PAX Submission to the Human Rights Council Advisory Committee on Human Rights Implications of New and Emerging Technologies in the Military Domain

This submission covers both armed drones and autonomous weapons. For questions please contact:

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QUESTIONS

I. All stakeholders (core questions)

1. Which international legal frameworks, such as international human rights law and international humanitarian law, are currently applicable to the design, development, deployment and use of new and emerging military technologies in the military domain (NTMD)? What international legal instruments – treaties, soft law – are most relevant to NTMD? How effective are these instruments in addressing the challenges posed by NTMD?

Armed drones

With regard to armed drones, the regulatory frameworks are lagging behind the actual developments around both the use and the proliferation of drones. Concerning their use, the most common references are both International Humanitarian Law (IHL) around principles of precaution, distinction and proportionality, and the prohibitions of indiscriminate attacks, and International Human Rights Law (IHRL) concerning the use of lethal force. Regarding the former, there are reasonable concern that armed drones that carry precision weapons are lowering the threshold for the use of force, yet still they depend on the accuracy of the data provided for the target, and can therefore risk killing civilians, as was the case in Kabul, Afghanistan, in 2021. There are also documented cases of drone strikes used to target civilian infrastructure, for example, in northeast Syria, which affected the civilian population and had no meaningful military advantage. From the IHRL perspective, there are serious concerns that armed drones are used outside areas of armed conflicts for extrajudicial killings with no oversight, transparency and accountability.

The specific nature of drones, namely no risk to own personnel and the ability to loiter over large areas for a long period of time, combined with precision weapons, have made them a new tool for states to use in cross-border counter-terrorism operations, to carry out extrajudicial executions of suspected militants. This often occurred in situations where non-lethal options were also available to arrest suspects, or these strikes also killed civilians, who were not granted access to redress and compensation. Lastly, this also begs the question that armed drones, due to their unique capabilities, will be used more often as a tactical solution, with no strategic thinking on how the use of lethal force is going to resolve issues with armed groups that states are targeting. The widened interpretation of IHL, as used by some states in their drones campaigns, including a widened interpretation of 'imminent threat' to use drones as self-defence under IHL, and the extraterritorial application of IHL outside areas of armed conflicts pave the way for more states using armed drones in clandestine killing campaigns, often with civilian casualties and no accountability. Please see our PAX report 'Human Rights and Human Realities: Local perspectives on drone strikes and international law' for more information.

As for the drones export regulations, there are several international mechanisms in place, such as:

- the Missile Technology Control Regime (MTCR), complemented by the UNSC Resolution 1540, which prohibits states from aiding non-state actors in the acquisition of weapons of mass destruction or any technology that might be used to deliver such weapons, including drones;
- the Arms Trade Treaty (ATT), which prohibits the export of weapons and/or ammunition if there is a risk that they might be used to violate international humanitarian law, international human rights law,

or to facilitate terrorism, with ATT control list being linked with the UN Register of Conventional Arms.

- the [Wassenaar Arrangement](#) (and similar [EU Common Position on arms exports](#)), which stipulates export controls for conventional weapons, dual-use goods, and related technologies, and aims to prevent weapons from falling in the hands of terrorists or actors who might use them to "commit or facilitate the violation and suppression of human rights and fundamental freedoms or the laws of armed conflict".

However, existing regimes for export controls are fairly limited in their effectiveness to deal with new technologies, considering the voluntary and non-binding nature of some of the regimes, the limited participation of states, and the development of new categories of drones that fall outside the scope of current control regimes. The latter issue includes drones of dual-use nature and the rapid weaponization of commercial drones, which poses new challenges over civilian technologies. Furthermore, the existing frameworks do not account for the use of armed drones by states outside conflict areas, particularly, in counter-terrorism operations, which should fall withing the purview of the IHL and IHRL, but in practice the associated human rights violations are often unaccounted for.

Autonomous weapons

International law, international human rights law and international humanitarian law are relevant for the development and use of autonomous weapons. These form a useful basis, but are not sufficient to address the concerns related to autonomous weapons. New legal rules are needed, because these weapons are fundamentally different from existing weapons and raise unique challenges. These challenges are not unambiguously addressed in existing international law, for example how to ensure human control and judgement, and to ensure a person can be held accountable for any violations of the law. New legal rules could make this explicit.

