



**Ireland Statement on Human-Machine Interaction  
to the Group of Governmental Experts on Lethal Autonomous Weapons  
Systems (LAWS)**

**Convention on Certain Conventional Weapons**

**11 April 2018**

Mr Chair,

Ireland regards the area of autonomous weapon systems as one of the most pressing issues facing the current disarmament agenda. Our consideration of LAWS over the past four years has raised a number of ethical, moral, legal and technical issues. In contrast to earlier advances in weapon technologies, the emergence of autonomous weapon systems has raised the real possibility of a loss of human control over the use of force during armed conflict and the challenges that such developments present to the application of IHL.

Ireland has consistently argued that all weapons should remain under meaningful or effective human control and that only by retaining human agency in the decision to use force can we ensure compliance with IHL. We are pleased to note that a large number of delegations have echoed this position as an essential starting point in our consideration of these systems.

As we stated yesterday during our consideration on the characterisation of LAWS, the term autonomous system suggests a level of independence which in practice can vary from zero to full autonomy. The degree of autonomy afforded a weapon system along this spectrum --- and therefore the degree to which human agency is absent from key decisions --- would seem to go to the heart of our deliberations. Put simply, it would seem that the level of autonomy of a weapon system is inversely proportional to the degree of human control being exercised over its operation.

The question of the degree of machine---autonomy being applied to the use of force raises many ethical, moral and legal questions.

The degree of autonomy assigned to a weapon system may be shaped by a number of factors including the type of information programmed into the machine. Autonomous capabilities are generally achieved through means of software programming. This also raises the important question of the potential for data used in algorithms to acquire and amplify existing social biases, including gender bias. The potential impact of gender inequality in the development of autonomous weapon systems, and in the execution of their critical functions, warrants careful consideration and mitigation, not least by ensuring gender equality in disarmament policy discussions.

Another factor determining the degree of autonomy in action may be the range of instructions given to the machine and the general constraints imposed on the machine by a human operator in their efforts to ensure compliance with IHL.

These issues relate primarily to the input variables or general constraints provided by the human operator to the machine to undertake a specific 'bounded' action, but as we move along our autonomy spectrum to the questions of weapon systems initiating attacks, or redefining operational aims and the self selection of specific targets, the question of ensuring effective human control becomes increasingly important.

Mr Chair,

The concept of effective human control requires that a human being makes the command decision to use force against identified target sets and has the responsibility of ensuring that such force is used in full compliance with applicable IHL.

As we move forward in our consideration of the human machine interface, the principle of effective human control over the use of force by autonomous weapons systems must remain a central element of our work.

Thank you, Mr Chairman.