendations, lack sufficient information about the situation on the ground, or lack sufficient time to conduct independent evaluations. Meaningful human control requires human involvement that allows for a real assessment of the system's decisions rather than simply administrative approval of algorithmic recommendations (Robbins, 2024).

This concept places humans as the party that must have an understanding of the operational situation, the ability to understand the system's functions and limitations, access to relevant information, and the authority to intervene or halt system actions. Mastery of technology is crucial because a person cannot effectively monitor a system if they do not understand how a system generates recommendations or how it can error. The ability to stop an attack must also be realistically available and usable in a sufficient time. Human control is not simply measured by the presence of humans at one stage of the process; it must be assessed based on the quality of human involvement throughout the entire decision-making process.

The relationship between meaningful human control and the principle of proportionality lies in the need to maintain legal judgment regarding the use of force. AI can be used as a supporting instrument to collect data and identify and estimate risks or simulate the potential impact of an attack (Erika, 2025). The assessment of whether civilian losses are excessive compared to concrete and direct military benefits still has legal and humanitarian dimensions that cannot be treated solely as the result of algorithmic calculations. Humans must have a substantive position to evaluate the results of system recommendations, question the level of certainty of the data, consider changing circumstances, and make decisions that account for the use of force based on the principles of IHL.

The crux of this research lies in the tension between the normative, contextual, and consideration-based nature of proportionality assessments and the nature of artificial intelligence systems that operate through data, probability, algorithms, and parameters. The development of AI-based weapon systems has the potential to shift the assessment process from human legal judgment to algorithmic calculation. This shift can give rise to issues such as automation bias, opacity, black boxes, data uncertainty, rapid changes in situations, fragmentation of the decision-making process, and blurring of human control boundaries. Studies on IHL, the principle of proportionality, artificial intelligence in weapons systems, and meaningful human control are needed as a basis for analyzing whether applicable legal constructions have been able to ensure that the development of weapons technology remains within the boundaries of humanitarian protection and does not eliminate the role of humans as subjects who make judgments and bear responsibility for the use of force.

## **METHOD**

This study employs a normative legal research method that focuses on examining the norms, principles, and instruments of International Humanitarian Law that regulate the limitations on the use of force and the protection of civilians in armed conflict. The approaches used include a statute approach to examine various relevant international legal instruments, especially the 1949 Geneva Conventions, Additional Protocol I of 1977, and other international legal provisions relating to the use of weapons and methods of warfare; a conceptual approach to analyze the concepts of the principle of proportionality, meaningful human control, autonomous weapons systems, and artificial intelligence in military decision-making; and a case approach to examine the development of the use of artificial intelligence-based weapons technology in armed conflict as material for identifying issues in the application of the law. Primary and secondary legal materials are analyzed qualitatively using prescriptive methods through the interpretation and systematization of legal norms. This research not only describes the applicable legal construction, but also formulates a reconstruction of the principle of proportionality through the Dynamic Human-Controlled Proportionality Model as a model for the application of proportionality that can accommodate the development of artificial intelligence-based weapons systems while still ensuring humanitarian protection and human control.

## RESULT AND DISCUSSION

### Legal Construction of the Application of the Principle of Proportionality in the Use of Artificial Intelligence-Based Weapons Systems

The principle of proportionality in International Humanitarian Law is part of the limitations on the use of force in armed conflict, aimed at protecting civilians and civilian objects. Its legal framework stems not from a single international instrument but has evolved through various conventions, additional protocols, customary international law, state practices, and the evolving views of international organizations. One of the most important normative bases is found in Article 51, paragraph (5), letter b of Additional Protocol I to the Geneva Conventions of 1949, which prohibits attacks that are expected to cause incidental harm to civilian life, injury to civilians, damage to civilian objects, or a combination of these harms that is excessive compared to the concrete and direct military advantage expected. This regulation demonstrates that proportionality is not an absolute prohibition against all civilian harm but rather a legal mechanism to limit attacks when the expected harm exceeds the limits justified by the military advantage to be achieved.

