



# CAMPAIGN TO STOP KILLER ROBOTS

## ***Retaining human control of weapons systems***

Briefing Note for the Convention on Conventional Weapons Group of Governmental Experts  
meeting on lethal autonomous weapons systems  
United Nations Geneva  
9-13 April 2018

The Campaign to Stop Killer Robots is a global coalition of non-governmental organizations working to ensure that adequate levels of human control are retained in the use of force by banning the development, production, and use of fully autonomous weapons.

The campaign calls on all states to:

- Commit to negotiate a legally-binding ban treaty without delay to determine how and where to draw the boundaries of future autonomy in weapon systems;
- Specify the necessary human control required over the critical functions of identifying, selecting, and engaging targets and over individual attacks;
- Adopt national policy and legislation to prevent the development, production and use of fully autonomous weapons.

States must draw the line now against unchecked autonomy in weapon systems by ensuring that the decision to take human life is never be delegated to a machine. With adequate political will and a coordinated effort, a new international treaty can be negotiated by the end of 2019.

### **State of technology**

Several autonomous weapons systems with decreasing levels of human control are currently in use and development by high-tech militaries including the US, China, Israel, South Korea, Russia, and the UK. The concern is that a variety of available sensors and advances in artificial intelligence are making it increasingly practical to design weapons systems that would target and attack without any meaningful human control. If the trend towards autonomy continues, humans may start to fade out of the decision-making loop for certain military actions, perhaps retaining only a limited oversight role, or simply setting broad mission parameters.

Our campaign fundamentally objects to permitting machines to determine who or what to target on the battlefield or in policing, border control, and other circumstances. Such a far-reaching development raises an array of profound ethical, human rights, legal, operational, proliferation, technical, and other concerns. While the capabilities of future technology are uncertain, there are strong reasons to believe that devolving more decision making over targeting to weapons systems themselves will erode the fundamental obligation that rules of international humanitarian law

(IHL) and international human rights law be applied by people, and with sufficient specificity to make them meaningful.

Furthermore, with an erosion of human responsibility to apply legal rules at an appropriate level of detail there will likely come an erosion of human accountability for the specific outcomes of such attacks. Taken together, such developments would produce a stark dehumanization of military or policing processes.

## **Diplomatic work to date**

In 2014-2016, states at the Convention on Conventional Weapons held three exploratory “informal meetings of experts” on “lethal autonomous weapons systems” and one meeting in 2017 of a formalized Group of Governmental Experts.<sup>1</sup> These meetings are open to all interested states, UN agencies, the ICRC and registered non-governmental organizations, including the Campaign to Stop Killer Robots.

Since 2014, states have made some progress to identify the key issues of concern regarding autonomy in weapons systems. Most have acknowledged the need to retain meaningful or necessary human control over the use of force involving autonomous weapons, while several have committed not to acquire or develop fully autonomous weapons and 22 countries have endorsed the call for a ban.<sup>2</sup> At the last meeting, in November 2017, many states expressed their strong desire to move to negotiate new international law.

## **2018 CCW meetings**

Representatives from more than 80 states are expected to participate in the second meeting of the CCW Group of Governmental Experts (GGE) on lethal autonomous weapons systems on 9-13 April 2018.<sup>3</sup> A third GGE meeting will be held on 27-31 August 2018. States should come prepared to participate actively and make substantive contributions in the 2018 GGE meetings. The chair [has invited states to prepare](#) for the meetings by producing and submitting working papers in advance.

In their statements, working papers, and related documents, states should aim to:

1. Elaborate the key characteristics for a working definition of lethal autonomous weapons systems – based on them being systems operating without meaningful human control in the “critical functions” of identifying, selecting and applying force to targets;
2. Identify the relevant “touchpoints” of human/machine interaction through which the necessary human control over weapons systems can be enacted and ensured; and

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<sup>1</sup> At these meetings—chaired by France in 2014 and by Germany in 2015-2016—states heard from a range of invited experts in a series of panels on the state of autonomy in weapons systems, the key elements of lethal autonomous weapon systems, questions relating to the applicability of international humanitarian law and human rights law, ethical and moral concerns, responsibility and accountability, military value and risks, proliferation and security concerns, and the effects on regional and global security and stability, as well as on the threshold for armed conflicts.

