Introduction


2. In this context, Brazil would like to put forward four paths of action to build upon the guiding principles and fulfill the mandate of the GGE. The four paths, and its working methodology, are based on a “bottom-up” approach that benefits from domestic advancements in policies and legislations, networking of experts, multi-stakeholder approach, and international cooperation.

3. The proposal consists of four sets of initiatives that, in an integrated manner, could build synergies and confidence leading to consensual advancements in the governance of LAWS. The ultimate goal is achieving codification through specific International Humanitarian Law (IHL) rules in a legally binding instrument – a new protocol on LAWS under the CCW.

Path 1

4. Establishing links between national and international regulations, and promoting cooperation, training, and exchanges with a view to contributing to the development of domestic legislation, public policies, directives, and doctrines on LAWS, in compliance with international law, including IHL, as well as of Article 36 of the Additional Protocol I (1977) to the Geneva Conventions (1949).

5. This path would address guiding principles “c”, “d”, “e”, “f”.

6. States-parties would be encouraged to share their policies and best practices within the GGE. These domestic policies, best practices, and regulations could include national directives, normative frameworks, rules of engagement, chains of command and control, measures for accountability and transparency, requirements for designing, developing and
acquiring AWS, security, procedures for safety and risk mitigation, including against terrorism, as well as cybersecurity against hacking and spoofing.

7. Progress and transparency on national practices and regulations will exert a positive impact on the international sphere, building confidence and a common ground for a codification endeavor.

**Path 2**

8. Setting up a network of legal experts, and broadening the dialogue with other UN fora. Principles addressed: “a”, “c”, “d”, “h”.

9. The proposal of an international network of legal experts on LAWS aims to enhance discussions on legal issues related to LAWS, with a view to (i) establishing the set of international law, in particular IHL, applicable to LAWS; (ii) identifying possible gaps in the normative framework in which it regards to the new challenges posed by LAWS in the following issues: accuracy in fulfilling the principles of distinction, proportionality, precaution; the prohibition of indiscriminate attacks; protection of combatants and civilians and reduction of collateral damage; accountability for rules of engagement and chain of command and control; and (iii) identifying and disseminating advancements in domestic legislation (in connection with Path 1 above).

10. Brazil suggests that the GGE/LAWS invites UNIDIR to act as a hub of the aforementioned network. The network of legal experts could submit a report to the GGE/LAWS, which could forward it for consideration by the next Review Conference of the High-Contracting parties of the CCW.

11. Brazil suggests, moreover, that the GGE/LAWS maintains a dialogue with the GGE on Advancing Responsible State Behaviour in Cyberspace in the Context of International Security, as well as the Open-Ended Working Group on Developments in the Field of Information and Telecommunications in the Context of International Security.

**Path 3**

12. Conferences on IHL standards for the development of artificial intelligence: government, industry and other stakeholders

Principles addressed: “b”, “c”, “d”, “f”, “g”, “h”, “i”, “j”.

13. As the Rio Seminar on AWS pointed out, effective regulation on LAWS may profit from other methods, besides legal texts: political declarations, corporate codes of conduct, market rules and restrictions, system architecture, programming benchmarks and shared military doctrines.

14. This path suggests the organization, with the participation of the GGE, of multi-stakeholder events and researches involving governments, the private sector, the scientific community and military experts. As with the international network of legal experts, these events could present the summary of their discussions to the GGE, addressing issues like certification requirements, the establishment of IHL benchmarks for AI engineers, machine lifecycle, market regulations, corporate codes of conduct, government acquisitions and procurements.

15. Those events and researches could dig into technical, corporate and military discussions on AWS and human-machine interaction, human control, system architecture, algorithms, syntax, the semantics of programming language, physical security, safeguards,

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failure mode analysis, risk assessment, cybersecurity against hacking and data spoofing, mitigation measures, cyber warfare, and environments of the use of force involving AI.