The obligation to apply the principle of proportionality is also closely related to Article 57 of Additional Protocol I, which addresses precautions in attacks. Article 57, paragraph (2) requires the party planning or deciding on an attack to take all reasonable measures to verify that the target to be attacked is not a civilian population or civilian object and does not receive special protection. The party making the decision must also take all reasonable precautions in selecting the means and methods of attack to avoid or at least minimize incidental harm to civilians. This provision demonstrates that the proportionality assessment is not a separate stage of the overall attack process but is related to the process of gathering information, verifying targets, selecting attack methods, estimating impacts, and deciding whether an attack should proceed.

The principle of proportionality is also recognized in customary international law. Rule 14 of the ICRC Customary International Humanitarian Law Study prohibits attacks that are expected to cause incidental harm to civilians or civilian objects that is excessive compared to the anticipated concrete and direct military advantage. The recognition of this principle as customary law is significant because its applicability does not depend solely on a state's status as a party to Additional Protocol I. State practice, military doctrine, official statements, and the attitudes of various international actors demonstrate the acceptance of proportionality as a fundamental rule in the conduct of attacks. This legal construction remains relevant to the development of new weapons because humanitarian law essentially regulates the use of means and methods of warfare based on their impact on people and protected objects, not simply on the type of technology known at the time a rule is established.

The application of proportionality in the targeting process begins with identifying objects or individuals suspected of having military target status. Article 52, paragraph (2) of Additional Protocol I provides the basis for the definition of "military objectives," namely, objects that, by their nature, location, purpose, or use, effectively contribute to military action and whose destruction, capture, or neutralization offers a clear military advantage. This identification must be followed by a verification process, as errors in determining the status of a target can preclude an attack from the outset of violating the principle of distinction. The next stage involves estimating the likelihood of civilian harm, including the risk of death, injury, and damage to civilian objects that may result from an attack. This information is then compared with the concrete and direct military advantage before the authorities decide whether to use force.

This process demonstrates that the proportionality assessment is part of a decision-making cycle consisting of target identification, verification, information collection and analysis, civilian impact estimation, military advantage assessment, and the final decision regarding the execution of an attack. Artificial intelligence systems can be used in almost all of these stages. AI can be used to analyze imagery, process intelligence data, recognize patterns, classify objects, estimate the presence of civilians, and predict the likelihood of damage. This capability has the potential to increase the speed of information processing but also changes the structure of decision-making because the results of algorithmic analysis can significantly influence human judgment. Legal issues arise when the recommendations or predictions generated by the system begin to function not merely as supporting information but as the dominant basis for decisions regarding the use of force and the assessment of whether the risk to civilians is acceptable based on the principle of proportionality.

Developments in weapons technology are also related to the legal review obligation for new weapons, as stipulated in Article 36 of the Additional Protocol I. This provision obliges each State Party to determine, in the process of studying, developing, acquiring, or adopting a new weapon, means, or method of warfare, whether its use would be prohibited in certain circumstances or in all circumstances under the provisions of Additional Protocol I or other rules of international law applicable to that State. This obligation provides an important basis for assessing the compatibility of weapons technology with IHL before it is used in military operations. AI-based weapons systems differ from many conventional weapons because the legal issues lie not only in the weapon's destructive power or physical capabilities but also in the information processing and the degree of autonomy in determining or engaging targets.

Legal reviews of AI-based weapon systems are insufficient if they are directed solely at assessing the weapon's technical specifications or the system's ability to produce a specific action. Testing must also address the system's decision-making process, quality of the data used, likelihood of misidentification, degree of uncertainty in predictions, ability of humans to understand the system's recommendations, and availability of intervention mechanisms if circumstances change. A system may be technically capable of distinguishing between specific objects based on available data, but this capability does not automatically guarantee that the system can support the consistent application of the principle of proportionality in complex conflict situations. The assessment of a technology cannot be entirely separated from how it is used, as the level of risk to civilians can change based on the operational environment, nature of the conflict, population density, quality of information, and form of human involvement in the decision-making process.

