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EDITORIAL: THE IMPERATIVE OF PREVENTING AUTONOMOUS VIOLENCE

Ray Acheson | Women's International League for Peace and Freedom

From 28 June to 2 July, the Chair of the Group of Governmental Experts (GGE) on “lethal autonomous weapon systems” convened a series of informal consultations to discuss written submissions that participants of the GGE have made over the past few months. A formal session of the GGE could not be held due to the objections of Russia, which over the past year has refused to permit meetings to be held that are not fully in-person. Instead, the informal consultations were held online for a few hours each day, where participants discussed recommendations for a “normative and operational framework” on autonomous weapons. It is the **mandate** of the current GGE to “explore and agree on possible recommendations on options related to emerging technologies in the area of lethal autonomous weapons systems,” which it is to present to the next Convention on Certain Conventional Weapons (CCW) Review Conference, scheduled for December 2021.

The CCW has been discussing autonomous weapons since 2014, building on earlier deliberations in the Human Rights Council. When in 2019 the CCW adopted this rather strained agreement to “clarify, consider, and develop” aspects of a normative and operational framework over the following two years, most activists and many diplomats were disappointed with the lack of ambition and urgency. Technological developments leading to increasing autonomy in weapon systems has continued rapidly, with systems of varying autonomy already being developed and even deployed. Meanwhile, the COVID-19 pandemic and government intransigence have prevented meaningful progress for international regulations or prohibition of such systems.

It has for a long time felt as if discussions on autonomous weapons are taking place in a vacuum, where the reality of tech development and use—and the harms being inflicted by weapons and warfare more broadly—has little or no bearing

on intergovernmental discussions. At the core of the GGE conversations lies an apparent assumption that autonomous weapons will be developed and used. The focus of most participants is either on what should be done to limit the damage they will inevitably inflict, or how to ensure as few limitations as possible to allow “freedom of action” on the battlefield—the priority interest of the usual suspects of the United States, Russia, Israel, and other heavily militarised countries.

From the outset, most civil society groups—especially those affiliated with the Campaign to Stop Killer Robots—have opposed the development of autonomous weapons. An increasing number of governments are also calling for some kind of legal instrument to prohibit and/or regulate certain kinds of weapons, certain levels of autonomy in weapons, and/or autonomy in certain functions of a weapon system. This is very welcome, and absolutely necessary. Yet even as calls for legal action accelerate, there is still a sense of inevitability of the application of emerging technologies like artificial intelligence and algorithms to weapons, and an overall lack of urgency to prevent this.

Context is key

It's particularly difficult to observe these conversations while a virus that has killed millions of people around the world and sent economies into tailspins continues its rampage amidst a global vaccine apartheid. While heatwaves kill people and burn entire forests, towns, and ecosystems to the ground—heatwaves resulting from unending investments in fossil fuels and blind faith in “technological fixes” to the climate crisis, coupled with a refusal to change the way we extract and use resources and pollute our planet. While the depth and breadth of police brutality against Black and other people of colour and genocidal intentions against Indigenous populations become ever more obvious and less and less deniable.

Instead of confronting these challenges—of economic and social inequality; of displacement from colonialism, capitalism, conflict, and climate change; of racism, sexism, and other intersectional oppressions; of the climate crisis and resource extraction and environmental devastation—we are instead talking about building machines that will be programmed with sensors and software to kill and destroy.

It's impossible not to consider autonomous weapons in this broader context. In fact, autonomous weapons are instrumental within this broader context. They are not being created out of benevolent intention of "improving precision" of weapons to better protect civilians from harm. If that was really the objective of the countries defending the development of autonomous weapons, they would stop using explosive weapons in populated areas, they would stop stockpiling and modernising nuclear weapons, they would stop selling weapons to zones of conflict, they would stop building their economies around weapons production and trade and use.

No, civilian well-being is not the objective of the governments talking about how valuable autonomous weapons will be to saving lives. When we look at the context within which these weapons and related technologies are being developed, we can see them as direct responses to ever-growing inequality, oppression, brutality, and extraction. These weapons are for maintaining the privilege and power of some over the majority—over people on the move, displaced by violence, poverty, and environmental degradation; over people that will be incarcerated and caged instead of provided for through investments in social and economic well-being; over anyone that the possessors of these weapons determine to be threats to their power, or whomever they determine to be simply expendable.

