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Regional Perspectives on the Application of International Humanitarian Law to Lethal Autonomous Weapon Systems

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About UNIDIR

The United Nations Institute for Disarmament Research (UNIDIR) is a voluntarily funded, autonomous institute within the United Nations. One of the few policy institutes worldwide focusing on disarmament, UNIDIR generates knowledge and promotes dialogue and action on disarmament and security. Based in Geneva, UNIDIR assists the international community to develop the practical, innovative ideas needed to find solutions to critical security problems.

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Cover image: Drones flying over a world map, generated with AI. Credit: Adobe Stock Images.

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Acronyms & Abbreviations

AI	Artificial intelligence
API	1977 Additional Protocol I to the 1949 Geneva Conventions
CCW	Certain Conventional Weapons (Convention)
GGE	Group of Governmental Experts
ICRC	International Committee of the Red Cross
IHL	International humanitarian law
LAWS	Lethal autonomous weapon systems

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Executive Summary

States' decade-long deliberations on emerging technologies in the area of lethal autonomous weapon systems (LAWS) have consistently discussed the application of international humanitarian law (IHL). Yet, as the international community grapples with this inherently technical and complex issue, much uncertainty and unclarity remain as to how IHL specifically applies in relation to LAWS.

Against this backdrop, UNIDIR conducted a project on working "Towards a Common Understanding of the Application of IHL to Emerging Technologies in the Area of LAWS". Building on the momentum on this topic, UNIDIR's primary objective was to take stock of the existing state of affairs and to capture existing views, positions and approaches – across sectors and across regions – to the application of IHL to LAWS. To this end, the Institute has drafted a separate background paper that summarizes publicly available views expressed by states, scholars and other experts participating in multilateral discussions on the applicability and interpretation of IHL with respect to the development, deployment and use of LAWS.¹ To complement this research, UNIDIR conducted a series of bilateral and regional consultations between November 2024 and March 2025. In partnership with regional partners, regional consultations were held in The Hague, Brasília, Pretoria and Singapore. The consultations were designed to provide a platform for open discussions, knowledge- and information-sharing, and the deepening of regional understandings on the intersection between IHL and LAWS. Held under the Chatham House Rule and in-person only, participants included government-affiliated experts in law, policy and defence from various ministries, national agencies and authorities, as well as a select number of scholars specialized in IHL and policy.

Participants collectively discussed scoping issues and how IHL would apply before, during and after an attack that involves LAWS. In addition, UNIDIR, along with the participants, has identified and explored possible examples of measures to help implement the relevant obligations under IHL. These range from the conceptualization of LAWS to guidelines surrounding their procurement and testing and evaluation, as well as considerations surrounding the planning and execution of an attack, and the duty to conduct effective investigations.

A series of areas of nuanced convergence were observed across and within regions:

- ▶ A general acknowledgment on the importance of IHL
- ▶ The relevance of a system's contextualized characterization for the interpretation and application of IHL
- ▶ Blurred lines in the life-cycle management approach to applying IHL in relation to LAWS
- ▶ The role of legal reviews in IHL compliance
- ▶ A desire for concrete measures to foster compliance
- ▶ The importance of multi-stakeholder regional discussions

¹ Netta Goussac and Magdalena Pacholska, *The Interpretation and Application of International Humanitarian Law in Relation to Lethal Autonomous Weapon Systems* (Geneva: UNIDIR, 2025), <https://unidir.org/publication/the-interpretation-and-application-of-international-humanitarian-law-in-relation-to-lethal-autonomous-weapon-systems/>.

Conversely, areas of divergence areas were also identified:

- ▶ Diverging views on the (il)legality of LAWS by nature
- ▶ *Lex lata* (the law as it is) versus *lex feranda* (the law as it should be), that is, the desired outcome and endgame of states and stakeholders in discussions surrounding LAWS
- ▶ Long-standing disagreements and divergences in IHL interpretations, and the extent to which LAWS bring novel questions (or does not)
- ▶ Differences in international, regional and national approaches to interpretation and application of IHL
- ▶ The prioritization of IHL
- ▶ Varying regional, subregional and local contexts and realities that would then have a subsequent impact on the application of IHL in relation to LAWS

Considering these various areas of convergence and divergence, states and non-state stakeholders alike were asked to reflect on the way ahead with regards to the application and interpretation of IHL, bearing in mind the ongoing processes, initiatives and discussions. These reflections were not intended to prejudice possible outcomes and were to underscore the importance of complementarity. From these reflection, UNIDIR has identified elements to contribute to future discussions in this space:

- ▶ The value of scenarios-based exercises to help identify and explore examples of possible measures for the implementation of IHL in relation to LAWS
- ▶ The criticality of means and platforms for regional exchanges
- ▶ The need for knowledge and capacity-building
- ▶ The possible policy options and their respective trade-offs
- ▶ The need to clarify the scope of and the delineations between LAWS and military artificial intelligence (AI)

A series of open questions have also been formulated for states to consider when moving ahead.



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1. Background

The level of attention paid by the international community to the issue of lethal autonomous weapon systems (LAWS) has never been higher. As states grapple with options for governance of these technologies, there is growing appetite for light to be shed on the application of international humanitarian law (IHL) in relation to the (possible) development, deployment and use of LAWS. In fact, much if not most, of the discussion surrounding LAWS has been grounded in the application of IHL – whether in the context of the Group of Governmental Experts (GGE) on emerging technologies in the area of LAWS under the Convention on Certain Conventional Weapons (CCW Convention), in meetings of the First Committee of the United Nations General Assembly, or even outside the United Nations. At the regional level, for example, Sierra Leone convened a meeting on autonomous weapons for representatives of member states of the Economic Community of West African States (ECOWAS) in Freetown on 17–18 April 2024. The Freetown Communiqué adopted at that meeting underscores, among other things, the importance of compliance with IHL.² The previous year, on 23–24 February 2023, Costa Rica hosted a conference at Belén on the social and humanitarian impact of autonomous weapons for the states of Latin American and the Caribbean. The Belén Communiqué also puts an emphasis on IHL.³ More recently, as one of the outcomes of the Artificial Intelligence (AI) Action Summit, held in Paris on 10–11 February 2025, 27 states endorsed the *Paris Declaration on Maintaining*

² Communiqué of the Regional Conference on the Peace and Security Aspects of Autonomous Weapons Systems: An ECOWAS Perspective, 17–18 April 2024, <https://article36.org/wp-content/uploads/2024/04/Freetown-Communique-18-April-2024-English.pdf>.

³ Communiqué of the Latin American and the Caribbean Conference on Social and Humanitarian Impact of Autonomous Weapons, 23–24 February 2024, <https://conferenciaawscostarica2023.com/wp-content/uploads/2023/02/EN-Communique-of-La-Ribera-de-Belen-Costa-Rica-February-23-24-2023..pdf>.

Human Control in AI-enabled Weapon Systems, which puts international humanitarian law at the forefront of the responsible development, deployment and use of these technologies.⁴

Against this backdrop, UNIDIR conducted a project on working “Towards a Common Understanding of the Application of IHL to Emerging Technologies in the Area of LAWS”. Building on the momentum on this topic, UNIDIR’s primary objective was to take stock of the existing state of affairs and capture existing views, positions and approaches to the application of IHL in relation to LAWS across sectors and across regions. To this end, UNIDIR issued a background paper summarizing publicly available views expressed by states, scholars and other experts participating in multilateral discussions on the applicability and interpretation of IHL with respect to the development, deployment and use of LAWS.⁵ To complement this research, UNIDIR conducted a series of bilateral and regional consultations between November 2024 and March 2025. In partnership with regional partners, regional consultations were held in:

- ▶ **Western Europe and North America:** The Hague, Netherlands, 26–27 November 2024 (hosted by the Ministry of Foreign Affairs of the Netherlands)
- ▶ **Latin America and the Caribbean:** Brasília, Brazil, 11–12 December 2024 (hosted by the Ministry of Foreign Affairs of Brazil in the premises of the Ministry of Defence of Brazil)
- ▶ **Africa:** Pretoria, South Africa, 4–5 February 2025 (hosted by the Department of International Relations and Cooperation of South Africa)
- ▶ **Asia-Pacific:** Singapore, 11–13 February 2025 (hosted by the Ministry of Defence of Singapore and in partnership with the S. Rajaratnam School of International Studies (RSIS), Nanyang Technological University, Singapore)

The consultations were designed to provide a platform for open discussions, knowledge- and information-sharing, and deepening regional understandings on the intersection of IHL and LAWS. These meetings were held under the Chatham House Rule and in-person only. Participants included government-affiliated experts on law, policy and defence from various ministries, national agencies and authorities, as well as select scholars who specialize in IHL and policy.