2. *What measures can be taken to foster international cooperation and dialogue in order to promote the responsible and transparent utilization of NTMD while ensuring compliance with international law, international humanitarian law, and international human rights law?*

Armed drones

Although the topic of armed drones has traditionally not been a subject of multilateral deliberations in disarmament bodies, there have been some attempts to address it through the process of the US-led [Joint Declaration](#) of 2016 that evolved into the development of draft [international standards](#) for the transfers and use of armed drones. This process stalled due to the lack of consensus among states, including major drone producers and exporters. However, during the 2023 UN General Assembly First Committee, there has been a [renewed push](#) by some States, particularly, Portugal, and the UN High Representative for Disarmament Affairs, to hold multilateral discussions on the transfer and use of armed drones. Such multilateral exchanges could be seen as an important measure to foster international cooperation on promoting the responsible and transparent use of armed drones, with the aim to reach an agreement on the international standards and regulations.

Further, states should establish clear, robust and binding International Standards on the export and subsequent use of military drones, including guiding standards around risk-analysis, export control mechanisms and legal principles around the use of lethal force with uncrewed systems. States should also establish and resource a Governmental Group of Experts on Uncrewed Systems in relation to Peace and Security. The groups should explore, inter alia, options to make a living document for export controls on drone and drone-related technology; review how existing arms and dual use export control regimes, including the Arms Trade Treaty, the Wassenaar Arrangement and the Missile Technology Control Regime, can be a tool for improving oversight on exports; periodically review latest developments on the novel risk to peace and security associated with proliferation and use of uncrewed systems.

Autonomous weapons

Regarding autonomous weapons, new legal rules would be the best way to ensure their responsible and transparent development and use. Measures should ensure that a person can make a legal and moral

judgement over the effects of an attack, and that a person(s) can be held accountable for any violations. For more details please see chapter one of our report 'Increasing complexity'. Discussions have been taking place at the Convention for Certain Conventional Weapons, the UN Human Rights Council and the First Committee of the UN General Assembly. These are useful to foster international cooperation and dialogue. However, they should lead to concrete outcomes that ensure compliance with legal and ethical norms.

3. *From a human rights protection perspective, what are the key domestic regulatory gaps that can be identified? In your opinion, what legal or other domestic measures are necessary to prevent human rights violations and abuses and international humanitarian law violations stemming from the use of NTMD?*

Armed drones

So far, no state that has acquired armed drones has provided a national policy or legal position on the use of lethal force, in particular in counter-terrorism operations. There have been no advancements on states' part towards the development of robust international standards around the use and proliferation of military drones, despite the repeated calls by UN Special Rapporteurs and civil society. Both on the national and international level, more transparency, accountability and increased regulation of the use and export of drones are needed, including the need to articulate a clear position regarding the export of drones to third countries, where they may be used with associated human rights violations. There should be more stringent regulations regarding the oversight, monitoring, and accountability mechanisms for military and security forces under drone export agreements (recipient states would have to agree to use them in accordance with IHL and IHRL), while exports of armed drones to repressive regimes and non-state actors should be prohibited.

Autonomous weapons

At the national level, states should implement clear regulatory measures, including clear national rules on development and use. Key principles, such as retaining human control and judgement, should be operationalized so that they can be implemented in the research, development and use of autonomous weapons. Measures should include national prohibitions of autonomous weapons that cannot be used in line with legal and ethical norms. This should also include a prohibition on financing companies that develop these fully autonomous weapons.

4. *What are the primary human rights challenges presented by NTMD, including artificial intelligence (AI), autonomous decision systems (ADS), enhanced decision support systems, autonomous weapon systems (AWS), technologies for human enhancement, and the dual use of technologies? How can these challenges be effectively addressed?*

Armed drones

Strikes by armed drones often take place outside of warzones, without a public trail or transparency regarding the targets, which is undermining principles of international law regarding the legitimate use of armed violence. For instance, since 2001, thousands of people were killed in extra-judicial executions carried out by the United States in Pakistan, Yemen and Somalia - countries the US was not in an armed conflict with; hundreds of these were innocent civilians, including many children. This practice has been replicated by a number of other states, which is threatening to the security of civilians and international law. In particular, Turkey is currently leading in the practice of extrajudicial targeted killings (notably, in Syria and Iraq), with some of these strikes resulting in civilian casualties or destroyed civilian infrastructure. In the recent counter-terrorism operations by the US and the United Kingdom against suspected Islamic State operatives in Syria, there have been confirmed cases where civilians were targeted, likely caused by faulty intelligence. Other states, including in Central and West Africa, have also used drones in operations against militant groups in remote regions and border areas, with disturbing reports of civilian casualties, and with seemingly no broader strategy to address the underlying grievances that are fuelling militancy.

Autonomous weapons

The main human rights challenges are most apparent when autonomous weapons target people. The absence of human decision making in the targeting of people undermines human dignity, due to the lack of human moral agency. Targeting people with an autonomous weapons would mean the killing or harming of a human is not directly linked to the intent of another human. It would mean there is no human who can reflect on the decision to kill, taking away the emotion of remorse or guilt. The absence of this moral weight would make it easier to kill by removing our moral instinct to limit killing. Removing human decision making in the targeting of people, also eliminates nuance and deliberation, not allowing for human discretion by weighing circumstances and context. To preserve human dignity, morality, and justice the targeting of humans by autonomous weapons should be prohibited.