As WILPF, Amnesty International, Article 36, the International Committee for Robot Arms Control, and other civil society groups have pointed out, the development of autonomous weapon systems must also be considered in the context of the development of other emerging autonomous and artificial intelligence (AI) technologies, which constitute some of the main

building blocks of an autonomous weapon but are finding use in other contexts as well. Biometric data collection; facial, voice, gait, and cardiac recognition; predictive policing software; tools of surveillance; mechanisms to categorise and sort human beings—all are increasingly being used by militaries and police globally. They are being used in drone strike operations, for border and immigration "enforcement," and to predict "crime" and arrest "criminals". We can see how, time and again, governments, militaries, and police forces use advanced technologies for violence and control. We can see the trajectory of these developments and the world they are actively constructing.

"Weapons for peace"

A handful of governments are committed to this path. Australia, France, India, Israel, Russia, Turkey, United States, and a few others, in their interventions to the consultations or in written submissions, have made it clear they support the development of autonomous weapons and as few limitations as possible on them. These formulations take different shapes, but generally they reject the prohibition of all but some extreme forms autonomy—like weapons designing themselves (!)—and prioritise the alleged "benefits" of autonomous weapons over their very real risks.

As if the GGE's acronym for this topic—LAWS, for lethal autonomous weapon systems—were not unfortunate enough, France has now **suggested** to break this down into two categories—FLAWS, for fully lethal autonomous weapon systems (the name speaks for itself); and PALWS, partially autonomous lethal weapon systems. France and others agree that certain systems—FLAWS—should be prohibited. But they define these weapons as basically those that would not operate with any human interaction at all, and weapons that might be built by other autonomous machines. Everything else would be considered PALWS, and while some of these systems may require regulation, they are not only generally permissible but even considered welcome advancements to military precision and the protection of civilians.

This assumption that technology will solve the problem of people being harmed from the use of weapons is highly problematic. Whatever system

we are talking about, we are talking about a weapon system. Weapons are designed to harm—either to kill or incapacitate human beings or to destroy infrastructure, or in many cases, both simultaneously. Talking about designing weapons to save lives is like talking about designing new ways to extract fossil fuels to stop climate change. Of course, this is pursued, and this is exactly why we have wildfires and droughts and flooding at the scale we are currently facing. Weapons cannot save lives. Only policies that prevent the use of weapons—that prevent conflict, that centre demilitarisation and disarmament, and promote cooperation and solidarity instead of tension and violence—can save lives.

If we look carefully at the formulations proposed by the governments supporting autonomous weapons, it's clear that their framework is intended to be as permissive as possible to the development and use of whatever technologies of violence they, at the national level, decide they want in their arsenals. While they contend that all weapons will of course be designed by human beings, as if this is some great concession, they make it sound fanciful that there could be any other option. But once you're on the path of increasingly permissive and expansive delegations of tasks to machines, how long can you hold any particular line?

A better approach—from a legal, political, technical, security, and moral standpoint—is to draw a clear line now around what is unacceptable and to prohibit autonomous weapon systems outright. Rather than disingenuous and never-ending conversations about what might or might not constitute autonomy or what level of human control is necessary for it to be considered either human or control, we should just stop the pursuit of autonomous weapons now.

Prohibiting autonomous targeting of and attacks on human beings

We should, first off, prohibit autonomy in antipersonnel weapons. Anything that will target human beings will programme human beings into ones and zeros. A machine built to kill people will rely on data sets to sort and categorise who should be killed and who should not. It will use sensors and software to “decide” when and who to kill.

Based on what we already know about algorithmic bias, AI misidentifications, and intentional “datafication” and categorisation of people of certain genders, sexual orientations, races, or religions as either undesirable or inherent threats, we cannot allow these technologies to be used in weapon systems.