Facilitated by UNIDIR, the consultations consisted of three elements:

- ▶ **A scenarios-based exercise.** This provided state and non-state experts specific frameworks to reflect on the legal and policy considerations, obligations and implications related to the development, deployment and use of LAWS in armed conflict settings – as well as specific measures to foster the implementation of IHL.
- ▶ **A thematic exchange of views, perspectives and approaches on key considerations, obligations and issues in IHL that are applicable before, during and after an attack involving LAWS.** This exchange encouraged participants to also reflect on scope and the potential implications of these technologies on the notion of “attack” under IHL.

⁴ Paris Declaration on Maintaining Human Control in AI-enabled Weapon Systems, 11 February 2025, <https://www.elysee.fr/emmanuel-macron/2025/02/11/paris-declaration-on-maintaining-human-control-in-ai-enabled-weapon-systems>.

⁵ Goissac and Pacholska, *The Interpretation and Application of International Humanitarian Law*.

- ▶ **A dialogue on modalities for a document to present the interpretation and application of IHL in relation to LAWS.** This was based on an exploration of possible options as well as existing models, instruments, tools and initiatives (e.g., the Montreux Document on Private Military and Security Companies, the Tallinn Manual on Cyberwarfare). Participants exchanged views on the potential lessons learned and good practices from the existing examples, while also identifying their limitations and the obstacles in applying a similar approach in the context of LAWS. These reflections were, in particular, contextualized against existing initiatives and processes (e.g., the CCW GGE and the ongoing deliberations surrounding its Rolling Text; and the First Committee resolutions on LAWS), and how a new document can effectively complement and reinforce these initiatives.

The format of the consultations was critical in providing UNIDIR and participants with a focused framework to exchange views, approaches and perspectives on the application of IHL in relation to LAWS.

In addition, to complement its findings from the regional consultations, UNIDIR conducted bilateral consultations with select representatives. Questions covered during these consultations include: What are the main priority issues and considerations in IHL in relation to LAWS? Which ministries, national entities, departments and agencies are involved in the interpretation and application of IHL in relation to LAWS? Do LAWS raise novel issues in relation to IHL? What are some national best practices that contribute to the application and interpretation of IHL in relation to LAWS?

The present report summarizes the key insights drawn from the consultations undertaken by UNIDIR. Specifically, the report has four main elements:

- ▶ **A summary of the substantive discussions and measures for implementation,** specifically with regards to the scope (i.e., when an attack involving LAWS begins and ends), as well as the main IHL considerations, obligations and issues before, during and after an attack involving LAWS (in Section 2)
- ▶ **Areas of nuanced convergence,** specifically identifying some of the patterns observed across the consultations (in Section 3)
- ▶ **Points of divergence** from the discussions, not only across consultations, but also among participants in the same consultation (in Section 4)
- ▶ **Food-for-thought for the way ahead** with regards to the interpretation and application of IHL in relation to LAWS, in addition to outlining some of the remaining open questions that require further reflections (in Section 5)



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2. Substantive Discussions on IHL and Measures for Implementation

The consultations provided an opportunity for state representatives and experts to share their views, perspectives and approaches with regards to substantive issues surrounding the interpretation and application of IHL to LAWS. The first focus of substantive discussions related to scoping, which built the foundations for the subsequent discussions on IHL considerations, obligations and issues before, during and after an attack involving LAWS. Beyond identifying the relevant legal considerations, obligations and issues, participants were also encouraged to share their views on possible measures to foster the implementation of IHL specifically in relation to LAWS.

2.1. Scoping

Most contemporary deliberations on the interpretation and application of IHL in relation to LAWS focus on the development, deployment and use of these technologies for the conduct of hostilities. There are indeed many possible alternative uses of LAWS that are as yet underexplored but where IHL may still apply (e.g., as sentry weapons for border protection or as means of detention during an occupation). However, in acknowledgment of the general focus on attacks (i.e., in military targeting contexts), the consultations primarily centred around these applications.

In reflections on IHL obligations in relation to LAWS, the question of their temporal scope surfaced: when an attack, under IHL, begins and ends has a host of implications for the

commander's legal assessment and judgment when planning and deciding on attacks that may involve the use of LAWS.⁶

In fact, IHL obligations and considerations vary between stages of the attack cycle; and these differences will have implications for the concrete measures that may be adopted to foster IHL compliance. For example, the principle of distinction between civilians and combatants and between civilian objects and military objectives applies in the conduct of an attack, as provided in Article 48 of the 1977 Additional Protocol I to the 1949 Geneva Conventions relating to the Protection of Victims of International Armed Conflicts (API) and Rule 1 of the Study on Customary IHL of the International Committee of the Red Cross (ICRC).⁷ This legal obligation applies after an attack begins and until the attack ends. This, however, does not prevent the adoption of measures before the attack to help with compliance with the principle of distinction (e.g., through robust intelligence collection and validation). Taking measures before the attack would, in fact, be expected and even mandatory under the rule of precautions in attack, which binds those who plan or decide upon an attack to do “everything feasible to verify that the objectives to be attacked are neither civilians nor civilian objects and are not subject to special protection” as provided in API Article 57 and Customary IHL Rule 15.⁸

It is important to note that ascertaining the temporal scope of an attack and, thus, the relevant IHL obligations that apply is an issue that extends beyond LAWS. Whether the use of LAWS would affect the temporal scope of an attack and the subsequent application of IHL is another question that is subject to much debate at both the scholarly and policy levels.⁹ While no general and universally shared understanding has been reached on the latter question, the consultations provided states and participating experts with an opportunity to identify and reflect on some of the concrete measures that may be undertaken before, during and after an attack (as outlined in Table 1) to help foster compliance with IHL in relation to LAWS.

⁶ Goussac and Pacholska, *The Interpretation and Application of International Humanitarian Law*.

⁷ ICRC, “Rule 1. The Principle of Distinction between Civilians and Combatants”, ICRC Study on Customary International Humanitarian Law, <https://ihl-databases.icrc.org/en/customary-ihl/v1/rule1>.

⁸ ICRC, “Rule 15. Principle of Precautions in Attack”, ICRC Study on Customary International Humanitarian Law, <https://ihl-databases.icrc.org/en/customary-ihl/v1/rule15>.

⁹ For an example of an academic piece dedicated to the notion of attack in relation to autonomous weapon systems, see Jonathan Kwik, “The Scope of an Autonomous Attack”, 16th International Conference on Cyber Conflict: Over the Horizon (CyCon), Tallinn, Estonia, 2024, pp. 191–206, <https://doi.org/10.23919/CyCon62501.2024.10685635>.

TABLE 1.

Anatomy of a hypothetical attack involving lethal autonomous weapon systems

Before any attack or any specific military operation	Design, development, testing, evaluation, verification and validation of a LAWS
	Procurement of a LAWS
	Conduct of legal reviews: assessment of the system's legality by nature; and identification of (un)lawful uses (API Article 36)
During an attack	Planning and decision-making for a specific military operation (precautions in attack, API Article 57(2)(a); and proportionality, API Article 51(5)(b))
	Use of force, including activation and launch of a LAWS, navigation, and identification, selection and engagement of a target (principle of distinction, API Article 48)
	Precautions from the effects of an attack (Article 58(c) API) and obligation for "constant care" (API Article 57(1))
After the conduct of an attack	Post-operation review and assessment: analysis and evaluation of the attack and success rate; evaluation of damage and casualties; identification of possible IHL violations
	If necessary, (temporary) retirement of a LAWS from use and conduct of effective investigations, including collection of forensic evidence and in-depth assessment of damage and casualties

The table delineates what constitutes "before", "during" and "after" a hypothetical attack involving LAWS. Without prejudice to the diverging views on their legitimacy and legality, the following, this framing (and a non-exhaustive indication of what may fall under each stage) does not necessarily reflect the views of participating states and experts. Rather, it builds on the reflections shared during the consultations and was subsequently used by UNIDIR as a means to structure the discussions and reflections on possible measures for compliance.

