



Switzerland's food for thought as requested by the Chair of the Group of Governmental Experts (GGE) on Emerging Technologies in the Area of Lethal Autonomous Weapons Systems (LAWS) within the Convention on Certain Conventional Weapons (CCW)

The following elements builds on previous submissions of Switzerland. Part I is structured in accordance with the four elements that the delegation of Chile has proposed to serve as the focus for organizing the GGE's consensus recommendations in relation to the clarification, consideration and development of aspects of the normative and operational framework on emerging technologies in the area of lethal autonomous weapons systems (LAWS¹): 1) application of international humanitarian law; 2) human responsibility; 3) human-machine interaction; and 4) weapons reviews. Part II contains the Swiss views on potential options regarding the form/structure of the normative and operational framework, and policy options for the way ahead.

Part I: Elements in view of organizing the GGE's consensus recommendations

1. Application of International Humanitarian Law

Discussions on IHL aspects and on ensuring compliance with IHL have seen significant progress in the GGE. High Contracting Parties (HCPs) seemed to share the view that emerging technologies in the area of lethal autonomous weapons systems pose various challenges with regard to ensuring compliance with IHL, referring to factors such as unpredictability, the need for qualitative judgements, challenges posed by potential self-learning capabilities, and the operational context LAWS are used in.

The applicability of international humanitarian law is the first of the eleven CCW Guiding Principles. Switzerland emphasizes that any use of weapons systems, including autonomous weapons, must respect international law. Switzerland affirms that autonomous weapon systems whose outcomes cannot be reasonably predicted, whose effects cannot be limited in accordance with IHL or which otherwise cannot be used in accordance with IHL would be unlawful. Such systems would also hardly satisfy ethical requirements.

¹ Switzerland uses in this submission the abbreviation LAWS, but stresses that "lethality" should not be conceptually regarded as a prerequisite characteristic of autonomous weapons systems.



Switzerland submits the following elements to be reflected in the GGE report:

- IHL must be respected in all circumstances. When using LAWS in hostilities, the rules on the conduct of hostilities must be complied with, whether force is used against persons or objects, whether in offense or in defense, as with any other means and methods of warfare.
- An implementation of IHL in good faith requires an assessment whether means and methods of warfare can be used in conformity with IHL prior to their employment in international or non-international armed conflicts.
- Any weapon system would notably be unlawful if 1) the outcomes of their use cannot be reasonably predicted, or; 2) the effects cannot be limited in accordance with IHL or 3) the system otherwise cannot be used in accordance with IHL.
- The requirement for the full compliance with IHL is not limited to the rules governing the conduct of hostilities. In cases where LAWS are to be used in armed conflict in relation to other activities governed by IHL, the respective rules have to be complied with.²

Areas for future work:

Switzerland supports the view that the CCW should now explore deeper on what measures need to be taken to respect and ensure respect of IHL when using systems with an increasing level of autonomy. In this context, the CCW should discuss and, where necessary, develop specific legal or practical measures to ensure respect for IHL. A key area for future work would be to take forward the discussion on situations where the use of a LAWS would present challenges for compliance with IHL and what would be the implication for a normative/ operational framework. In doing so, there would be value in:

- identifying the types of LAWS that could not be employed in compliance with IHL, and,
- clarifying the types that should be regulated, as well as the form that this regulations could take.

2. Human Responsibility

Accountability has also been recognized as an important aspect in relation to autonomous weapon systems, namely state responsibility and individual criminal responsibility. States and humans must not escape international responsibility by a process of “delegating” certain tasks to LAWS. States and humans remain legally responsible for violations of IHL.

Switzerland emphasizes that States remain legally responsible for internationally wrongful acts and resulting harm caused by autonomous weapon systems they employ. A decision of a person or entity exercising public powers or governmental authority (e.g. the armed forces) to employ an autonomous weapon system in a given situation certainly would be attributable to the State.

² For instance if such a system should be used to guard persons deprived of their liberty.



Individuals remain responsible under international law for war crimes or other international crimes committed when employing autonomous weapon systems. This includes applying rules governing omissions as well as the responsibility of commanders and other superiors with respect to their subordinates.

Switzerland submits the following elements to be reflected in the GGE report:

- States and individuals cannot avoid responsibility by "delegating" certain tasks to autonomous systems. States and individuals remain legally responsible (also in particular for violations of international humanitarian law).
- It is persons, not machines, who must comply with IHL and that many pivotal rules of IHL presume the application of evaluative decisions and value judgements.
- In accordance with international law, States are responsible for internationally wrongful acts, e.g. a violation of international humanitarian law, attributable to them and that they are responsible for all acts committed by persons forming part of its armed forces.
- Individuals are criminally responsible for war crimes and other international crimes they commit. This includes the responsibility of commanders and other superiors with respect to international crimes committed by their subordinates.
- Given that LAWS possess no agency or legal personality of their own, individual criminal responsibility focuses on the responsibility of humans that are involved as operators, commanding officers, programmers, engineers, technicians or in other relevant functions.
- States must investigate allegations of serious violations of IHL as a result of using LAWS and, if appropriate, prosecute the suspects.
- Acknowledgement that LAWS must only be engaged within a responsible (military) chain of human command and control with structures and processes that ensure IHL-conform decisions in the use of force.
- Acknowledgement that maintaining/ensuring human responsibility implies that LAWS which would be able to act outside or beyond its initial mission or rules of engagement without human validation would be unacceptable and should be neither developed nor engaged.

