



Agenda item 6 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

Thank you Mr. Chair for guiding our discussions. It was very useful to revisit your summary of the discussions under this agenda item. We also appreciate the presentations by Sweden and the US on specific systems, and we hope to be able to discuss more concrete examples to look at future opportunities. We also commend all delegations who have provided us with working papers.

At the outset, I would like to make a few points of a general nature:

1. Discussions in general, past and future

Our deliberations up to date have shown

- that - for various reasons - delegations support the notion that a certain quality and level of human control or human judgement is required, notably in the targeting cycle;
- that such control – in particular regarding target selection and engagement – is a pertinent factor in view of legal, ethical and military considerations;
- that greater clarity on human decision-making is essential to discuss when and whether a system is usable, acceptable and legal, in particular with regard to compliance with IHL.

It is a very positive development that this year's GGE was able to further clarify and develop the various concepts and to shed light on how such control or supervision could be defined and exerted.

Considering the fruitful discussions this year [but seeing at the same time the need to further develop a deeper understanding of the concepts relating to human control], we see merit in continuing discussions on the extent, nature and distribution of human control in more detail in future meetings – and we hope our mandate, as it evolves, can underline that particular focus.

We also take note of the proposal to define “minimal level of human control”. We would be interested to further discuss to what extent it is possible to define such minimal standards given the fact that such criteria would seem to be difficult to apply to a broad variety of systems.

2. “Sunrise Chart”

A few words about the “sunrise chart” introduced by you Mr. Chair during the April meeting:

- This was a very useful illustration. It is a testimony of how the debate in the CCW has evolved.
- It clearly shows that human control can be exerted in different stages throughout the life-cycle of a system.

- We support the addition of stage 0 and stage 5, as outlined by you, and also proposed in the UK working paper.
- We would also suggest to consider under stage 3 – “Deployment, Command & Control” – the element of *“training those involved in the deployment and employment phases appears to be a particularly relevant factor to ensure compliance with IHL, which should be included. This would not only include training in the applicable [international] law but also the functioning and proper handling of future AWS, in order to enable those persons to understand and use a system in accordance with IHL”*.

3. Human control with regard to compliance

Another point we would like to stress is that human control is not an end in itself, as the US delegation has just said. Control always points to a specific aim:

Our delegation sees the primary goal of control to ensure compliance IHL. Switzerland has already stated in its 2016 and 2017 working papers that, *“given the current state of robotics and artificial intelligence, it is difficult today to conceive of an autonomous weapon system that would be capable of reliably operating in full compliance with all the obligations arising from existing IHL without any human control in the use of force, notably in the targeting cycle”*. The question therefore is not *“whether States have a duty to control or supervise the development and/or employment of autonomous weapon systems, but how that control or supervision ought to be usefully defined and exerted.”*

Increasing autonomy could support or even replace humans in the execution of certain tasks, but human involvement will still be necessary, notably for qualitative and contextual judgements given the human being’s cognitive capabilities – something machines are (currently) not capable of.

4. “Distribution of control”

A last point I would like to pick up is the concept of distribution of control:

- Human control can be exercised in various ways, both independently or in combination, throughout different phases of the life-cycle of a weapon system, particularly, but not only in the targeting cycle.
- Discussions and working papers have highlighted
 - That in the future, a significant level of control could potentially already be embedded in the research, development and programming phases.
 - That through testing and evaluating autonomous weapon systems predictability and reliability of such systems can also be reinforced.
 - Predictability and reliability can also be increased by restricting the autonomous weapon systems’ parameters of engagement in line with the system’s capabilities; always with a view to ensure compliance.
 - That the legal review of new weapons also constitutes an important element in preventing or restricting the development and employment of new weapons that would not meet the requirements of international law.
 - That through guidelines and training of relevant persons in armed forces the expected predictability and reliability rates required for IHL compliance can be achieved;
 - That, depending on operational requirements and system capabilities, further control can be exercised through real-time supervision, or through an autonomous or human operated override mechanism aimed at avoiding malfunction or, alternatively, ensuring safe failure.

- One important question is what level of human control will always be required in the operational use of weapons, irrespective of the control already embedded in the design, development and testing phases. This is because complying with the principles of distinction, proportionality and precaution seems to require the presence of independent value judgements. And at least for the moment, given the current state of technology, such value judgements cannot be taken over by machines.
- While it will be the combined human interventions and human-machine interactions at different phases of the life-cycle, and notably in the target-cycle, that must ensure the employment in compliance with international law, those who deploy and employ a system with significant autonomy will have a particular responsibility. They will need to evaluate with particular scrutiny, under what circumstances and with which parameters, a system can be employed in compliance with IHL.

Thank you for your attention.