2.2. IHL obligations and measures before an attack

On the basis that “before an attack” corresponds to the stage before a particular military operation is underway, two specific IHL obligations and their adjacent considerations are brought to the fore: legal review of weapons; and the obligation to “respect and to ensure respect for” IHL.

Legal review of weapons

Principle: For states parties to the API, the obligation to conduct legal reviews stems from API Article 36, according to which:

“In the study, development, acquisition or adoption of a new weapon, means or method of warfare, a High Contracting Party is under an obligation to determine whether its employment would, in some or all circumstances, be prohibited by this Protocol or by any other rule of international law applicable to the High Contracting Party.”

Notes from the consultations: Legal reviews under API Article 36 are two-pronged. First, an assessment must be made as to whether the weapon system in question would be unlawful by nature (e.g., if it is found to be indiscriminate by nature). Second, an assessment must also be made to identify the circumstances under which the employment of the weapon system in question would be unlawful (e.g., under what circumstances would its use result in a loss of civilian life that would be excessive in relation to the concrete and direct military advantage anticipated, in contravention of the principle of proportionality). Both assessments, as ascertained by participants in the consultations, must also be made in relation to LAWS, taking into account their technical characteristics, features, functions, limitations, training history and intended uses.

The obligation to “respect and to ensure respect for” IHL

Principle: The obligation to respect and to ensure respect for IHL stems from Article 1 common to the 1949 Geneva Conventions, which reads as follows:

“The High Contracting Parties undertake to respect and to ensure respect for the present Convention in all circumstances.”

This provision has been found to also represent customary law by the ICRC Study on Customary IHL.¹⁰ It is applicable in both international armed conflict and non-international armed conflict.

Notes from the consultations: In practice, it remains largely up to states to elaborate what this obligation means in the context of LAWS. However, a significant portion of the participants in the consultations were generally of the view that the obligation to “ensure respect” may

¹⁰ ICRC, “Rule 139. Respect for International Humanitarian Law”, ICRC Study on Customary International Humanitarian Law, <https://ihl-databases.icrc.org/en/customary-ihl/v1/rule139>.

also translate into measures before the attack, including as part of the conceptualization and design stages of a LAWS.

The consultations provided an opportunity for participants to reflect on these two obligations and specific measures that may be undertaken to foster their implementation and compliance. While by no means exhaustive, the measures and approaches outlined in Table 2 have been discussed and explored.

TABLE 2.

Examples of measures for compliance before an attack

Ascertain the “why”	From the conceptualization of a LAWS, states ought to be clear on the very purpose of the system and its intended uses. The “why” should not only consider operational advantages (and circumstances in which the deployment of a LAWS may constitute a disadvantage), but also legal compliance considerations.
	The “why” should be formulated by various actors, including representatives of the armed forces, military lawyers, the intended users (i.e., operators), relevant policy-makers and members of the judiciary as appropriate.
Formulate guidelines for procurement	The obligations set by IHL obligations should be translated into procurement requirements and the selection criteria outlined in the call for tenders, for both domestic and international purchases.
	Specific requirements should be formulated to ensure compliance from the procurement of dual-use technologies.
	Drawing from IHL requirements, contractual provisions should be formulated with a clear distribution of roles and responsibilities and each party’s respective expectations.
Establish a framework around testing and evaluation	Robust testing and evaluation will require significant investment in the infrastructure needed to build internal human, technical and financial capacity.
	States should formulate a specific framework with IHL requirements translated into evaluation metrics for the testing and evaluation of systems developed in-house.
	States should formulate a specific framework with IHL requirements translated into evaluation metrics for the testing and evaluation of systems developed in-house. For such capabilities, local acceptance tests will be of particular importance.
Implement good practices surrounding legal reviews	As states conduct the legal review of acquired LAWS, a specific process surrounding documentation should be implemented. Such documentation should include, among other things, the assumptions and parameters adopted for the legal review; the actors involved and their respective decision-making roles; the limitations in compliance observed and corresponding parameters; as well as the conditions under which a legal review may be necessary again.
	States should also ensure the information and documentation on the conduct of legal reviews are made readily accessible should such a need arise (e.g., in the conduct of subsequent legal reviews or investigation of potential IHL violations).

Translate IHL requirements into design and development choices	The data used for training and testing these systems must be adequate and must reflect the contexts and realities local to the environment in which it is intended for deployment.
	The design of the interface intended to facilitate and enable the interaction between the system and the user must be guided by IHL considerations and requirements.
	Fail-safe features must be embedded to ensure compliance with the duty to cancel or suspend an attack.

These suggested measures were discussed, shared and proposed by participants across the regional consultations. They provide glimpses of possible good practices that, if adopted, will foster compliance with IHL *before* an attack that involves LAWS, without prejudice to states' position as to whether or not these systems are in themselves lawful by nature.

2.3. IHL obligations and measures during an attack

Building on both UNIDIR's preliminary research and the discussions in the consultations, the "during an attack" phase is considered as encompassing both the planning and decision-making stage and the actual use of force. This is primarily based on two considerations.

First, API Article 49(1) provides a specific definition of an attack:

"Attacks' means acts of violence against the adversary, whether it is in offence or in defence."

This definition would correspond to the actual use of force, for both offensive and defensive purposes. In the context of LAWS, many participants in the consultations were of the view that what would concretely constitute an "act of violence" extends beyond target engagement to include the system's deployment and activation, its subsequent launch and navigation, as well as target identification and selection.

Second, API Article 57 provides for the IHL obligations related to precautions *in* attack. Specifically, paragraph 1 states:

"In the conduct of military operations, constant care shall be taken to spare the civilian population, civilians and civilian objects."

This paragraph indeed sets a legally binding expectation for states to take "constant care" in the conduct of military operations, including the execution of an attack (i.e., within the "during" phase). Paragraph 2, however, provides a series of obligations with regards to the precautionary measures to be undertaken, including for "those who plan or decide upon an attack". Their obligations involve the verification of targets, the choice of means and methods of warfare, as well as the decision to launch an attack. These are considered as precautionary obligations *in* attack and, as such, are considered as part of the "during an attack" phase both during the consultations and in this report.

On the basis that “during an attack” consists of both the planning and the execution stages of a military operation, IHL provides a series of legal obligations that are of relevance for both aspects.

2.3.1. Planning and decision-making obligations

Precautions in attack

Principle: In the planning and decision-making ahead of a specific military operation, a series of obligations for “those who plan or decide upon an attack” stem from API Article 57(2)(a), which reads as follows:

“those who plan or decide upon an attack shall:

(i) do everything feasible to verify that the objectives to be attacked are neither civilians nor civilian objects and are not subject to special protection but are military objectives within the meaning of paragraph 2 of Article 52 and that it is not prohibited by the provisions of this Protocol to attack them;

(ii) take all feasible precautions in the choice of means and methods of attack with a view to avoiding, and in any event to minimizing, incidental loss of civilian life, injury to civilians and damage to civilian objects;

(iii) refrain from deciding to launch any attack which may be expected to cause incidental loss of civilian life, injury to civilians, damage to civilian objects, or a combination thereof, which would be excessive in relation to the concrete and direct military advantage anticipated;”

Notes from the consultations: One key dimension to this obligation is the feasibility aspect, whether it is with regards to the verification of objectives to be attacked or in the choice of means and methods of warfare. However, those participants that hold the view that LAWS do not fundamentally change IHL as a body of law would emphasize how these technologies would have an impact on expectations and on what would be considered as “feasible” precautions. In addition, a third aspect of such planning and decision-making corresponds to proportionality assessments and the duty to refrain from deciding to launch an attack that would be expected to be disproportionate. This will raise a number of questions and have implications in the context of LAWS deployment and use, including whether the decision to deploy such systems would indeed constitute the most appropriate choice to minimize risks to civilians compared to other, non-LAWS capabilities.

Proportionality

Principle: The principle of proportionality stems from API Article 51(5)(b), which lists among attacks “considered as indiscriminate”:

“an attack which may be expected to cause incidental loss of civilian life, injury to civilians, damage to civilian objects, or a combination thereof, which would be excessive in relation to the concrete and direct military advantage anticipated.”