The development of regulations regarding autonomous weapon systems and artificial intelligence has attracted attention in various international forums, particularly in discussions regarding Lethal Autonomous Weapon Systems within the Convention on Certain Conventional Weapons (CCW). The evolving debate demonstrates differing views between countries pushing for stricter legal prohibitions or restrictions and those emphasizing the application of existing IHL to new technologies. The issue of human control has become a key point of contention, as the use of high-autonomy systems can create a distance between the human who provides the initial instruction and the concrete decision to use force against a specific target. The discussion also relates to questions of accountability, the ability of humans to exercise oversight, and the need to ensure that decisions directly impacting human life remain within an identifiable structure of responsibility.

Applicable international law already provides several principles that can be used to assess the use of AI-based weapons systems, including the principles of distinction, proportionality, precaution, the obligation of legal review, and state responsibility for implementing international obligations. The key issue lies in the operationalization of these norms when processes previously conducted through human judgment are assisted or partially implemented by algorithms. The norm of proportionality provides a standard prohibiting attacks that cause excessive civilian harm, but it does not provide specific parameters for how an algorithm's uncertainty should be taken into account, the extent to which the system's predictions can be used, or the human capability standards required to evaluate AI recommendations. This lack of operational parameters creates a wide room for interpretation and potentially leads to differences in implementation standards between countries.

The limitations of the applicable legal framework are also evident in the absence of international standards specifically addressing explainability, dynamic reassessment, and forms of human control required in AI-based proportionality assessments. Systems using complex algorithms can produce recommendations that are difficult for operators to fully understand; however, the ability to trace the basis for decision-making is crucial when assessing whether an attack meets IHL obligations. Rapidly changing circumstances during operations also raise questions about whether the proportionality assessment conducted before an attack remains relevant when the target moves or when the civilian population changes. The existing legal framework does not specifically formulate a reassessment mechanism tailored to the ability of digital systems to receive and process information in real-time. This condition places the need for reconstruction of the principle of proportionality as a crucial issue so that the development of artificial intelligence is not only seen as a change to the means of warfare, but also as a change to the decision-making mechanism that must remain subject to humanitarian protection, human legal judgment, and traceable accountability.

## **Problems and Reconstruction of the Principle of Proportionality in the Use of Artificial Intelligence-Based Weapons Systems**

The use of artificial intelligence in weapon systems presents more complex issues than simply the legality of the technology. The primary issue is the changes in the decision-making structure regarding the use of force. The principle of proportionality in International Humanitarian Law is fundamentally based on an assessment of the relationship between the expected military advantage and the likelihood of incidental harm to civilians and civilian objects. Artificial intelligence systems can assist in this process through data processing, target identification, risk prediction, and estimation of the impact of attacks. This technological capability also raises issues when the assessment process, which has legal and humanitarian dimensions, is translated into algorithmic parameters, probabilities, and calculations. The tension between legal judgment and algorithmic calculation is the starting point for identifying the limitations of applying the principle of proportionality to AI-based weapon systems.

Algorithmizing proportionality assessments has the potential to reduce legal reasoning complexity. AI systems can calculate the likely number of casualties, estimate the extent of damage, and generate probability levels regarding the presence of military targets. The principle of proportionality requires more than merely calculating the likely impact of an attack. This assessment also requires considering whether the expected harm is excessive compared to the concrete and direct military advantage gained. The concept of excessiveness lacks a universal formula that can be applied uniformly to all armed conflicts. The value of a military advantage cannot always be converted into a figure that can be objectively compared with the number of casualties or the extent of civilian damage. When such assessments rely too heavily on algorithmic systems, there is a risk that legal decisions that should consider factual characteristics and humanitarian values become optimized results based on pre-determined parameters.

