

Statement of the UN Institute for Disarmament Research

at the CCW Meeting of Experts on Lethal Autonomous Weapon Systems

13 April 2015



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Mr Chairman, distinguished colleagues

In 2013 the Secretary-General's Advisory Board on Disarmament Matters recommended to the Secretary-General that UNIDIR be tasked with undertaking a comprehensive analysis on increasingly autonomous weapons technology—including their development, proliferation and use.

With the support of the governments of the Netherlands and Switzerland, UNIDIR has just completed an initial 18-month project on the weaponization of increasingly autonomous technologies. By way of introduction I'd like to explain why UNIDIR has purposefully chosen to use the word "technologies" rather than "lethal autonomous weapon systems" or "lethal autonomous robots". We are convinced that sound policy on this topic requires that we consider the broadest relevant categorization. The term "technologies" includes machines (inclusive of robots and weapons) and networks of machines (such as weapon systems), as well as the knowledge practices for designing, organizing and operating them. This is fundamental as it reminds us that autonomous weapons are as much about the software as the hardware, as well as about how systems are linked and work together. In a similar vein, we use the phrase "increasingly autonomous" as it helps us focus on the incremental nature of autonomy and that autonomy is a characteristic that may be applied to a variety of functions in a given technology.

In the first phase of the project, UNIDIR's primary aim was to help policy-makers to better consider and make informed decisions about the weaponization of increasingly autonomous technologies. To support its work, UNIDIR established a cross-disciplinary expert group, with experts from a range of fields holding a range of perspectives. Meetings of the expert group were supplemented with original research, interviews and consultations.

In Phase I, UNIDIR focused on four specific topics—ways to frame multilateral discussions, the concept of "meaningful human control", issues surrounding ethics and social values, and maritime autonomy.

On the first aspect, UNIDIR released a paper in April 2014 entitled "Framing discussions on the weaponization of increasingly autonomous technologies." The paper makes **four observations** for policy makers to think about as they approach talks in multilateral fora such as the CCW and the Human Rights Council, as well in their national policy dialogues.

Second, much of our work in Phase I was focused on exploring the notion of "**meaningful human control**". In addition to the paper entitled "Considering how Meaningful Human Control might move the discussion forward", UNIDIR held small, off-the-record moderated discussion meetings to explore the concept of meaningful human control. One original facet for consideration that emerged in these discussions was how complex technological systems pose particular challenges to the exercise of human control. You can listen to this thought-provoking talk by UNIDIR Senior Researcher Dr John Borrie on our website.

Third, considering ethical dimensions in the autonomy discourse is crucial. We are confronted with a situation where ethical arguments are advanced for both pursuing and prohibiting the weaponization of increasingly autonomous technologies. Ethics inform the response to the fundamental yet challenging questions of how to organize society and, in the words of the UN Charter, "to live together in peace with one another." While there are a variety of possible answers to such questions, the questions themselves (and the concerns they force us to consider) are nearly universal. They are most valuable in guiding our thinking about the ultimate social impact of our actions. What fundamental and widely accepted ethical principles, as enshrined in foundational documents, such as the UN Charter and the Universal Declaration of Human Rights, are impacted or threatened by the weaponization of increasingly autonomous technologies? UNIDIR recently released an observation report on the theme of **ethics and social values**, copies of which are available in the back of the room and on our website.

Lastly, we considered **maritime autonomy**. Experts have suggested that fully autonomous weapon systems are likely to first appear in the relatively “uncluttered” maritime environment. Yet, policy-makers do not yet appear to have focused much on the specific issues and challenges that will arise. While UNIDIR’s observation report on maritime autonomy is just finishing its peer review, I would like to signal here that far from being a marginal part of current international discussions, autonomy in the marine environment is a practical case study for international autonomy discussions. There is a wide group of **stakeholders** vested in maritime autonomy: not just the military, but also a variety of industries and scientific communities. The **technical challenges and limitations of underwater communication** allows consideration of States’ different comfort levels with military objects operating outside of real-time human control. And as underwater activities are more difficult to observe than those on the sea’s surface, on land or in the air, they therefore allow consideration of what type of **transparency** measures would be necessary or desirable for increasingly autonomous weaponized technologies. If you follow us on Twitter, you will know the moment the paper is available.

Over the next 24 months, Phase II of the project will focus the theme of **competing narratives**. Through the successful Phase I format of small expert groups, moderated meetings with States, public papers and events, the project will drill down into substantive areas where there is currently little common ground, identify topics requiring further investigation and indicate where other fields and disciplines might make useful contributions to the discussion in the arms control community.

Phase II of the project will continue to focus on where UNIDIR can bring added value as the UN’s dedicated autonomous think tank on disarmament and related security issues. We will be particularly highlighting cross-disciplinary topics, where the critical issues require discussion and consideration beyond the traditional CCW stakeholders, such as the private sector, scientists involved in R&D, and experts from other relevant academic disciplines.

Some of the themes UNIDIR expert groups are working on in this phase of the project include:

- **The intersection between cyber weapons and autonomous weapons**
- **How assumptions about artificial intelligence, learning machines, and machine decision making shape policy discussions**
- **The dual-use nature of increasingly autonomous technologies, peaceful applications and responsible innovation**
- **The economic dimensions of increasing autonomy**
- **Transparency, reporting and accountability**
- **Non-State actor or terrorist acquisition; and**
- **The legal overlap or gap between the weaponization of increasingly autonomous technologies for law enforcement (less-than-lethal increasingly autonomous weapons) and lethal autonomous weapon systems.**

Mr Chairman, distinguished colleagues,

The question of autonomy will remain high on the international agenda in the coming years and UNIDIR will continue to be the UN system’s thought leader on this topic: providing independent, evidence-based, policy relevant analysis to support Member States as you move forward in your discussions on the weaponization of increasingly autonomous technologies. In this regard, I invite you to a moderated discussion on Thursday to consider the issue of transparency in room XXIV at 13h15. I also note that all of project’s observation papers and audio files from public events are available on our website, www.unidir.org.

I would like to thank Canada, Germany, Ireland, the Netherlands and Switzerland for their investment in this work at UNIDIR. If your government is interested in supporting UNIDIR’s programme of work on this topic, I’d be happy to discuss areas for collaboration with you at any time.

I wish you a productive week of discussions.

Thank you, Mr Chairman.