Despite the purported confusion by some delegations about what this would mean in practice, we already have distinctions in international law between weapons designed to target objects and those designed to target humans using sensors. As the civil society group Article 36 pointed out during the consultations, Additional Protocol II of the CCW itself makes a distinction between antipersonnel mines and “MOTAPM”—yet another delightful acronym that means mines other than antipersonnel mines. While antipersonnel mines and MOTAPM can work in the same or similar ways, the question is, against what is the weapon applying force: people or objects. One weapon is prohibited, the other is regulated. At a bare minimum, we need to do the same with autonomous weapons or weapon systems using AI and other autonomous technologies.

Antipersonnel mines, which use sensors to target human beings, have caused unconscionable harm to so many people globally, and are still causing harm today. Most governments support an outright prohibition of these systems and have invested heavily in demining and victim assistance to grapple with the persistent challenges posed by these weapons. We could choose to not go there again, Article 36 urged. We could draw the line now, before anyone gets hurt. Otherwise, existing protections for civilians may be weakened and pulled out of shape as technology comes to calibrate how we understand how a combatant can be identified, or how we can target human beings.

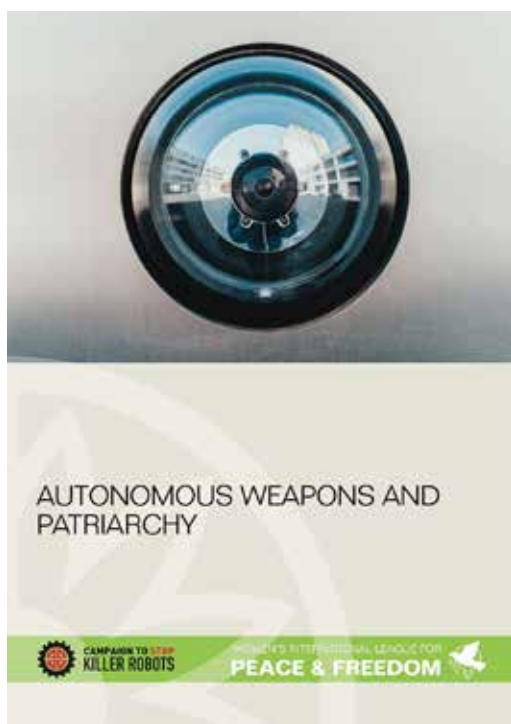
There is also a clear moral dimension to prohibiting antipersonnel weapons with autonomy. Reducing people to data points and applying force to them based on algorithms means that we are objectifying human beings. “Datafication can be deadly,” as Amnesty International warned. WILPF has [written about this](#) in relation gender- and race-based violence and patriarchal norms. At the consultations, Canada [noted](#) that there is

“a growing perspective that fully autonomous weapons systems would not be consistent with a feminist foreign policy nor with the Women, Peace and Security agenda.” (Unfortunately, even though the Canadian foreign minister has a governmental **mandate** to pursue the prohibition of autonomous weapon systems, it seems to be **aligning itself** with the positions of the countries developing these systems.)

It is not just civil society that’s concerned with the datafication of death and destruction. Many government delegations, and the International Committee of the Red Cross, have voiced objections to allowing weapons to use sensors and software to identify, track, target, and attack human beings. The Philippines argued it’s time to stop treating autonomous weapons as just another conventional weapon—because they are not. We’re talking about prohibiting machines from attacking human beings. This is about human dignity and morality, not about whether we can or cannot programme an algorithm to somehow respect international humanitarian law. Austria also pointed out that our thinking needs to change from looking at

autonomous weapon systems as a weapons category and think instead about the applications of the technologies that will be used inside these systems, and about their implications for law, ethics, morality, dignity, and security. We’re talking about human beings losing control over armed conflict, Austria warned. This is a security concern, and a moral one.

To this end, **Brazil, Chile, and Mexico** have jointly called for the prohibition of autonomous weapon systems “that cannot be controlled by humans, therefore subject to cognitive and epistemological limitations, as well as algorithm bias,” as well as systems “whose programming might remove human control over critical functions related to the use of force,” and several other conditions. The **International Committee of the Red Cross** has likewise recommended that the use of autonomous weapons to target human beings, and also “unpredictable” autonomous weapon systems, should be prohibited. The **Campaign to Stop Killer Robots** takes a similar position, calling for prohibition of antipersonnel weapons and of systems that can’t be meaningfully controlled,



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and for positive obligations to ensure meaningful human control over all aspects of a weapon system and the use of force. Many other joint and national **proposals** have called for prohibitions, regulations, and positive obligations in various formulations (see the report on the consultations for details).