Notes from the consultations: Situational awareness and, consequently, robust intelligence will be key for proportionality assessments. AI more generally has been recognized as providing potential opportunities to enhance intelligence through data collection and processing at scale. With regards to LAWS, tremendous opportunities to enhance proportionality assessments are offered, in principle, by the prospect of connecting these systems to sensors and other means of collecting and processing data live and at scale for intelligence, surveillance and reconnaissance (ISR). However, many states and experts are of the view that proportionality should ultimately be measured by the human commander and LAWS should thus not be the sole means for such assessments.

Additionally, participants underscored the importance for such proportionality assessments of the socio-cultural context in which the system is expected to operate. In fact, it is generally accepted that both the anticipated immediate and indirect (i.e., secondary) effects of an attack would constitute part of proportionality assessments. To this end, a thorough understanding of the local socio-cultural context will be critical in not only appreciating the true value of the targeted object and its surroundings, but also the anticipated military advantage and incidental civilian harm; that is, in assessing the actual magnitude of consequences if the strike were to be ordered and executed.

As such, the examples of possible measures outlined in Table 3 have been explored and discussed to foster compliance from the planning stages of an attack.

TABLE 3.

Examples of measures for compliance in the planning of an attack

Intelligence collection, processing and verification	Precautionary obligations in the planning of an attack, along with the principle of proportionality, require robust intelligence collection and processing, including through the leveraging of the appropriate opportunities that AI technologies may offer. These enhanced efforts to consolidate intelligence collection, processing and verification must, however, also factor the human rights implications as appropriate in times of armed conflict (e.g., the right to privacy).
	The intelligence collected ought to be as holistic as possible, including information surrounding civilian patterns, risks of communications jamming, socio-cultural contexts, as well as historical and political backgrounds.
	States should then conduct comprehensive risks assessments to inform their subsequent choice of means and methods of warfare. These should include the pros and cons of deploying LAWS, considerations surrounding the appropriate type of munition, and what degree of autonomy and risks would be tolerated.
	Possible consequences, including both immediate and second-order consequences, must also be considered as part of proportionality assessments.

Consideration of alternatives	In the planning and decision-making stages, the commander should consider all alternative means and methods of warfare available. In the context of LAWS, reflections should be made as to why autonomy would be needed in the first place for this specific operation, its potential liabilities and whether the use of non-LAWS means would lead to similar or more desirable outcomes.
	The commander also ought to consider alternative tactics in the light of the objective at hand, including the use of non-lethal force. Notably, such assessments should factor in the level of priority conferred on the target (i.e., beyond its legitimacy, whether it is a low-value, mid-value or high-value target).
	Alternative timings should also be considered, notably in the light of the circumstances ruling at the time, observable civilian patterns, and possible variations.
	Should the use of LAWS constitute the most appropriate choice of means and methods of warfare, the commander should also plan, as feasible, for risk-mitigation measures and all alternative solutions to either minimize risks or, at least, minimize the impact of the attack on civilians.

2.3.2. Execution of an attack

The actual use of force – that is, the execution of an attack – ought to be understood as encompassing the activation and launch of a lethal autonomous weapon system, its subsequent navigation, and the identification, selection and engagement of the target.

Distinction

Principle: The principle of distinction is laid out in API Article 48, which reads:

“In order to ensure respect for and protection of the civilian population and civilian objects, the Parties to the conflict shall at all times distinguish between the civilian population and combatants and between civilian objects and military objectives and accordingly shall direct their operations only against military objectives.”

Notes from the consultations: For LAWS with the ability to select and engage a target autonomously, the data on which the system has been trained and the descriptors it uses to qualify a target as lawful may have an impact on compliance with the rule of distinction. Specifically, its ability to conduct distinction assessments may be affected by whether the training data is representative of the environment in which the system is expected to operate. For example, in certain regions, pastoral communities in rural areas (despite their civilian status) bear arms to protect livestock: LAWS deployed in these regions must have been trained on data that factors in this cultural factor in order to ensure that members of these communities are not wrongfully targeted due to the bearing of arms.

In addition to differentiating between combatants and civilians, as well as between military objectives and civilian objects, additional ambiguities arise with regards to civilians who lose their protection due to their direct participation in hostilities. While this is of particular importance in non-international armed conflicts, it remains subject to much debate and contention in IHL,

as reflected during the consultations. In the context of LAWS deployment and use, no exception is made with regards to the obligations set by the principle of distinction. As such, systems with the capacity to select and engage a target autonomously must be deployed and used in such a way that the distinction between civilians, combatants and civilians directly participating in hostilities is indeed maintained (e.g., through verification steps by a human operator as feasible, necessary and appropriate).

Whether the system is designed or, at least, deployed for anti-personnel or for anti-material purposes influenced the legal assessment of a number of participants; others considered this differentiation as not constituting a decisive factor. Those in the former camp would generally argue that the risks associated with reliance on these technologies for anti-personnel targeting remain too high and, as such, the prospects of use that is compliant with the principle of distinction are too low. Some would argue that this is inherently a technological issue, while others would argue that, by virtue of the rule of precautions in attack and the duty to minimize risks of harm to civilians, such deployments would be difficult to justify. Ambiguities arise when the system's target is an object, yet the attack will result in lethality against enemy personnel.

Precautions in attack

Principle: API Article 57 provides, extensively, a series of precautionary measures to undertake in the conduct of an attack, including:

“an attack shall be cancelled or suspended if it becomes apparent that the objective is not a military one or is subject to special protection or that the attack may be expected to cause incidental loss of civilian life, injury to civilians, damage to civilian objects, or a combination thereof, which would be excessive in relation to the concrete and direct military advantage anticipated” (Article 57(2)(b))

and

“effective advance warnings shall be given of attacks which may affect the civilian population, unless circumstances do not permit” (Article 57(2)(c)).

Notes from the consultations: Echoing many of the public statements made by states with regards to the application of IHL in relation to LAWS, the principle of precautions in attack has often been used during the consultations as the premise for arguments in favour of requirements for human control over the effects of LAWS.¹¹ Additionally, questions were raised with regards to the level of knowledge of the system and its characteristics expected for the commander and the user at the time of the attack in order for them to exercise and implement the necessary precautionary measures for compliance. In parallel, this also raises the question of what information should be made available to the commander by virtue of these obligations. This may, to a certain extent, bring the issue back to the design stages of the system by anticipating such needs and integrating the appropriate solutions from the outset (e.g., through design choices in the system's interface).

¹¹ Goissac and Pacholska, *The Interpretation and Application of International Humanitarian Law*.

Precautions from the effects of an attack

Principle: In addition to obligations surrounding precautions in attack, IHL also sets precautionary obligations against the effects of attacks. Specifically, under API Article 58:

“The Parties to the conflict shall, to the maximum extent feasible:

(a) without prejudice to Article 49 of the Fourth Convention, endeavour to remove the civilian population, individual civilians and civilian objects under their control from the vicinity of military objectives;

(b) avoid locating military objectives within or near densely populated areas;

(c) take the other necessary precautions to protect the civilian population, individual civilians and civilian objects under their control against the dangers resulting from military operations.”

Notes from the consultations: Both states and the academic literature have rarely (if at all) discussed how this obligation applies in the context of LAWS.¹² This is confirmed by the lack of engagement with this aspect of the law in all consultations, thus demonstrating the need to dedicate reflect further reflections on how to foster compliance with this obligation.

Constant care

Principle: API Article 57(1) provides:

“In the conduct of military operations, constant care shall be taken to spare the civilian population, civilians and civilian objects.”

Notes from the consultations: What this obligation means, in practice, in the context of the development, deployment and use of LAWS remains subject to much debate. Arguably, it constitutes one of the main elements where further clarification would benefit the international community.¹³

Building on these obligations surrounding the planning and execution of the attack, participants to the consultations discussed and explored the possible measures to foster compliance outlined in Table 4.

¹² Ibid.

¹³ Ibid.

TABLE 4.