The next problem relates to the uncertainty and reliability of artificial intelligence systems. AI operates on available data, and the quality of its results is greatly influenced by the accuracy, completeness, relevance, and representation of the data used. Identification errors can occur through false positives when a civilian object is classified as a military target or false negatives when the system fails to recognize the presence of civilians or protected objects. Rapidly changing battlefield conditions can also affect the ability of the system to make accurate predictions. This uncertainty has direct consequences for the application of Article 57, paragraph (2), letter a, number (i), of Additional Protocol I, which requires the party planning or deciding on an attack to do everything reasonably possible to verify that the target is not a civilian or a civilian object. The use of AI cannot justify lowering verification standards simply because the system can produce predictions with a certain degree of accuracy.

System uncertainty also raises questions about the protection standards that should be applied when AI cannot produce a sufficient level of certainty. Systems can make recommendations based on a certain level of confidence, but the law must determine how these recommendations should be treated if there is a significant possibility of error. For example, a 90 percent confidence level does not necessarily mean that the risk to the remaining ten percent is negligible if the consequence is the loss of human life. The precautionary principle in attacks requires that the risks to civilians be minimized to the greatest extent possible. One possible reconstruction approach is uncertainty-based civilian protection, which places the level of system uncertainty as a factor directly influencing the severity of the duty of care. The greater the uncertainty in target identification or civilian impact estimation, the greater the need for additional verification, human intervention, delay, or cancellation of an attack.

Another issue arises from the phenomenon of automation bias, that is, the human tendency to place excessive trust in recommendations generated by automated systems. A commander or operator may formally remain the party providing the final approval, but this role loses its substantive meaning if decisions are based solely on the acceptance of AI analysis results without independent evaluation. The speed of military operations, complexity of data, and assumption that technology has a higher level of accuracy than humans can push humans into mere rubber stamps. The presence of humans in a system cannot be assessed solely using the human-in-the-loop model. The quality of human involvement must be considered to ensure that humans have the ability, time, information, and authority to question or reject the system's recommendations before the use of force.

The issue of automation bias is directly related to the concept of meaningful human control (MHC). A reconstruction of the proportionality principle must distinguish between the formal human presence and

substantive human control. Humans who merely approve decisions for which they do not fully understand the rationale cannot be considered to have independently assessed the proportionality. Meaningful control requires the ability to understand operational circumstances, recognize the system's limitations, obtain relevant information regarding risks to civilians, and have the actual authority to halt or modify the system's actions. AI should be positioned as a tool to support decision-making and not as a substitute for legal judgment. The final assessment of the relationship between civilian harm and military advantage must remain within the framework of accountable human decision-making.

The difficult-to-explain nature of artificial intelligence systems also creates issues of opacity and black-box nature. The decisions made by the system may be based on computational processes that are not fully understood by the operator or even the developer. This situation becomes a serious problem when an attack results in civilian casualties and a legal assessment of the basis for the decision is required. Investigations must be able to trace what information was available before the attack, how targets were identified, how the risk to civilians was assessed, what parameters were applied, and whether the operator disregarded any warning. The inability to trace these processes creates a gap between the use of technology and the accountability requirements of International Humanitarian Law.

This issue can be addressed using the concept of an explainable proportionality assessment. Systems used to support decisions regarding the use of force must be able to produce a traceable record of the recommendation-making process. Information regarding data sources, levels of certainty, risk estimates, relevant parameters, changes in information, and human actions regarding system recommendations must be verifiable after a decision has been made. Explainability standards do not require the entire technological process to be explained in a simplified form but rather a sufficient level of transparency for those with legal responsibility to understand the basis for decisions and exercise effective oversight. Such a mechanism is also essential to ensure that Article 36 of Additional Protocol I, concerning legal review, assesses not only the physical characteristics of a weapon but also the system's ability to produce decisions that are subject to scrutiny and accountability.

