

Franco-German contribution

Outline for a normative and operational framework on emerging technologies in the area of LAWS

SECTION I – NORMATIVE FRAMEWORK

Preambular part

This part of the normative framework could include:

- A **reaffirmation of the role and objectives of the CCW** which remains the appropriate forum, notably because of its multilateral nature, to address the issue of LAWS (as affirmed in guiding principle k), under which the following normative and operational framework must be adopted;
- A general reference to **international law** (in particular IHL) **and the “relevant ethical perspectives”** which have guided the works of the HCP ;
- A recognition that an appropriate balance should be struck between the necessity to allow progress in or access to these dual-use emerging technologies (as recalled by guiding principle j), and the importance of taking into account humanitarian considerations and **challenges** with regard to IHL in the development and use of such technologies (c.f. guiding principle k);

“Operative” part

The normative framework could then affirm a number of principles for the development and use of weapons systems in the area of LAWS. This “operative” part should build on the already endorsed 11 guiding principles, while elaborating further on the issue of human-machine interaction:

1/ **Full applicability of International Law and in particular IHL** to all weapons systems, including lethal weapons systems featuring autonomy (see guiding principle a).

2/ **Clear commitment by High Contracting Parties (HPC) not to develop, produce, acquire, deploy or use fully autonomous lethal weapons systems operating completely**

outside human chain of command and control. To that end, the HCP would agree to implement necessary measures at national level

3/ Agreement by the HCP that lethal weapons systems featuring autonomy must only be developed, produced, acquired, modified, deployed and used in accordance with the following provisions:

a) Ensure **compliance with international law** when studying, acquiring, adopting or modifying (legal review – see guiding principle e) and **using lethal weapons systems featuring autonomy**;

b) Preserve **human responsibility and accountability** (see guiding principles b and d) at all times, in all circumstances and across the entire life cycle as basis for state and individual responsibility – human responsibility and accountability can never be transferred to machines. This requires spatial and temporal limits on such weapons systems that may vary according to the situation / context of their employment.

c) Retain **appropriate/sufficient human control during the whole life-cycle of the system considered** (see guiding principle c) by ensuring that humans will still be in a position to:

- understand - depending on their role and level of responsibilities - the systems' way of operating, effect and likely interaction with its environment;
- evaluate and monitor the reliability of the systems;
- validate the usability/serviceability of the systems;
- define and validate rules of use and rules of engagement;
- define and validate a precise framework for the mission assigned to the system (objective, type of targets, restrictions in time and space, etc.);
- exercise their judgement with regard to compliance with IHL in the framework and context of an attack, and thus take critical decisions over the use of force.

4/ Commitment by the HCP to adopt and implement tailored risk mitigation measures and appropriate safeguards regarding safety and security (see guiding principles f and g).

5/ Establishment of a **committee of technical experts** within the CCW to monitor technological evolutions related to emerging technologies in the area of lethal autonomous weapons systems [*see proposal from the Franco-German non-paper shared at the November 2017 GGE*].

SECTION II – OPERATIONAL FRAMEWORK

To operationalize the principles enshrined in the normative framework, the High contracting Parties could agree on a compilation of measures and policies, to be implemented **at national level**:

1/ To operationalise the general provision related to preserving human responsibility and accountability:

- doctrines and procedures defined for the use of lethal weapons systems featuring autonomy;
- adequate training for human decision makers and operators to understand the system's effect and its likely interaction with its environment;
- human responsibility for decisions to deploy and for the definition and validation of the rules of operation, use and engagement;
- operation of the system within a responsible chain of human command and control ;
- accountability in the event of IHL violations:
 - , measures enabling an after action review of the system to assess compliance with IHL of a system, unless technically or operationally not feasible;
 - mechanisms to report violations, investigation by States of credible allegations of IHL violations by their armed forces, their nationals or on their territory;
 - disciplinary procedures and prosecution of suspected perpetrators of grave breaches of IHL as appropriate.

2/ To operationalise the general provision 2c, an appropriate/sufficient scheme of human control considered during the whole life cycle of the system, must be put in place, taking into account the system's characteristics and its operational framework:

- Overall. Humans must have sufficient assurance that weapons systems, once activated, act in a foreseeable manner in order to determine that their actions are entirely in conformity with applicable national and international law, rules of engagement, and the intentions of its commanders and operators. For this purpose, developers, commanders and operators must have a sufficient understanding of the weapons systems' way of operating, which enable the commanders and operators to predict (prospective focus) and explain (retrospective) the behavior of the weapons systems.
- Development. Testing and certification procedures to assess the reliability and the predictability of the system and its potential interaction with the environment of use and to allow for the required legal review;

- Deployment. Definition or validation by the human command of a precise set of parameters for the system's mission (objective, type of targets, restrictions in time and space, etc.);
- Use. Set of measures enabling human operators to assess and ensure compliance with IHL – in particular principles of distinction, proportionality and precautions in attack – during operation : human approval for any substantial modification of the mission's parameters; communication links; ability to de-activate the system if and when necessary, unless technically not feasible.

3/ With regard to legal reviews:

- An encouragement to States that have not yet done so to join Additional Protocol I to the Geneva Conventions or to recognize the obligation to conduct legal weapon reviews on a unilateral basis.
- An encouragement to voluntary exchanges of information and good practices within the committee of technical experts as a confidence building measure.

4/ With regard to appropriate safeguards:

- Adoption of measures to prevent the diversion of lethal weapons systems featuring autonomy (i.e. by regulating the production, acquisition and transfers of such systems)
- Implementation of measures to increase resilience against cyberattacks and, unless technically not feasible, procedures or mechanisms enabling the human operator to deactivate the system/ self-deactivation / self-destruction mechanisms if the system overrides the framework of its mission without human validation.