The broader risks of mechanised violence

Beyond prohibiting weapons that automatically or autonomously identify, select, track, and attack human beings, however, we need to think carefully about what we're doing by allowing autonomy and artificial intelligence in weapons at all. Regardless of what a system is attacking, or what it's designed or programmed to attack, we're talking about handing over violence to machines. This is already happening—we know some weapon systems already use AI and sensors and other emerging technology to track and intercept missiles or to help select targets for drone strikes. No one seems to want to talk about prohibiting or even really regulating this technology, and this is dangerous. We're already on the slippery slope.

Prohibiting autonomous antipersonnel weapons is essential, but it is insufficient on its own to prevent harm to people or planet from mechanised and automatised violence. As several delegations have consistently warned throughout the GGE

discussions, autonomous weapon systems, whatever their parameters, are more likely to lower the threshold for the use of force—following the trajectory of armed drones. They are most likely to be used by countries of the global north against those of the global south. They are weapons of inequality and injustice that will further entrench the inequalities and injustices that haunt our current world order, with an extra twist of dehumanisation through automatisisation.

Throughout human history, we've spent a great deal of ingenuity figuring out how to kill each other more efficiently rather than addressing the problems that lead to confrontations and conflicts in the first place. Instead of continuing down this road, which has resulted in our planet literally being on fire and war economies dictating foreign policy, we must change course. We don't have unlimited time—we know what's coming. We can either build weapons to protect the privileged and the powerful or we can start investing in real solutions that would render weapons unnecessary: degrowth economic and environmental policies, decolonisation and redistribution of wealth and land, demilitarisation and disarmament, and other initiatives for conflict prevention and global equality, care, and peace. Building our own dystopia is not inevitable, but we need to take action to build a better world, now.



PRESENTATION BY UNIDIR

Allison Pytlak | Women's International League for Peace and Freedom

On the opening day of the informal consultations, the UN Institute for Disarmament Research (UNIDIR) presented some preliminary findings from a recent table-top exercise. UNIDIR's Director Robin Geiss explained that this exercise had been organised to capture the interplay between varying degrees of autonomy, and human control, across a range of scenarios. One-hundred and ninety-eight experts from 75 countries across five regions participated, representing military, legal, and technical communities. Two-thirds of participants were men.

The exercise was guided by two research questions: 1) within the targeting process, what are the technical, military, and legal implications of introducing autonomy; and 2) what circumstances influence the need for human control? This was framed by a 2020 report from UNIDIR, *The human element in decisions on the use of force*.

UNIDIR's Programme Lead for Security and Technology Programme, Giacomo Persi Paoli, presented the initial findings of the exercise, cautioning that these are only first findings and a fuller report is forthcoming. He also explained that the focus was on autonomous weapons that would have an impact in the kinetic world, leaving out autonomous cyber weapons, and that it focused heavily on tactical decisions about if or how to deploy autonomous weapons during the "mission execution" phase.

The scenarios—which were not meant to be representative of all possible cases—included one featuring an uncrewed missile launcher; one in which a group of armed uncrewed aerial vehicles was heavily active; one with a road used by enemy forces for re-supply, but also in use by civilians and located near housing; and one featuring an enemy convoy on a road also used by civilians. Experts were asked to identify which configuration of controls would be appropriate in those scenarios.

Persi Paoli explained that per UNIDIR's findings, control is not a binary characteristic of either full or no control. The main finding is that consensus did not emerge among the experts, in that there were no clear situations where participants agreed autonomy should be totally prohibited or allowed. In general, experts identified the following factors as impacting their assessments: the type of target; the environment; the domain; the type of mission and mission parameters; an assessment of the risk to civilians or to their own forces; and the technical characteristics of the weapons system.