3. Human- Machine Interaction

The role of humans in the use of LAWS, whether called human-machine interaction, human control, involvement or any related term, has crystalized as a central consideration with regard to most aspects discussed in relation to LAWS – be they technical, legal, ethical or military. It is important to note that CCW discussions have seen increasing clarity among participants on this



aspect and on specific issues regarding the necessary type and degree of human-machine interaction / human control.

Switzerland submits the following elements to be reflected in the GGE report:

- An appropriate type and degree/extent of human control/involvement in relation to the use of LAWS is required, notably for compliance with international law, including international humanitarian law, military considerations, and to respond to ethical concerns.
- Human control can be exercised in various ways throughout different phases of the life cycle of a weapon system, and notably in the targeting-cycle. The actual decision to deploy a LAWS and the assessments and decisions regarding its use in a specific attack remain eminently critical touch points in the human-machine interaction and must be retained within a responsible (military) chain of human command and control.
- It is important to maintain the ability to limit how and where LAWS can be used, notably by shared criteria on human control / human involvement as well as the ability to define parameters of use.
- The appropriate parameters for the human-machine interaction are context-dependent, system-specific and not necessarily generically definable in all details.
- Acknowledgement of the importance of training of personnel associated with any activities related to weapon systems in the area of LAWS.
- Acknowledgement of the critical role of legal advisors as autonomy increases and operational constraints are set.

Areas for future work

Further work is needed in the context of the CCW to determine, in more detail, the quality and extent of human control, and the possible respective normative and operational constraints needed to ensure that this human control is retained in all cases. This can include constraining the targets and tasks of the LAWS, imposing temporal and spatial limits on the operation of the LAWS, maintaining the ability of human supervision, maintaining the ability to intervene or integrating fail-safe mechanisms

Such aspects should be central to a normative and operational framework and would best be developed in a differentiated approach that takes into account, among others, the following aspects

- 1) the type of tasks to be carried out;
- 2) the complexity of the environment;
- 3) the complexity of the systems; and,
- 4) the cognitive abilities and workload of the human supervisor.



A key area for further work is to gain clarity on the extent to which the need for human control may evolve as technology develops, and what would be the appropriate degree of human involvement, whatever the level of technological maturity.

4. Weapons Reviews

An implementation of IHL in good faith requires an assessment whether means and methods of warfare can be used in conformity with IHL prior to their employment in international as well as non-international armed conflicts. Conducting legal reviews, as specified in article 36 of Additional Protocol I to the Geneva Conventions, constitutes an important element in preventing or restricting the development and employment of new weapons that would, in some or all circumstances, be prohibited by international law.

Switzerland submits the following elements to be reflected in the GGE report:

- Acknowledgement of the importance of legal reviews as an element of human control in the development and procurement phase of weapon systems in the area of LAWS.
- Acknowledgement of the particular challenges that emerging technologies in the area of LAWS present to the weapon review process, including present and future self-learning capabilities, and recognition of future work needed to address these challenges for legal reviews.

Part II: Views on the normative and operational framework and possible options (Agenda item 5e)

In the perspective of the Sixth CCW Review Conference, the 2021 report by the GGE should contain robust and ambitious, substantial as well as procedural, recommendations, enabling High Contracting Parties to consider progress made and decide on the way forward.

A key element in this regard will be the understandings reached on the normative and operational framework, whose clarification, consideration and developments of aspects is central to the GGE's mandate.

Switzerland sees a normative and operational framework as the foundation for a future CCW instrument on LAWS. Switzerland would see value in an instrument that would contain a combination of regulations, including where required/necessary prohibitions or restrictions and/or positive measures/obligations. As the contents of a framework is developed further, the CCW HCPs will get a clearer picture of which aspects should be primarily of a legally binding nature and which ones should take another form.

Pending further considerations and agreement on whether such a framework would be legally binding or rather of a political nature, or a combination thereof, the GGE should (develop or) recommend to develop at an early date, the structure of, and specific elements contained in, such a framework – independently of the eventual form it would take.



A starting point for such a structure would be to differentiate between

- a) systems for which legal conformity cannot be ensured in the foreseeable applications, and which would in any case be unlawful or unacceptable;
- b) systems or technologies where measures (specific rules, to effectively control or restrict) may be required to ensure legal compliance of weapon systems with increasing autonomy, to address military as well as ethical concerns, or to mitigate security risks.

With regard to the content of such a framework, it could cover notably practical elements of human control, including on decision making components, technological components allowing control, operational components and restrictions; transparency measures; exchange of best practices and technical standards; work on legal reviews.