



**GROUP OF GOVERNMENTAL EXPERTS ON EMERGING TECHNOLOGIES  
IN THE AREA OF LETHAL AUTONOMOUS WEAPONS SYSTEMS OF THE  
CONVENTION ON PROHIBITIONS OR RESTRICTIONS ON THE USE OF CERTAIN  
CONVENTIONAL WEAPONS WHICH MAY BE DEEMED TO BE EXCESSIVELY  
INJURIOUS OR TO HAVE INDISCRIMINATE EFFECTS**

Geneva, 26 March 2019

**Statement by Germany – On Agenda Item 5(b) Further consideration of the human element in the use of lethal force; aspects of human machine interaction in the development, deployment and use of emerging technologies in the area of lethal autonomous weapons systems**

1. Germany fully aligns itself with the statement delivered by the European Union and would like to make the following remarks in a national capacity to further explore the questions associated to the human element in the use of lethal force.
2. In light of the complexity of finding a universal definition of Lethal Autonomous Weapons Systems Germany sees the definition of the human role as the single most relevant deliverable of this group and a central element of any outcome document.
3. In 2018 this group agreed on the “Possible Guiding Principles”. Any CCW-outcome document building on these guiding principles should contain a clear affirmation of human control over all future lethal weapons systems. In order to serve its purpose as an effective guidance document, CCW High Contracting Parties would need to define the quality of human control as part of such a document.
4. In our view – and this is also in response to the questions distributed by the chair – the quality of human control is defined by the fact that humans

must remain accountable for the weapons systems they use, as already stated in the “Possible Guiding Principles”. Accountability can only be assured as long as humans retain sufficient control over the critical functions of the weapons they operate. Humans also have to maintain the ultimate decision in matters of life and death.

5. The list of problematic characteristics provided in the working paper submitted by Belgium as well as the restrictions under IHL outlined in the working paper submitted by Russia are very helpful in defining critical elements of human control.
6. The “Possible Guiding Principles” rightfully underline the importance of human responsibility. The unique qualities of human judgement can’t be totally replaced by the capacities of machines, which have a high capacity for analyzing large sets of mathematical data but which can’t be trusted to take the kind of value based decisions which military practitioners are required to take under international law – as outlined very clearly this morning by the ICRC.
7. In our view this makes it necessary to ensure the human-machine interaction in future weapons systems is designed in such a way that the machine is subordinate to the human operating it. The human has to remain the essential element in this interaction bearing the overall responsibility. All this can already be ensured by the appropriate design of future weapons systems.
8. Going one stage ahead of the design phase we should also look at the important role played by the way military requirements are formulated. Any definition of military requirements with regard to the use of autonomy in weapons systems should reflect a clear understanding of the human-machine relation in order to ensure that any research and development activities are geared towards weapons operating under acceptable levels of human control.
9. Once a weapons system is in operation human control can only be assured as long as the respective accountable human has sufficient knowledge of the machine, of the operating environment and of the likely interaction between the two. Human control over the critical functions of weapons systems requires control over the entire life-cycle of weapons-systems.