<sup>2</sup> As of March 2018, 22 states have endorsed the call to ban fully autonomous weapons: Algeria, Argentina, Bolivia, Brazil, Chile, Costa Rica, Cuba, Ecuador, Egypt, Ghana, Guatemala, Holy See, Iraq, Mexico, Nicaragua, Pakistan, Panama, Peru, State of Palestine, Uganda, Venezuela, and Zimbabwe.

<sup>3</sup> There are 125 high contracting parties to the CCW, including all five permanent members of the UN Security Council. Afghanistan ratified the CCW on 9 August 2017, while Lebanon acceded on 5 April 2017. See the full list here: <http://bit.ly/1h6X6jB>

3. Outline the preferred pathway forward, resisting measures that fall short of a legally binding instrument and calling for negotiations to begin.

## **Key characteristics**

While the exact wording of legal definitions would be finalized during negotiations as required, a shared understanding of key characteristics and their relationship to key terms would facilitate effective discussion.

Where a weapons system identifies, selects and employs force against targets without meaningful human control it should be considered a “lethal autonomous weapons system” or “fully autonomous weapons system.” Such a weapons system would have no human in the decision-making loop when it selects and engages the target of an attack. Applying human control only as a function of design and in an initial deployment stage would fail to fulfill the IHL obligations that apply to commanders in relation to each “attack.”

The key characteristics of a lethal autonomous weapons system described here mean that this term does not necessarily apply to all systems with forms of autonomy in some of the critical functions. For example, certain systems may be able to use sensors and algorithms to direct force to specific target objects where these comprise the target identified by a commander and where meaningful human control is being exerted over the attack as a whole.

## **Touchpoints of human control**

Sufficient human control over the use of weapons, and of their effects, is essential to ensuring that the use of a weapon is morally justifiable and can be legal. Such control is also required as a basis for accountability over the consequences of the use of force. To demonstrate that such control can be exercised, states must show that they understand the process by which specific systems identify individual target objects and understand the context, in space and time, where the application of force may take place.

Given the development of greater autonomy in weapon systems, states should make it explicit that meaningful human control is required over individual attacks and that weapon systems that operate without meaningful human control should be prohibited. For human control to be meaningful, the technology must be predictable, the user must have relevant information, and there must be the potential for timely human judgement and intervention.

States should come prepared to provide their views on the key “touchpoints” of human/machine interaction in weapons systems. These include design aspects, such as how certain features may be encoded as target objects; how the area or boundary of operation may be fixed; the time period over which a system may operate; and, any possibility of human intervention to terminate the operation and recall the weapon system. Based on these touchpoints, states should be prepared to explain how control is applied over existing weapons systems, especially those with certain autonomous or automatic functions.

## **Pathways forward**

Most states agree that some action should be taken to address concerns over fully autonomous weapons, even if they disagree on what form it should take. Rapid progress is possible in 2018

with political will, but the window for credible preventative action in the CCW is fast closing. The process could and should result in a new CCW protocol requiring meaningful human control over attacks and prohibiting lethal autonomous weapons systems (systems that do not allow for that human control).

In the context of the CCW, proposals have been made for political declarations and codes of conduct, as well as for greater transparency. As presented so far, such proposals have lacked the fundamental moral and logical coherence necessary to make them credible. They appear to merely reflect a desire to be seen as doing “something” rather than a firm determination to avoid dehumanizing the use of force.

The CCW should articulate first and foremost a legal commitment to ensuring meaningful human control and a constraint on the development of autonomy in the critical functions of weapons systems. The GGE meetings should recommend that states at the CCW annual meeting in November 2018 adopt a mandate to begin negotiations on a legally binding instrument on lethal autonomous weapons systems. States should express support for that recommendation.

They should also express commitment to work in coordination with like-minded states, UN agencies, international organizations, civil society, and other stakeholders to conclude a legally binding instrument prohibiting the development, production, and use of lethal autonomous weapons systems by the end of 2019. If the CCW is not up to this task, other diplomatic options should be explored. To build support for an international agreement, states should also quickly adopt national legislation banning lethal autonomous weapons systems.

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