Examples of measures for compliance in the execution of an attack

Continued intelligence collection and processing	The armed forces should leverage all means available to continuously monitor the environment in which the operation is conducted and where the LAWS is operating. This continued monitoring should lead to a consistent review of, not only possible changes in circumstances within the environment, but also changes in the system's performance (e.g., due to jamming, adversarial attacks or faulty sensors).
	The status of the target should also be continuously reviewed: not only its legitimacy and lawfulness but also its value.
	The initial legal assessments made prior to the launch of the attack should also be continuously reviewed, notably against pre-existing and pre-identified risks, prior assessments, as well as new and emerging risks and uncertainties.
Minimization of civilian harm	Parties to the armed conflict should provide advance warning to civilians as feasible, while also ensuring that such warnings do not jeopardize intelligence and planning.
	In the deployment and use of LAWS, commanders and users should pre-determine, as far as possible, limitations in time and space (e.g., through geofencing). These requirements should be ascertained from the planning stages and should be continuously monitored and reviewed.
	Should the circumstances change in such a way that the operation would not be lawful, specific measures must be in place to enable the commander to suspend or cancel the attack.
	As well as continuously consulting and coordinating with legal advisors and officers on the ground, the commander should also activate, as necessary, agencies and bodies outside the armed forces (e.g., coastguards, intelligence agencies, law enforcement agencies etc.) to minimize risks of civilian harm (e.g., by enforcing temporary curfews).

2.4. IHL obligations and measures after an attack

Principle: Establishing responsibility constitutes an obligation under IHL:

“State responsibility provides the primary consequence in case of transgressions, while the individual criminal responsibility for war crimes supplements the former and is only mandatory for the so-called grave breaches.”¹⁴

States indeed have a duty to repress and suppress breaches of IHL, with mandatory universal jurisdiction applicable to grave breaches.¹⁵ From this emerges **the duty to conduct effective investigations.**¹⁶

Notes from the consultations: The development, deployment and use of LAWS will have implications for the implementation of the obligations to establish responsibility and to conduct effective investigations. Concerns have indeed been shared in the consultations with regards to a number of issues, both in relation to state responsibility and individual criminal responsibility. These include:

- ▶ The (un)availability of forensic evidence for machine learning-enabled LAWS due to the black box nature of these systems, which may impede states’ ability to conduct effective investigations
- ▶ Difficulties in ascertaining and establishing whether a LAWS has indeed been used and its direct effects and consequences
- ▶ Difficulties surrounding attribution in the absence of established frameworks, protocols and solutions for traceability.

Building on the consultations, the measures listed in Table 5 have been explored and discussed to foster implementation of IHL. In the consultations it was observed that what constitutes a measure “after” an attack may also constitute one “before” the next attack; as such, lines are blurred in the life-cycle management approach (as described in further detail in Section 3).

¹⁴ Paola Gaeta and Abhimanyu George Jain, “Individualisation of IHL Rules Through Criminal Responsibility for War Crimes and Some (Un)intended Consequences”, in *The Individualisation of War*, ed. D. Akande et al. (Oxford: Oxford University Press, 2024), as cited in Goussac and Pacholska, *The Interpretation and Application of International Humanitarian Law*.

¹⁵ API, Article 85. See also ICRC, “Rule 157. Jurisdiction over War Crimes”, ICRC Study on Customary International Humanitarian Law, <https://ihl-databases.icrc.org/en/customary-ihl/v1/rule157>; ICRC, “Rule 158. Prosecution of War Crimes”, ICRC Study on Customary International Humanitarian Law, <https://ihl-databases.icrc.org/en/customary-ihl/v1/rule158>.

¹⁶ Noam Lubell, Jelena Pejic and Claire Simmons, *Guidelines on Investigating Violations of IHL: Law, Policy and Good Practice* (Geneva: Geneva Academy, 2019), https://www.icrc.org/sites/default/files/document/file_list/guidelines_on_investigating_violations_of_ihl_final.pdf.

TABLE 5.

Examples of measures for compliance after an attack

<p>Post-attack assessment of the operation</p>	<p>After all operations, states systematically conduct an assessment on the facts and without prejudice as to whether further investigations are necessary. These assessments should, among other things, consider the role and impact of LAWS in the specific operation executed.</p>
	<p>As part of the information gathered for these assessments, states should consider more than just the decisions that led to the authorization of the attack in question and the justification provided for the choice of means and methods of warfare. The information available to the commander and fed into the weapon system should also be considered.</p>
<p>When necessary, conduct of effective investigations</p>	<p>Particularly in the context of AI-enabled LAWS, states should formulate and implement frameworks around documentation of the development and use of such systems, including decision-making processes taken for their use (e.g., authorizations granted) to maintain the level of traceability necessary for the conduct of effective investigations.</p>
	<p>Protocols ought to be established, in the case of a suspected breach of IHL, to suspend the LAWS in question from future use pending the conclusion of the investigation.</p>
<p>Post-attack performance review of the system</p>	<p>The performance of LAWS enabled by reinforcement learning may change. There is thus a need to establish whether the system's performance has changed significantly from the results of its legal review, and whether such a review is needed again.</p>
	<p>Should there be changes in the performance of the system, states should have established protocols on whether or not to suspend its use and under which circumstances; on testing requirements and benchmarks; as well as on clear processes surrounding documentation and consultation of existing documents and archives.</p>



Image generated with AI. Credit: fpolat69 / Adobe Stock Images.

3. Areas of convergence

The consultations helped UNIDIR identify a series of convergences across and within regions with regards to the application of IHL in relation to LAWS:

- ▶ The importance of IHL
- ▶ The relevance of the system's contextualized characterization for the interpretation and application of IHL
- ▶ Blurred lines in the life-cycle approach to applying IHL in relation to LAWS
- ▶ The role and importance of legal reviews for IHL compliance
- ▶ The desire for concrete measures
- ▶ The importance of regional multi-stakeholder discussions in fostering IHL in relation to LAWS

While these areas of convergence are generally shared across and within regions, there may be slight nuances and variations in their understanding due to a number of factors. Among these are political and cultural differences, varied socio-economical contexts, as well as differences in legal traditions. This observation echoes UNIDIR's findings in its adjacent work on AI in the military domain that built on regional consultations in early 2024.¹⁷

¹⁷ Yasmin Afina, *The Global Kaleidoscope of Military AI Governance: Decoding the 2024 Regional Consultations on Responsible AI in the Military Domain* (Geneva: UNIDIR, 2024), <https://unidir.org/publication/the-global-kaleidoscope-of-military-ai-governance/>.

3.1. The importance of IHL

There is a general acknowledgment that IHL constitutes an important framework for the governance of LAWS across their life cycle, that is, from the decision to acquire such technologies via their design, development, testing and evaluation, to their deployment, use and decommissioning.

This recognition extends beyond compliance to also inform and shape policy decisions: in fact, this sentiment is generally shared independently of states' position on the way forward with regards to the governance of these technologies. Both proponents of an eventual international treaty prohibiting (certain) LAWS and those less in favour of such an instrument rest much of their arguments on IHL. For instance, those in the pro-treaty camp are of the view that certain types of LAWS would be inherently incompatible with IHL as their use would not comply with IHL obligations stemming from certain principles, most notably that of distinction. Much of this view is also tied to the specific characteristics of the system (which are discussed in Sub-section 3.2). The other camp includes many states across regions that are of the view that IHL, as it currently stands, suffices to guide and frame national and international approaches to the governance of LAWS.

3.2. The relevance of the system's contextualized characterization for the interpretation and application of IHL

Assessments leading to the application and interpretation of IHL in the context of LAWS generally tend to be closely tied to the system's characterization. In other words, whether a system is, by nature or by use, in compliance with IHL will depend largely on its characteristics. This corresponds not only to technical features but also specific characteristics and features that are built into the system for specific purposes.

The lethality of LAWS is a particularly contentious issue. Some participants were of the view that lethality is what would ultimately lead to contraventions of IHL, whereas less-than-lethal would be less contentious. Proponents of this stance also often argued that anti-materiel autonomous weapon systems would also be less problematic, although their use with a view of inflicting lethality would raise a series of compliance concerns, and the boundaries of such an argument have not yet been further elaborated. Another group of participants were of the view that the IHL issues of anti-personnel and anti-materiel targeting are generally similar and, as such, the lethality qualifier is less of a problem than the specific technical features of the system in question.