While there were some regional differences in experts' responses, there was not necessarily a "regional signature" that could be identified. Persi Paoli identified some of the implications that arise from introducing autonomy into these scenarios from the perspective of technicians, military, and those with a legal background.

He also put forward some take-aways from this exercise for the GGE on LAWS: 1) systems that perform all steps of the targeting cycle outside any form of human control or supervision are not technically feasible, militarily desirable, or legally permissible; and 2) those that introduce autonomy in the execution of selected tasks can be technically feasible, militarily desirable, or legally permissible, depending on the context and provided that appropriate operational and legal frameworks are applied throughout the weapon's life cycle.

Participants asked a few questions to UNIDIR's representatives, including about why those scenarios were selected; the age and gender breakdown of participating experts; if it would be best for the GGE to focus on autonomous capabilities rather than full weapon systems; and on the importance of data for each of the participating communities.

REPORT ON THE INFORMAL CONSULTATIONS

Jillian Rafferty | Women's International League for Peace and Freedom

On the whole, the week of informal consultations focused on two broad discussions: the potential for future regulation of autonomous weapon systems (AWS), on one hand, and the primary substantive areas such future regulation would have to address, on the other hand.

Future regulation

The discussion on future regulation of AWS broke down into two categories: (1) the form of regulation as a binding legal document or a non-binding political commitment; and (2) the contents of that document, as some combination of prohibitions, regulations, and positive obligations.

Form: Binding or political

- A majority of participants, including Chile, Brazil, Mexico, the Philippines, Peru, Costa Rica, Sierra Leone, Uruguay, Ecuador, Pakistan, the Campaign to Stop Killer Robots, the International Committee for Robot Arms Control (ICRAC), Human Rights Watch, Amnesty International, the Red de Seguridad Humana para América Latina y el Caribe (SEHLAC), and Article 36, explicitly noted their support for new, binding international law that would regulate and/or ban AWS.
- Many of those who spoke in support of a binding instrument, including Brazil, Mexico, Chile, and Pakistan, noted their preference that it take the form of a new protocol under the Convention on Conventional Weapons (CCW); others, such as Human Rights Watch, recommended that participants look elsewhere to negotiate such an instrument if the CCW fails to take the required steps.
- Some of those who support a legally-binding instrument, such as the Philippines, Peru, Costa Rica, Sierra Leone, Uruguay, and Pakistan, as well as the Non-Aligned Movement, are also open to non-binding documents—but only as an intermediary or complementary step as states move toward a legally binding instrument.

- A minority of participants, including Russia and the United Kingdom, explicitly balked at new international law that would regulate AWS.
- Some participants articulated their preference for a political document without clearly rejecting the idea of a legally binding instrument. Per Portugal's suggestion, such a document could, for example, identify and compile existing legal obligations and practices without itself constituting a legally binding document—emulating, for example, the [Montreux Document](#).
- Still others, such as China, noted their openness to a future legally binding instrument, though they questioned if the moment was ripe for such an instrument at this time. The Republic of Korea argued that it was premature to discuss legally binding norms at this point in time.
- Some participants, including the International Committee for the Red Cross (ICRC), pointed out that the international community has a long history of adding to existing international humanitarian law (IHL) by banning certain weapons, classes of weapons, or weapons technologies, and thus regulating or banning AWS would be consistent with prior development of IHL.

Substance: Prohibition and/or regulation

- No states participating in the informal consultations called clearly for a complete and total ban on all AWS.
- A majority of participants who spoke during the informal consultations, including Switzerland, Ecuador, the Non-Aligned Movement, Amnesty International, and the ICRC, noted their preference for a combination of prohibitions on certain AWS and/or certain applications of autonomy in weapons systems, and of regulations governing other AWS and/or other applications of autonomy in weapons systems, on the other hand.