5. *What criteria and guidelines exist to guarantee the establishment of meaningful human control over the use of force and during the conduct of hostilities, and to ensure compliance with international human rights law and international humanitarian law within the military domain?*

Autonomous weapons

In short, meaningful human control should ensure the human user(s) can make a moral and legal assessment and be held accountable for any violations. Therefore, the human user(s) must be able to predict (necessary for judgement) and explain (necessary for accountability) the effects of an attack on the target and its surroundings. Based on this, certain positive obligations could be developed. Examples include that the human user(s) must be able to understand the environment of operation, how the weapons system functions (especially what will trigger an application of force?), and they must be able to set limits on the type of targets and the geographical area and duration of operation.
See our report 'Increasing complexity' for more details.

6. *How can the right to equality and non-discrimination be upheld in the design, development, and use of NTMD, especially when they rely on data sets and algorithms that may introduce or amplify bias or discrimination? How can the collection and management of representative data be ensured? How can the transfer and trade of NTMD be effectively regulated?*

Autonomous weapons

This will be extremely difficult and runs the risk of amplifying biases and harms for already marginalised communities. It is one of the main reasons why the targeting of humans by autonomous weapons should be prohibited. The presence of biases in technologies, like algorithms and facial recognition, raise serious concerns related to the implementation of automated decision making, especially when used for violence against humans. The data sets used to train machine learning algorithms and the labels used to categorize people inherently contain the biases that are present in our societies. Unbiased data is impossible as it is a social-technological construct. In addition, the world view of a developer unconsciously influences the development of the technology. The fact that the majority of those developing new technologies are white males from Europe and North-America leads to a limited diversity of perspectives and needs in developing these technologies. Allowing these biased technologies to make determinations related to life and death would be highly unethical and increases the chance of automated harm for already marginalized groups. It would also create issues related to the development of target profiles (what characteristics trigger an application of force), where biases like the concept that males of a certain age are more likely to be combatants could allow the marker of maleness to increase the chance of targetability.

7. *What are the potential risks associated with using NTMD that could be exploited for malicious purposes, such as cyberattacks, espionage, spoofing, jamming, sabotage, or bioweapons? How can these risks be mitigated to prevent potential human rights violations and abuses?*

Armed drones

Rapid weaponization of commercial drones is posing serious concerns for law enforcement as proliferation of commercial drones and increased capabilities to weaponize them can result in malicious use by criminal

groups, armed groups and terrorists. That development has also found its way back in the military domain, where weaponized commercial types of drones is now mass-produced and deployed, alongside diversion risks that could have them end up on the black market. Increased national controls and export controls on commercial drones would be needed to prevent their use by nefarious actors, with options to license drones and provide catch-all clauses in export to risk-countries.

Autonomous weapons

There are real risks related to spoofing, jamming, sabotage of autonomous weapons. These are a specific risk of NTMD. It creates the risk of an autonomous weapon behaving in ways that were not programmed by the human user, specifically attacking unintended targets. It is hard to mitigate this as new defensive measures will lead to new adversarial techniques.

8. *In what ways can NTMD contribute to enhancing the precision and accuracy of weapons, minimizing collateral damage, and improving situational awareness and communication during military operations?*

Armed drones

The unique capabilities of armed drones facilitate better intelligence gathering, surveillance, target acquisition, and reconnaissance (ISTAR) and improve situational awareness for militaries. However, their deployment may also be subject to faulty intelligence, which could result in wrong targets and accompanying civilian casualties. Therefore, it is crucial to put in place safeguards to avoid drones' use against civilians and civilian infrastructure by raising transparency and accountability standards. Moreover, the perceived low risks of deploying drones lowers the threshold for the use of force, which has lead, to date, to a number of cross-border incidents that on some occasions have escalated and triggered the use of lethal force.

Autonomous weapons

An increase in the number of sensors can allow an autonomous weapon to increase the number of characteristic (for example, heat shape, radar signal, etc.) by which it can verify whether the object is the right target type. Precision can reduce civilian harm. However, it is about hitting a target with greater accuracy, not necessarily whether it is the right legitimate target. To ensure the right target is attacked, meaningful human control is needed.

Before deployment of autonomous weapons, new technologies (both sensors and data processing techniques) can lead to better situational awareness. However, these developments have also led to vast amounts of data that is currently often fused using artificial intelligence. While this can support the human user to focus on important tasks and increase the amount of relevant information the user has, it also raises questions related to human control and judgement. It can make it harder for the user to understand and validate the information that is presented to them. It can also lead to the automation bias, where the human user over-trusts the technology.