Beyond the system's own technical features and characteristics (e.g., size of payload, level of autonomy, the interface used by operators and the information presented, existence of a kill-switch), the context in which they are applied is also relevant. For instance, information about the size of a system's payload alone may not necessarily be sufficient to assess its legality; the context and environment in which this LAWS would be deployed are critical factors. For example, a payload in a rural area would not be expected to have the same consequences as the same payload in an urban setting).

Whether LAWS bring forth novel implications is a question that divided participants in the consultations. On the one hand, a number of participants argued that these are considerations that apply both to LAWS and in non-LAWS contexts. The legality of specific characteristics and features of any weapon system, autonomous or not, would depend on the context and environment in which it is deployed – in addition to the features that were activated and used in the specific operation in question. On the other hand, another set of participants argued that there are some characteristics that are inherent to LAWS that, by their nature, render them incompatible with certain principles of IHL. One example of such an incompatibility is in systems that have been designed in such a way that they are fully capable of identifying, selecting and engaging individual targets (i.e., anti-personnel targeting) without any human intervention or oversight: it has been argued that, under these circumstances, this level of autonomy would contravene the obligation for “constant care” as well as the principle of precautions in attack (e.g., through the lack of target verification thus inevitably increasing risks of harm to the civilian population). Independent of where participants would situate themselves in this debate, it was generally acknowledged that the intended tasks and purpose underlying the conceptualization and development of LAWS (which will thus have an impact on design choices and the systems’ characteristics) must be defined explicitly around IHL.

3.3. Blurred lines in the life-cycle management approach to applying IHL in relation to LAWS

A life-cycle management approach to applying IHL in relation to LAWS is actively being explored, at least at the policy level, across and within regions. Such approach consists of looking at points of intervention at each stage of the technology’s lifecycle to foster compliance, from the conceptualization and design to the development, testing, evaluation, deployment, use and decommissioning. However, the lines generally tend to be seen as blurred and not as straightforward in the context of LAWS and, more generally, AI in the military domain. The nature of these systems would indeed challenge some of the pre-existing assumptions surrounding what a technology’s life cycle would consist of: a measure for compliance and IHL implementation can apply simultaneously to the early stages in the technology’s life (e.g., the design, testing and evaluation phases) and the later stages (e.g., use, auditing and eventual decommissioning).

For example, an AI-enabled LAWS with the ability to continuously learn and ‘optimize’ its performance (e.g., through reinforcement learning) would still learn post-deployment and from its use. This technical feature of the system means that learning occurs both before and after it is deployed, and it may thus require continued auditing to monitor not only its performance but also its reliability for compliance with IHL. Such a measure to ensure compliance continuously monitors the system’s performance, even during use; but, as well as the “during the attack” phase, it would also correspond to “before” the next attack. These blurred lines have been raised across regions, although whether this feature is uniquely attributed to LAWS or not remains subject to much debate.

3.4. The role and importance of legal reviews for IHL compliance

It was generally agreed that measures to foster IHL compliance were required from the early stages of a LAWS' life cycle, which would include, among other things, the conduct of legal reviews. While spontaneous references to legal reviews varied widely across and even within regions, there was a shared acknowledgment of their importance in fostering upstream compliance with IHL.

However, the capacity to conduct such legal reviews varies across and within regions. A handful of states have established infrastructures, personnel and processes to conduct such legal reviews, both with in-house capabilities and through external procurement. However, a significant number of states have expressed concerns with regards to limited financial, technical and human resources, which subsequently affects their ability to conduct effective legal reviews. The importance of information exchange and the sharing of best practices has been underscored, although the extent to which building capacity for legal reviews would constitute a policy priority at the national level can be a source of much disagreement.

3.5. The desire for concrete measures

Building on the general acknowledgment of IHL's importance in framing the governance of LAWS, there is a desire to reach beyond policy-level discussions and towards the concrete application of IHL in the context of LAWS. A handful of states have been able to dedicate significant resources to extensive reflections on IHL in relation to LAWS and to formulate its implementation. A majority of states have expressed a desire for developing and formulating their own concrete measures, drawing lessons on existing good practices through information exchange. Such desire has been expressed both by those of the view that current IHL suffices, without further development, and even those proponents of a prohibition treaty – with the caveat that the formulation of such measures should not prejudice their policy ambitions.

The desire for concrete measures notably stems from the observation that, generally, states across regions seemed more comfortable discussing means for IHL implementation over attempts at reaching an agreement as to how IHL should be interpreted in relation to LAWS. Not only is this due to long-standing and pre-existing disagreements on IHL interpretation, which extend beyond the realm of LAWS (as discussed in Section 4). This is also due to the view that such differences in national interpretations should nevertheless not stand in the way of reasserting IHL's centrality. For many, notably those in the military and defence sectors, LAWS may constitute a reality already in today's battlefields, and the formulation of such concrete measures would be instrumental in ensuring that IHL maintains its critical position in regulating the development, deployment and use of such systems.

3.6. The importance of multi-stakeholder regional discussions in fostering IHL in relation to LAWS

A regional focus on the interpretation and implementation of IHL in relation to LAWS proved to be valuable for many reasons.

First, the discussions provided a platform for both state and non-state stakeholders within each region to exchange views and perspectives on this specific topic – an opportunity not necessarily otherwise available in most regions. The discussions enabled participants to obtain a clearer sense of the different perspectives present – not only within the region but also at the subregional level – and to reach a level of depth that may be more difficult, if not impossible, to achieve at the multilateral level. This was particularly important for engagement with states that are not party to the CCW Convention and yet are actively reflecting on the issue of LAWS. This ensures that their perspectives are captured and will not only inform those that are party to the CCW Convention, but it also lays the groundwork for a possible expansion on the deliberations surrounding LAWS into the United Nations General Assembly's First Committee.

Second, the organization of regional discussions provided an opportunity to reflect on the regional, subregional and local security landscapes, and to contextualize them into the discussions on LAWS. LAWS were, indeed, specifically discussed in relation to security conundrums and priorities such as counter-piracy, counter-insurgency, combating organized crime or even maritime security – that is, how LAWS could potentially be deployed in such contexts and the implications for the application of, and compliance with, IHL in armed conflict. In addition, the geographical, socio-cultural and historical contexts add further layers to the reflections and may have implications for subsequent measures for implementation of IHL in relation to LAWS. For example, risk assessments undertaken as part of proportionality analyses in the planning of an attack would be significantly affected by socio-cultural realities: the consequences of the destruction of a bridge for the civilian population would depend on whether there are alternative means of transport as well as the accessibility (or not) of this infrastructure to the local civilian population. The multi-stakeholder and inter-agency nature of the consultations – with attendance spanning state representatives from different ministries and agencies and select experts from academia and civil society – was critical in navigating the complex and multilayered nature of these reflections and ensuring a holistic approach to the application of IHL in relation to LAWS. The diverse participation particularly reasserted the multidimensional nature of this issue, requiring legal analysis with input from an array of actors including technologists, policymakers, the humanitarian community, members of the armed forces and grassroots organizations.

Finally, participants identified value in the organization of regional consultations to reinforce networks and connection within the region. For state representatives, this enabled participants to identify counterparts from various agencies involved in reflections and deliberations on this issue, including members of different branches of the armed forces, the diplomatic community, the judiciary sector and law enforcement agencies. This laid the groundwork for enhanced information-sharing and cooperation in the future. Regional consultations also provide non-state experts from within the region with a platform, adding subsequent local ownership to these discussions. While these consultations were limited in the number of participation (and thus representation in the region), the opportunities presented by such meetings further reinforced the appetite for future iterations to further engage with regional actors that may not have been present this time, yet have much to offer to complement and reinforce these discussions.

4. Points of divergence

On the flipside of the coin, the consultations also brought to the surface a number of new divergences that UNIDIR has identified, in addition to reinforcing some pre-existing ones that echo those encountered in multilateral discussions, notably within the CCW GGE on LAWS:

- ▶ (II)legality of LAWS by nature
- ▶ *Lex lata versus lex feranda*: the desired outcome and endgame
- ▶ Long-standing disagreements and divergences in IHL interpretations, and the extent to which LAWS bring novel questions
- ▶ International versus regional versus national approaches to IHL interpretation and application
- ▶ Prioritization of IHL
- ▶ Varying regional, subregional and local contexts and realities

Generally, while some of these differences may be perceived as obstacles or, at least, as adding layers of complexity to the international governance of these technologies, other points of divergence are not inevitably harmful and may, at times, be necessary. This is particularly evident with regards to the unique contexts presented at each regional, subregional and local level, thus requiring separate yet complementary discussions to achieve granularity and depth.