- Many participants, including Mexico, Chile, Brazil, the Philippines, Peru, Costa Rica, Sierra Leone, Uruguay, Austria, Amnesty International, SEHLAC, and Article 36, explicitly called for a ban on AWS devoid of meaningful or sufficient human control, or devoid of human control over the weapons system's critical functions (more on these terms below).
- In addition, many participants, including Canada, Switzerland, Finland, the Philippines, Peru, Costa Rica, Sierra Leone, and Uruguay, called for a ban on "fully" autonomous weapons systems, on one hand, and regulation of "partially" autonomous weapons systems. (See below for more on the distinction between "partially" and "fully" AWS.)
- Others, including Mexico, Chile, and Brazil, called for a ban on AWS that preclude the attribution of legal responsibility for the consequences of their use.
- The ICRC called for a ban on all "unpredictable" AWS. Switzerland and the Non-Aligned Movement largely echoed this recommendation.
- The ICRC also called for a ban on all "anti-personnel" AWS. It suggested distinguishing between AWS that directly target human beings and AWS that target buildings, infrastructure, and other non-human objects (though they might cause harm to human beings). The Philippines, Peru, Costa Rica, Sierra Leone, Uruguay, Austria, Article 36, and SEHLAC noted their support for such a ban on anti-personnel AWS and/or echoed the ethical concerns the ICRC raised regarding anti-personnel AWS.
- France and India raised concerns regarding the ICRC's focus on anti-personnel AWS, arguing that prohibiting anti-personnel weapons systems might erode the obligation to distinguish between civilians and combatants and in any case be an impractical limitation. The ICRC and Article 36 responded, however, by noting that there is a long history of regulating only anti-personnel items within a broader class of weapons, and those regulations have not eroded the principle of distinction; rather, they are focused on

the greater risk (of all IHL violations, and especially of serious IHL violations) when human beings are targeted.

- Other states, including Russia and the United States objected strongly to prohibitions. The United States particularly objected to the ICRC's proposal to prohibit anti-personnel AWS, arguing that AWS may in fact be more precise than non-autonomous weapons and could therefore target combatants while reducing the risks to civilians.
- In addition to the anti-personnel prohibition, the ICRC called for regulation of all other AWS. In particular, the ICRC recommended that AWS be regulated based on the types of targets the weapon system would identify and attack; the geographic scope and scale of use of the weapons; the situations of use (i.e. where civilians and civilian objects are not present); and the degree of human-machine interaction to ensure human intervention.

Primary substantive areas

Many participants organised their comments according to four primary categories, as proposed by Chile via earlier [submissions](#): (1) application of international law, especially international humanitarian law; (2) preservation of human responsibility and accountability; (3) human-machine interaction; and (4) weapons reviews. Even participants which did not explicitly reference those categories tended to speak to the same four substantive issues.

Application of international law

- Many participants, including Chile, Mexico, Brazil, Switzerland, the Netherlands, the Philippines, Peru, Costa Rica, Sierra Leone, Uruguay, Israel, Turkey, the Republic of Korea, the European Union, and the Non-Aligned Movement, strongly emphasised their agreement that existing international law, and especially existing IHL, provides key principles and rules that already govern all uses of force—and all uses of all weapons—during conflict.
- Several participants, including Spain, the Netherlands, Chile, the Philippines, Peru,

Costa Rica, Sierra Leone, Uruguay, and the Non-Aligned Movement, additionally noted the importance and relevance of international human rights law (IHRL) in regulating the development and use of AWS. A few participants, including Spain, made particular note of the relevance of IHRL should AWS ever be used or deployed by national police forces or within the deploying country's own borders.

- Despite broad agreement over the application of existing international law, and especially existing IHL, to AWS, participants diverged when discussing whether existing law is sufficient to fully regulate AWS. Some, including ICRC, argued that existing law must be supplemented with new instruments (whether binding or political) to clarify the application of existing law to AWS. Others, including Russia and the United Kingdom, advocated for no new law, given their belief that existing law provides a sufficient framework for regulating AWS.

Human responsibility and accountability

- Throughout the informal consultations, participants broadly agreed that retaining human responsibility and accountability for weapons-related harm is central to the development of AWS. These views were echoed by many, including Brazil, Ireland, the Philippines, Switzerland, the Netherlands, Germany, Chile, Turkey, and Mexico.
- Some, such as Ireland, Switzerland, Chile, Mexico, the European Union, Germany, and Brazil, explicitly noted that responsibility and accountability cannot, under any circumstances, be transferred to machines; rather, it must be retained by humans throughout the lifecycle of weapons, as states and people are responsible for applying international law.
- Similarly, Brazil, Chile, and Mexico, as well as the Non-Aligned Movement, argued that human accountability must be preserved to ensure compliance with IHL—and that such accountability can only be preserved by legally requiring the retention of meaningful human control over the critical functions of AWS (more on this below). Austria likewise argued that preserving human accountability is necessary to avoid undermining the existing legal framework.