Path 4


17. This path puts forward the proposal of setting up a network of focal points from Ministries of Foreign Affairs, and Ministries and equivalent authorities of Science and Technology. The network will discuss LAWS, exchange and disseminate best practices, doctrines, and policies established by national defense strategies, white books and other documents (in connection with Path 1 above) in order to generate confidence building through convergent approaches, verification measures and to prevent unlawful proliferation, escalation, and accession by terrorist groups.

18. This path envisages the strategic discussion on LAWS within the agenda of Defense regional and multilateral mechanisms and meetings (at Summit or Ministerial levels) with a view to issuing political declarations addressing commitments to IHL compliance, improvement and accountability, together with cooperation with regard to the implementation of Article 36, above mentioned.

Towards a normative framework

19. The four paths aim to allow the GGE to profit from a multifaceted universe of perspectives from various stakeholders and at different levels and bring in their rich discussions on the challenges posed by LAWS. The guiding thread of the proposals is the operationalization of the principles “c” and “d” towards a normative framework.

20. Brazil believes that the human-machine interaction (principle “c”3), including human control, should be the cornerstone of the GGE debate and recommendations on LAWS governance, so as to assure compliance with international law, in particular IHL. Accountability (principle “d”4) is likewise a key factor to assure compliance with international law, in particular IHL, for it envisages the employment of AWS under rules of engagement and within chains of command and control.

21. Nuclear, chemical, and biological weapons were fully operational when regulatory regimes were established by legally binding instruments. In contrast, LAWS and other emerging technologies are under fast development and will keep on evolving, in parallel to the discussion on the need for specific regulations under international law. Thus, it is meaningless to wait for LAWS further development to start negotiating a legal framework.

22. The extraordinary speed of the weaponization of AI does not allow for the luxury of long years hesitating on the establishment of a normative framework.

23. The proliferation of LAWS is a risk multiplied by the very nature of self-learning machines, with relatively unpredictable behavior, in a scenario that might turn irreversibly

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3 Principle “c”: Human-machine interaction, which may take various forms and be implemented at various stages of the life cycle of a weapon, should ensure that the potential use of weapons systems based on emerging technologies in the area of lethal autonomous weapons systems is in compliance with applicable international law, in particular IHL. In determining the quality and extent of human-machine interaction, a range of factors should be considered including the operational context, and the characteristics and capabilities of the weapons system as a whole. See also Brazil’s Working Paper on LAWS (CCW/GGE.2/2018/WP.5).

4 Principle “d”: Accountability for developing, deploying and using any emerging weapons system in the framework of the CCW must be ensured in accordance with applicable international law, including through the operation of such systems within a responsible chain of human command and control.
out of control. Factual reality would make discussions and negotiations irrelevant after some technological thresholds are crossed.

24. Not engaging in the governance of emerging technologies in order to avoid constraints to strategic advantage capabilities is a counterproductive misperception. *Jus in bello*, in the spirit of the Geneva conventions, does not hamper strategic competition and technological development. Its purpose is to frame it in a way compatible with military necessities while protecting civilians and combatants according to humanitarian principles long approved by the international community. IHL enhancement with regard to LAWS is in the interest of collective security.

25. In view of all this, Brazil proposes initiating negotiations of a legally binding instrument on LAWS in the form of a new Protocol to the CCW, as an outcome of a collective, synergic endeavor undertake accordingly to the four paths above. Existing IHL rules are unsufficient to ensure fully responsible use of AWS, nor provide adequate means for enforcing the principles of distinction, proportionality, precaution, and protection.

26. The codification of new IHL rules could establish a balance between, on the one hand, defense and security needs and technological development without establishing asymmetries among “haves” and “have nots” and, on the other, compliance with humanitarian principles and normative.

27. A protocol could be applied to LAWS in a way compatible with evolving technology, while safeguarding the centrality of the concept of human control. It could establish a general obligation of maintaining meaningful human control over the use of force through the activation of AWS, as well as specific obligations regarding critical functions. The production and use of certain categories of AI weapons could be prohibited. Verification, compliance, transparency and enforcement mechanisms could be defined, as well as cooperation measures to help implementation on the national level. Review meetings among the contracting parties could be convened to assess the implementation of the treaty and propose, if needed, adaptations and updates.