4.1. (II)legality of LAWS by nature

The first main point of contention corresponds to whether LAWS are, by nature, compatible with IHL. While there is currently no specific prohibition on these systems, a number of states and stakeholders are of the view that LAWS are inherently impossible to deploy in compliance with IHL and, as such, are unlawful by nature. These systems would not pass the first test to be conducted as part of legal reviews and thus cannot be deployed in the first place. The arguments substantiating such a position are generally complemented by ethical considerations, notably with regards to the moral and philosophical dimension of delegating the execution of lethal force to machines.

In contrast, another group of states and stakeholders is of the view that, in the absence of an explicit prohibition on LAWS, IHL as it currently stands provides sufficient indication of what would be lawful and, conversely, unlawful by nature. Given the highly context-dependent nature of legal assessments, proponents of such a position are not of the view that LAWS can be ascertained as unlawful by nature.

In-between, a third group of states has emerged from the consultations: they are generally in favour of a legally binding instrument reaffirming existing prohibitions under IHL (i.e., the prohibition of LAWS that are inherently indiscriminate or indiscriminate by nature, or of a nature to cause superfluous injury or unnecessary suffering), yet remain open to the idea that such systems may offer opportunities, including with regards to fostering compliance in armed conflict. As such, for this group, there may be certain types of LAWS that would be unlawful by nature, but not all such systems can be found to be illegal.

These positions echo much of what is being discussed in multilateral forums, notably the CCW GGE on LAWS, in addition to national positions and public statements on this issue.¹⁸ Beyond implications for legal assessments, these differences in perspectives also result in policy divergences (which are further unpacked in Subsection 4.2).

4.2. *Lex lata* versus *lex feranda*: The desired outcome and endgame

There are fundamental differences in what the international community desires as an outcome from the ongoing deliberations and discussions on IHL and LAWS. Echoing much of what has been discussed already, a group of states and stakeholders sees *lex lata* (i.e., the law as it is) as sufficient and wants time and resources to be focused on and limited to unpacking IHL as it currently stands. Another group sees *lex lata* as insufficient, with either supposed gaps or a need for further clarity on how it applies. This group argues for the need to dedicate reflections, time and resources on *lex feranda* (i.e., the law as it should be). Whether it is to prohibit all or certain types of LAWS, proponents of such efforts are generally in favour of an international treaty as a desired endgame.

Beyond divergences observed between regions, such differences are also present within regions and even, at times, within the same state (i.e., across governmental agencies). It is important to note, however, that one approach does not necessarily exclude the other; most participants in the consultations generally underscored the importance of both clarifying and consolidating interpretations of *lex lata* while, at the same time, acknowledging at the very least the value of reflections surrounding *lex feranda* in the light of the living nature of IHL.

4.3. Long-standing disagreements and divergences in IHL interpretations, and the extent to which LAWS bring novel questions

The consultations brought to the fore long-standing discrepancies not only across regions but also within regions on the interpretation of IHL rules and principles that exist outside the realm of LAWS. One example of such a disagreement is the qualification of civilians as directly participating in hostilities: independently of LAWS use or non-use, there are differences in interpretations that exist across states, organizations and the academic literature. As such, these long-standing debates on IHL interpretation and application raise the question of whether LAWS bring novel issues in the first place.

On the one hand, there is the perspective that LAWS are a source of novel questions and issues regarding the interpretation and application of IHL, although there is no clarity or, at least, a lack of alignment as to whether these are inherently interpretation issues or enforcement issues. One example raised by a number of participants across regions pertains to preserving accountability with regards to IHL over fully autonomous weapon systems that select

¹⁸ Goussac and Pacholska, *The Interpretation and Application of International Humanitarian Law*.

and engage targets without any form of human oversight, intervention or control. As such, it has been argued that an international treaty would ensure accountability over actions undertaken by states in the context of LAWS deployment and use in armed conflict – or even prevent such use in the first place and thus leave no room for ambiguity with regards to accountability.

On the other hand, there is the perspective that the IHL issues raised by LAWS all pre-exist and exist separately from these technologies more generally. Establishing accountability would not necessarily constitute an issue for proponents of such a stance, as it ultimately rests on the decision to deploy and use such a system in the first place, cognizant of its technological characteristics and features, the purpose of such a deployment, and the risk assessments that have been taken ahead of time.

This divergence relates closely to the discussion in Subsection 4.2. Those of the view that LAWS bring novel issues also argue for the development of *lex feranda* in response to the uncertainties that arise; others view the issues that LAWS bring forth as being essentially a resurfacing of pre-existing and long-standing *lex lata* issues in IHL interpretation and application.

4.4. International versus regional versus national approaches to IHL interpretation and application

States are approaching the interpretation and application of IHL differently; broadly three approaches have surfaced:

- ▶ From national to regional and international: The approach of a number of states consists of shaping and framing the interpretation and application of IHL based on national policies and frameworks. Whether it is embodied in national laws, doctrines, white papers, national strategies or concept documents, these states' national approaches would then inform their positions and interventions at the regional and international levels.
- ▶ From regional to national and international: Another approach consists of transposing regional positions and policies into national approaches. In such contexts, regional positions and policies would also subsequently inform a state's posture in international and multilateral forums with regards to the interpretation and application of IHL.
- ▶ From international to national and regional: The third approach consists of applying international policies and approaches to frame and shape national and regional practices and approaches towards implementing and applying IHL.

These differences in approaches may be due to a host of reasons, including differences in constitutional and other overarching legal frameworks, regional contexts, political and legal traditions, and policy priorities.

4.5. Prioritization of IHL

While there is general agreement that IHL constitutes a critical and central framework for the governance of LAWS, the extent to which it is prioritized varies in many ways. For part of the international community, IHL remains the primary framework relevant to the governance of these technologies; for another part, it is important to consider other bodies of law (e.g., international human rights law) that may even take precedence – at least in policy discourses. Strictly from the perspective of application of law, participants generally acknowledged that the principle of *lex specialis* (i.e., the more specific law will take precedence) applies; in the context of an armed conflict, international humanitarian law would take precedence over, albeit in alignment with, international human rights law.¹⁹

Additionally, this discrepancy is also evident within states and more specifically across governmental agencies and entities. While the interpretation and application of IHL is of relevance to a wide range of actors, its prioritization varies. This may be due to a host of reasons, including different internal structures and respective competencies, varied financial, technical and human resources, as well as differences in knowledge levels.

4.6. Varying regional, subregional and local contexts and realities

Finally, variations in regional, subregional and even local contexts and realities are such that they lead to divergences in policy choices and the interpretation and application of IHL in relation to LAWS. This observation echoes another in the context of AI in the military domain more generally.²⁰ This subsequently translates into variations in, not only the interpretation and application of IHL in the context of LAWS, but also the measures for implementation and concerns that instinctively come to mind.

For example, LAWS that are capable of selecting through computer vision and engaging individual targets autonomously must be in compliance with the rule of distinction. This thereby ensures that the selected targets are either combatants, civilians directly participating in hostilities or fighters (i.e., targetable members of non-state armed groups). In order to ensure these systems' reliability, the training data used must reflect the local socio-cultural realities that may affect the system's performance and outputs. In this instance, the bearing of arms by an individual in civilian clothes may in principle be one indicator, among others (i.e., if other requirements usually considered for the fulfilment of this notion are also present), of direct participation in hostilities; yet some specific cultural contexts are such that it is common and culturally accepted (if not expected) for farmers to carry weapons for herding and to protect their livestock. As such, factoring in these regional, subregional and local contexts and realities will be critical to ensuring the reliability of LAWS with regards to compliance.

¹⁹ For a briefer on artificial intelligence in the military domain more generally and human rights, see: OHCHR, "Briefer on Human Rights and Artificial Intelligence in the Military Domain", <https://www.ohchr.org/sites/default/files/documents/issues/digitalage/artificial-intelligence-military-domain-briefer-1-en.pdf>.