Human-machine interaction

- Many participants, including Spain, the Netherlands, Ireland, Ecuador, the Republic of Korea, and the Non-Aligned Movement, noted the centrality of the question of human-machine interaction to any effort to discuss or meaningfully regulate AWS.
- Some participants, including the Non-Aligned Movement and the International Panel on the Regulation of Autonomous Weapons (IPRAW), argued that all weapons, including those with autonomous functions, must remain under the guidance, control, and supervision of humans at all times.
- In their presentation at the start of the informal consultations, UNIDIR presented the results of its tabletop research exercise. As noted above, that exercise framed human control as non-binary, and as instead broken into four possible categories:
 1. Full, direct control: humans have complete and direct control over all tasks a weapons system is capable of performing;
 2. Human in-the-loop: a weapon system implements tasks with autonomy but requires human intervention to validate and implement specific actions;
 3. Human on-the-loop: a weapon system implements tasks with autonomy but under the supervision of human(s) who can intervene if/when necessary to correct and/or abort the weapons system's decisions; and
 4. Human off-the-loop: no human intervention; the weapon system conducts tasks with full autonomy based on its design and programming.
- Despite UNIDIR's suggestion of four clear categories of human-machine interaction, other participants did not clearly reference these categories or uniformly integrate them into their own positions.
- The United States said human-machine interaction should be considered holistically

and in context, as an appropriate degree of human control in one situation may be more or less than would be sufficient in a different scenario.

“Meaningful human control”

- Numerous participants, including Ireland, Brazil, Austria, the Philippines, Peru, Costa Rica, Sierra Leone, Uruguay, the Netherlands, the Non-Aligned Movement, SEHLAC, Human Rights Watch, and ICRC, referred to the importance of maintaining “meaningful human control” over AWS. Some, like Ireland, noted that meaningful human control must be preserved in order to ensure that the necessary context-specific judgments are applied in line with the rules and principles of IHL.
- In general, participants argued that human control is “meaningful” when it is sufficient to overcome the ethical, technical, and legal concerns raised by autonomy in weapons systems. That said, participants that referred to “meaningful human control” did not clearly lay out what such control entails. In other words, it remains disputed what form and degree of human control would in fact be sufficient to overcome these ethical, legal, and technical concerns.
- The Netherlands suggested that guaranteeing meaningful human control would require CCW states parties to ensure that humans make informed, conscious decisions about the use of AWS; that humans have sufficient information to ensure that the use of the weapon systems is compliant with IHL; that the weapon systems are designed and tested in realistic operational environments; and that humans are properly trained to ensure that the weapon systems are deployed judiciously.
- Others, including Article 36, Mexico, Brazil, Chile, Germany, France, and Canada, discussed human control as a “sufficiency test”—that there is, in general, a degree of consensus that AWS that cannot be “sufficiently controlled” throughout the lifecycle of the weapons system must be prohibited. However, Article 36 did note that the debate around how much control would be sufficient is an ongoing moral dispute.
- Still others, including Russia, acknowledged the importance of retaining human control over AWS, but insisted that such control should remain at the discretion of states rather than regulated by an international agreement.
- India objected to the concept of “meaningful human control”; this objection appeared to be based on assuming that all AWS are fully autonomous and therefore by definition must not enjoy any degree of human control.