Rapidly changing circumstances during military operations present additional challenges to a single-point-in-time proportionality-assessment model. Targets may move into denser areas, civilians may enter areas previously thought to be unoccupied, or new information may alter the risk of an attack. Article 57, paragraph (2), letter b, of Additional Protocol I stipulates the obligation to cancel or suspend an attack if it becomes clear that the target is not a military objective or that the attack can be expected to cause incidental harm to civilians that is excessive compared to the concrete and direct military advantage of the attack. The ability of modern technology to receive information in real time creates the need to update assessments when there is a material change in circumstances. The proportionality assessment should not stop once the initial decision has been rendered if the system still has the ability to acquire new information relevant to the risk of attack.

The reconstruction of the proportionality principle can be formulated through the Dynamic Human-Controlled Proportionality Model, which positions proportionality assessment as a continuous process with five main elements: human legal judgment, explainable decision-making, dynamic reassessment, uncertainty-based civilian protection, and traceable human responsibility. AI can play a role in gathering and processing information, but legal decisions regarding the use of force must remain under the control of humans with substantive capacity to conduct evaluations. Every system recommendation must be traceable and testable, changing circumstances must trigger reassessments, the level of uncertainty must strengthen protection for civilians, and each stage of the decision-making process must have a clear structure of human responsibility. This model aims to reconstruct the proportionality principle from an assessment pattern that tends to be understood as a pre-attack decision to a dynamic mechanism that is responsive to technological developments. This reconstruction is expected to maintain the sustainability of humanitarian principles in the use of AI-based weapon systems without ignoring the reality that technological developments have changed the way states and military actors gather information, determine targets, and use force in armed conflict.

## CONCLUSION

The principle of proportionality in International Humanitarian Law is a fundamental instrument for limiting the use of force and protecting civilians and civilian objects from incidental harm that is excessive compared to the concrete and direct military advantage. The development of AI-based weapon systems raises new problems because the military decision-making process, which previously centered on human legal judgment, increasingly involves data processing, algorithms, probabilities, and automated recommendations. The applicable legal construction through the principles of proportionality, distinction, precaution, and the obligation of legal review, as stipulated in, among others, Article 36, Article 51 paragraph (5) letter b, and Article 57 of Additional Protocol I, remains applicable to the development of weapons technology. The problem lies in the inadequacy of operational parameters to guarantee the application of the principle of proportionality when the process of target identification, civilian harm estimation, and decision-making is influenced by AI systems. This condition gives rise to problems of algorithmization of legal assessments, system uncertainty and reliability, automation bias, opacity, difficulty in reassessing changing situations, and the potential for weakening human control and responsibility in the legal system. The reconstruction of the proportionality principle needs to be guided by the Dynamic Human-Controlled Proportionality Model, which places human legal judgment, explainable decision-making, dynamic reassessment, uncertainty-based civilian protection, and traceable human responsibility as key elements to ensure that the development of artificial intelligence remains within the boundaries of humanitarian protection, which is the objective of the International Humanitarian Law.

States and the international community must develop more operational legal standards regarding the application of the proportionality principle in the use of AI-based weapons systems without disregarding the validity of existing International Humanitarian Law norms. This development should provide clear boundaries regarding the level and form of human control in the proportionality assessment process, an obligation to ensure transparency and clarity of the basis for system recommendations, standards for handling uncertainty, the risk of algorithmic error, and an obligation to reassess if there are changes in circumstances that could increase the risk to civilians. The legal review obligation under Article 36 of Additional Protocol I also needs to be expanded to not only assess the physical characteristics and destructiveness of a weapon but also examine the decision-making process, data quality, level of autonomy, likelihood of system errors, ability for human intervention, and mechanisms to stop attacks. Such arrangements need to ensure that artificial intelligence functions as a supporting instrument in the military decision-making process, while legal assessments regarding proportionality, decisions on the use of force, and accountability for the consequences of attacks remain under the control of humans who have the authority, understanding, and ability to account for these decisions.

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