²⁰ Afina, *The Global Kaleidoscope of Military AI Governance*.

5. Conclusion: Food-for-thought for the way ahead and remaining conundrums

While the consultations provided a useful platform for focused discussions on national and regional approaches to and perspectives on the interpretation and application of IHL, much remains to be done. Amid the observations and the points of nuanced convergence and divergences noted across and within regions and states, UNIDIR concluded all the consultations with reflections on the next steps. These were based on the following guiding questions:

- ▶ What is your most desired outcome with regards to the interpretation and application of IHL in relation to LAWS? And what would it take to get to this point?
- ▶ What is the best and most effective format for clarifying the interpretation of IHL as it currently stands (*lex lata*) in relation to LAWS, without prejudice to ambitions surrounding the law as it should be (*lex feranda*)?
- ▶ What are some of the lessons that may be drawn from existing models attempting to clarify the interpretation of IHL in other contexts, and to what extent could a similar approach be taken in the context of LAWS (e.g., the Montreux Document, the Tallinn Manual)?
- ▶ How can future work in this space best complement ongoing processes at the multilateral level, notably within the CCW GGE on LAWS and in the light of the current efforts to work towards a Rolling Text? And what could or should be the role of UNIDIR in supporting future efforts and endeavours in this space?

Building on these questions, this paper closes with some food-for-thought that has emerged and that may serve as a solid foundation for future reflections on the interpretation and application of IHL in relation to LAWS.

5.1. The value of scenarios-based exercises

Participants in all regional consultations generally valued the conduct of scenarios-based exercises as a means to reflect on the interpretation and application of IHL in relation to LAWS. This approach not only provided participants with an opportunity to reflect on and apply IHL rules and considerations in more practical contexts; the multi-stakeholder and multidisciplinary composition of the consultations also allowed participants to learn of alternative perspectives on the same issue. Members of the diplomatic community, for instance, particularly appreciated the opportunity to hear from military officers and to complement their reflections with perspectives from the operational side. State representatives also generally found it useful to gain insights from regional experts and subsequently consolidate their knowledge and views.

Beyond an exchange of perspectives, the scenarios-based exercises were also found to be a useful way to identify concrete measures to foster IHL implementation at different levels. They allowed discussion not only of practicality and feasibility but also of the potential distribution of roles and responsibilities in operationalization.

There is thus much appetite, across regions, to leverage this methodology to help support future work and reflections on the interpretation and application of IHL in relation to LAWS.

5.2. Criticality of means and platforms for regional exchanges

Echoing the last point of nuanced convergence outlined above, i.e., the importance of regional multi-stakeholder discussions in fostering IHL in relation to LAWS, there is appetite to pursue further regional engagements to support reflections in this space. While IHL remains an international instrument, the unique political and socio-cultural contexts and realities, varying legal traditions, and the regional, subregional and local security landscape will have implications for its interpretation and subsequent application. Providing a platform for an exchange of views and to work towards cooperation and alignment, in a focused environment, will be critical.

5.3. Knowledge and capacity-building needs

It was apparent that the interpretation and application of IHL also requires further work to build the knowledge and capacity of a range of states and actors. Such efforts would require, first, a comprehensive assessment of the needs of each state and region. The knowledge and capacity-building efforts can subsequently be tailored, as appropriate. Some of the needs that have (preliminarily) emerged out of the consultations include the need to:

- ▶ Build the technical literacy of stakeholders in, primarily, the law and policy spaces
- ▶ Raise awareness and knowledge of IHL requirements among technologists, in both the public and private sectors
- ▶ Invest in the infrastructure needed to implement measures working towards compliance with IHL
- ▶ Align views at the national level and address discrepancies in knowledge, perspectives and policies, as appropriate, between ministries, governmental agencies and other public bodies

5.4. Policy options and trade-offs

It is clear that the interpretation and application of IHL in relation to LAWS is more than a purely legal issue – it profoundly shapes policy discourses and choices at the national, regional and international levels. While this translates into diverging ambitions and desired endgames, it has become apparent that the available policy options offer a host of opportunities but also trade-offs that must not be underestimated. Moving ahead, states generally see a tension between two options:

- ▶ A policy outcome and product that may, in itself, remain relatively general and high-level without the level of granularity and the details desired by many, but with a higher chance of wider buy-in and support from the international community
- ▶ A policy outcome and product that may be more exclusive not only in scope, but also in its formulation and negotiation, thus resulting in lower chances of widespread support and buy-in, but with a higher chance of achieving greater levels of granularity and specificity that would be unattainable otherwise

There is much room (and appetite) for further work to find a middle ground between these two approaches. As such, there is the tacit understanding that, whichever direction states choose to take, a strategic vision will be critical, and deep reflections to justify the choices made will be important. These decisions will be shaped by a number of considerations, including policy priorities and ambitions with regards to the interpretation and application of IHL in relation to LAWS; the scope of discussions; the resources available; the respective mandate and position of each actor and stakeholder involved in these deliberations; as well as these efforts' position and role in the wider governance landscape surrounding LAWS.

It is also important to note that the two options are not necessarily mutually exclusive; there is, in fact, much desire by states to pursue both directions in parallel, with the caveat that these must be complementary and mutually reinforcing, not in competition.

5.5. Scope: Military AI vs LAWS

While, at the multilateral level, various types of decoupling between military AI and LAWS can be observed, it would be important for the international community to be clear on the scope of future work on the interpretation and application of IHL in relation to these two technologies. LAWS constitute a very specific subset of military AI, and not necessarily all LAWS are AI-enabled.

Yet, while there seems to be a desire to separate these two technologies at the policy level, the lines and boundaries between the two are not as clear in practice. Much of the discussions during the consultations veered, many times, between LAWS and military AI more generally, even while discussing the same IHL questions. Moving forward, and in the light of the direction that the policy discussions are taking, states should reflect on whether, for the purpose of clarifying the interpretation and application of IHL, these technologies ought to be separated and, if so, what would be the scope of each and on what legal grounds would such a separation be necessary (or not)?

5.6. Remaining open questions

As states and non-state stakeholders pursue their respective efforts towards clarifying the interpretation and application of IHL, the following open questions have emerged from the consultations and the broader research conducted by UNIDIR as part of this project:

- ▶ What level of knowledge is expected across different actors and at each level in the chain of command for the effective implementation of IHL in relation to LAWS? For example, what level of knowledge would a commander be expected to have on IHL in relation to a specific system? Beyond the minimum standard set by the law, what level of knowledge should be expected from the commander to foster even further compliance and how can this be measured and tested? What level of technical knowledge is required by military lawyers when evaluating the risks and formulating their legal assessment and advice on a specific operation?
- ▶ Considering the lessons that can be drawn from – but also the inherent limitations of – existing models, frameworks and initiatives seeking to shed clarity on the application of IHL

in various contexts (e.g., the Tallinn Manual on Cyberwarfare), what constitutes the most promising and appropriate approach for such efforts in relation to LAWS?

- ▶ What would the international community find useful with regards to the interpretation and application of IHL in relation to LAWS in the light of the ongoing deliberations within the CCW GGE on LAWS and the emerging discussions within the First Committee of the United Nations General Assembly?
- ▶ In order to complement deliberations at the multilateral level, how can existing frameworks, processes and policies at the national level (e.g., national strategy documents, rules of engagement, standard operating procedures etc.) be leveraged to support the implementation of IHL in relation to LAWS?
- ▶ A number of states have expressed concerns regarding the potential fragmentation of IHL application. Is this a prevalent and growing issue? To what extent is the application of IHL in relation to LAWS addressing or, conversely, exacerbating these concerns? What would be the best way to balance, on the one hand, international coherence and consistency and, on the other, national perspectives, realities and pre-existing interpretations and positions?
- ▶ Beyond the general focus on the interpretation and application of IHL surrounding the conduct of hostilities, what other aspects of international humanitarian law remain under-explored while being relevant in the context of LAWS (e.g., the use of LAWS in the context of detention, or during an occupation)?

While by no means exhaustive, it is hoped that these open questions will pave the way for further granularity in the application of IHL in relation to LAWS and will support efforts by states and the wider international community to foster compliance.

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