Further consider and formulate, by consensus, a set of elements of an instrument, without prejudging its nature, and other possible measures to address emerging technologies in the area of lethal autonomous weapon systems, taking into account the example of existing Protocols within the Convention, proposals presented by High Contracting Parties and other options related to the normative and operational framework on emerging technologies in the area of lethal autonomous weapon systems, building upon the recommendations and conclusions of the Group, and bringing in expertise on legal, military, and technological aspects.

Working paper

Submitted by Austria

1. By decision of the Annual Meeting of the High Contracting Parties of the CCW in 2023, the mandate of the GGE LAWS in 2024 is to “further consider and formulate, by consensus, a set of elements of an instrument, without prejudging its nature, and other possible measures to address emerging technologies in the area of lethal autonomous weapon systems, taking into account the example of existing Protocol within the Convention, proposals presented by High Contracting Parties and other options”.

2. This paper aims to contribute to this mandate by offering a structure to discuss such elements, thereby building upon previous discussions in the GGE, including the various proposals already presented by High Contracting Parties during 2023 and before.

3. In this context, several elements contained in the 2023 report of the GGE LAWS would in our view benefit from further elaboration in more detail, in particular the concepts of “control” in para 21 c and the limitations set out in para 22 a and b. Our current work on elements should also take into account the first ever Resolution 78/241 on Lethal Autonomous Weapons Systems (LAWS) adopted by the General Assembly on 22 December 2023.

4. Generally, we perceive a technology-neutral approach to the regulation of autonomous weapons systems (AWS) and functional understanding of AWS as the most feasible. We support the so-called two-tier approach, according to which certain autonomous weapons systems will require prohibition and all others regulation. In order to achieve this, the Group would need on the one hand to explain which autonomous weapons systems fall under the category of prohibition and on the other hand to formulate positive obligations for States in order to ensure compliance with international law, in particular international humanitarian law, and to comprehensively address risks related to autonomous weapons systems.

5. When discussing “elements of an instrument”, we deem it important to take into account the purpose of the CCW, which is to establish “prohibitions or restrictions on the use of certain conventional weapons which may be deemed to be excessively injurious or to
We also recall that the CCW is structured as a framework convention operating through legally-binding Protocols in combination with its general provisions.

6. This paper is a continuation of WP1 presented by Austria in the GGE in March 2023, in which several “elements” to achieve meaningful human control were outlined, highlighted again in the following:

I. **Substantial Elements**

**Human Control**

7. Meaningful human control over autonomous weapons systems can be achieved by a combination of several conditions. This includes 1) a functional understanding of the weapons system, 2) an adequate assessment of the context in which the weapon can be and is used and 3) limitations that may be required to be set with regard to the duration, geographical area, the number of engagements and the types of targets. Meaningful human control also implies that a human operator needs to be able to assess the effects of an intended use of force on a legal and moral basis.

**Functional Understanding of the System**

8. Those authorising any use of a weapons system that integrates autonomy in its critical functions of selecting and applying force to a target must have an adequate understanding of the system under consideration. They must understand what circumstances or conditions will trigger the system to apply force, including conditions that would trigger an unintended engagement. Moreover, it must be possible to trace back the outcome of the use of force to human agency.

**Context**

9. Those authorising any use of a weapons system that integrates autonomy in its critical functions of selecting and applying force to a target must adequately assess the context in which the system is to be used. This includes evaluating the circumstances or conditions that will trigger an application of force in relation to the given environment and the time and duration of its use. It also requires a general situational awareness of the presence of civilians and civilian structures and other relevant information necessary to ensure compliance with IHL.

**Limitations**

10. Those authorising any use of a weapons system that integrates autonomy in its critical functions of selecting and applying force to a target, must limit the duration and geographical area of the system’s functioning, the number of engagements that a system can undertake and the types of targets the system can engage to the extent necessary to enable them to make informed judgements about the anticipated outcomes of the use of force in accordance with legal obligations.

11. Those authorising any use must be in a position to readjust, interrupt or deactivate a system, if continued functioning would place it outside the context, for which such informed legal judgements were made.

**Accountability**

12. Accountability for the use of force and its consequences cannot be transferred to machines or algorithms. Accountability as a legal requirement can be achieved through
“meaningful human control” as set out above. It particularly requires that those authorising the use of force can explain and predict its effects. It also requires specific and tailored mechanisms that allow for internal oversight and investigations into the use of AWS but also their development and deployment.

**Predictability**

13. It is crucial that human intent and the consequences of the use of force are connected. The use of machine-learning in a weapon system raises serious concerns in this regard.

**II. Structural Elements**

**Prohibitions**

14. Autonomous weapons systems that cannot be used in compliance with international law, in particular international humanitarian law and human rights law, and ethical principles as well as under meaningful human control must be prohibited.

15. This means that:

- first, autonomous weapons systems that cannot meet the requirement of “meaningful human control” as set out above, would risk causing effects that cannot be adequately explained, predicted or sufficiently controlled. Such systems are unacceptable and must be prohibited;

- second, autonomous weapons systems that select and engage persons as targets in a manner that violates the dignity and worth of the human person as well as the principles of humanity or the dictates of public conscience are unacceptable and must be prohibited;

- and third, autonomous weapons systems that by design fail to comply with IHL rules and principles in general – such as the principles of distinction, proportionality, precautions in attack and the prohibition of indiscriminate attacks, must be prohibited.

**Regulations**

16. Further international legal regulation is necessary to ensure the above-mentioned conditions that are fundamental to protecting the integrity of international law, in particular international humanitarian law, in the context of autonomy in weapons systems.

17. It is a clear requirement throughout research, development, acquisition and use of autonomous weapons systems to constantly review and reassess any possible changes and modifications in the system’s functioning with regard to fulfilment of the conditions listed above. This should include technical aspects such as ‘machine learning’ and any datasets upon which system functions are based.

18. This monitoring process should be embedded in an adequate multi-layered international regulatory framework that would entail regular review of the implementation of prohibitions and positive obligations in order to ensure meaningful human control is preserved over autonomous weapons systems, and legal rules and ethical principles are protected in the design, development and use of these systems.

19. Another layer of regulations concerns measures that are related to AI-based systems, such as ensuring the integrity, quality and veracity of data, prevention of algorithmic bias, prevention of “automation bias” and adequate training of personnel on all relevant levels. It is also necessary to ensure the safety of such weapons systems, in particular with regard to cyber-security, AI-specific vulnerabilities and proliferation risks.