“Critical functions”

- Many participants discussed the importance of maintaining meaningful human control over the “critical functions” of weapons systems with some degree of autonomy. The term “critical functions” is itself a term without a clear and singular definition. In general, the term is meant to apply to the attack-oriented functions of a weapon, such as identifying and selecting targets or deciding to launch a kinetic attack against a target. Brazil in particular noted that only by ensuring meaningful human control over the critical functions of AWS can those AWS be used in compliance with IHL.
- The Philippines, Peru, Ireland, Costa Rica, Sierra Leone, and Uruguay argued that humans must exercise control throughout all of a weapon’s critical functions.
- Others, including Spain, noted the relevance of the particular capability in question that may be supplemented/alterd by added autonomy, arguing that certain capabilities (such as navigation) may not pose significant ethical and legal risks, while other capabilities (such as targeting) may pose those risks.

“Partially” versus “fully” autonomous weapon systems

- A few participants argued that using the term “autonomous weapon systems” to describe all weapon systems with a degree of autonomy was overly broad, or could lead to confusion. France, Canada, Germany, and Switzerland, among others, suggested addressing this confusion by differentiating between “partially” and “fully” AWS.

- Specifically, France **suggested** two categories:
 1. “partially autonomous lethal weapon systems” (PALWS): weapon systems that have less-than-full autonomy, but that nonetheless have at least some degree of autonomy in at least some of their functions; and
 2. “fully lethal autonomous weapons systems (FLAWS)”: weapons systems that are completely autonomous.
- Similarly, Canada and Germany suggested the following categories:
 1. “autonomous weapon systems” (AWS): weapons systems that have less-than-full autonomy, but that nonetheless have at least some degree of autonomy in at least some of their functions; and
 2. “fully autonomous weapon systems” (FAWS): weapons systems that are completely autonomous.
- Though these categories use different labels, they reflect a key area of convergence in the consultations: most participants noted their support for—or at least openness to—distinguishing between “fully” and “partially” autonomous weapon systems—or FLAWS and PALWS. France, in particular, endorsed drawing a clear distinction between FLAWS and PALWS to ensure a clear and practical discussion.
- Others, including Article 36, urged participants to not get too hung up on distinctions between PALWS and FLAWS—in large part because these concerns may be adequately addressed in other forms, such as a combination of prohibitions and positive obligations (see above for more).

Predictability

- In its intervention, the ICRC focused in part on the concept of a weapon system’s “predictability” as important for assessing its legality. Specifically, the ICRC argued for the prohibition of “unpredictable” AWS, which are systems that are designed and/or used in a manner in which their effects cannot be predicted, understood, or explained. The ICRC noted that the predictability of weapon

systems is an “essential prerequisite” for compliance with IHL and argued that autonomous weapons pose new challenges regarding predictability given the complexity of operating environments and the extraordinary (and perhaps insurmountable) challenge posed by attempting to prepare AWS for every possible alteration and detail in those operating environments.

- Spain, Germany, and ICRC echoed the ICRC’s concerns regarding the predictability of AWS.

Weapon reviews

- Several participants, including Russia, Israel, and the United States, among others, referred to national legal review processes for authorising new weapons, sometimes by direct reference to Additional Protocol I to the 1947 Geneva Conventions (AP1). Several participants, including Russia, reminded others of the importance of universalising AP1 so that all governments would face the same obligations regarding legal reviews of weapons systems.
- Participants differed on the role and sufficiency of weapon reviews in the context of AWS. Some participants, including Russia and the United States, argued that existing legal reviews provide sufficient safeguards as new weapons systems are developed.
- In particular, the United States articulated its support for in-depth and context-dependent legal reviews, including reiterated reviews when weapon systems are modified or when new uses are being considered.
- Others, including ICRC, argued that the utility of legal reviews of new weapons is limited.
- Some participants, including the Philippines and the European Union, noted the importance of transparency, where possible, in national legal reviews of new weapons.

CCW REPORT

Reaching Critical Will (RCW) is the disarmament programme of the Women's International League for Peace and Freedom (WILPF), the oldest women's peace organisation in the world. RCW works for disarmament and the prohibition of many different weapon systems; confronting militarism and military spending; and exposing gendered aspects of the impact of weapons and disarmament processes with a feminist lens. RCW also monitors and analyses international disarmament processes, providing primary resources, reporting, and civil society coordination at various UN-related forums.



Reaching Critical Will

www.reachingcriticalwill.org



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The views expressed in this publication are not necessarily those of WILPF or the Campaign to Stop Killer Robots.