9. *How do States and private entities differ in their roles and responsibilities regarding the design, training, deployment, use, and acquisition of NTMD?*

States can make laws and implement them, which includes setting rules and limits for the private sector. Yet, the private sector also has their own responsibilities (corporate responsibility) in developing and producing NTMD.

10. *What should be the respective responsibilities of key stakeholders, including United Nations agencies, states, national human rights institutions, civil society, the technical community, academia, and the private sector, in effectively addressing the identified challenges/issues/area of concern related to*

NTMD? What role do they have in monitoring and limiting the "transfer and trade" of NTMD? What if there is a gap in access to these technologies? What could be the potential consequences?

Armed drones

- States should (1) join international treaties and regimes regulating weapons' transfers and trade covering drones; (2) clarify their legal position on the use of force through armed drones and the justifications for their use outside of armed conflict; (3) engage in a multilateral process for building robust, progressive and implementable standards on the use of armed drones and for filling the gap between commercial technologies, dual-use technologies, and military drones *(please see the answers to Q1 and Q2 for more details)*.
- UN bodies should keep the issue of armed drones' use and proliferation high on the agenda in various international policy forums for discussion, including the UN General Assembly's First Committee on drone exports and use, the Third Committee's work on human rights, and during relevant UN Human Rights Council discussions
- UN agencies, civil society and research institutions should continue research, documenting and monitoring of armed drones' use with regard to its possible violations of international humanitarian and human rights law, as well as regarding novel developments in terms of drone use that require engagement and discussion to update export risks assessments or accountability of states for the use of lethal force.

Autonomous weapons:

- UN agencies create the platform for discussions. The New Agenda for Peace of the UN Secretary General is also playing an important role. A [resolution](#) adopted at UNGA First Committee in 2023 requests a Secretary-General's report reflecting the views of states on the way forward to address Challenges related to autonomous weapons.
- States must urgently develop and implement new norms to ensure autonomous weapons will be used in line with legal and ethical norms. They have a serious responsibility.
- Civil society can be critical where necessary and support states in the development of new legal rules.
- The technical community has an important role in highlighting the dangers of autonomous weapons without meaningful human control. They can advise on how to develop and implement new rules, but a norm should not be approached as a pure technical problem.
- Academia can support with research.
- Private sector should take their responsibility and avoid developing weapons that cannot comply with legal and ethical norms.

11. *What are the potential risks associated with private entities, as non-state actors, acquiring or misusing NTMD, such as drones, cyberweapons, or biotechnology?*

Armed drones

The use of armed drones, or weaponized commercial drones, by non-state actors, such as militants and terrorist groups, is already an alarming issue. In its recent report "[Between terror strikes and targeted killings](#)", PAX has documented the consequences of the rise of drone use by the jihadi extremists (the Islamic State) who professionalized the weaponization of commercial drones with small bomblets, which has later been replicated by other non-state groups. Moreover, the increasing global misuse of drones by terrorist groups has been a particular concern of the [UN Security Council Counter-Terrorism Committee](#) due to much easier access to developing drone technologies. Such use of drones by non-state groups is difficult to detect and shoot down, meaning that the small quadcopters equipped with bomblets can easily circumvent ground-based security measures, with consequential harm for civilians or protected military positions alike.

12. *How can both States and private entities effectively establish mechanisms of accountability and responsibility to address the use of NTMD, including AI and ADS, cross-border and long-distance use*

of force, neurotech and brain interface controls, as well as dual-use technologies employed for both military and civilian purposes?

Armed drones

Please see the answer to Q10 for more details. States need foremost to outline their legal position on the use of lethal force in particular under IHLR framework, as a means to strengthen existing interpretation over this matter and counter any attempts to undermine and weaken this, as currently is attempted by some States. This is in line with repeated calls by UN Special rapporteurs on extrajudicial killings, including Christoph Heyns (2013/2014) and Agnes Callamard (2020).

Autonomous weapons:

New legal rules should make clear where responsibility lies. Positive obligations should also ensure the human user(s) can make a legal judgement and be held accountable for any violations.

13. *How can both States and private entities effectively establish mechanisms of accountability and responsibility to address violations and abuses of international human rights law and violations of international humanitarian law committed using NTMD, including AI and ADS, cross-border and long-distance use of force, neurotech and brain interface controls, as well as dual-use technologies employed for both military and civilian purposes? Additionally, how can monitoring the design, development, training, and use of NTMD play a role in ensuring accountability and addressing potential violations and abuses?*

Armed drones - please see answer to Q10.

VII. Civil society, scientific community and academic institutions (specific questions)

14. *Please describe the relevant work that your organization has done on the issue of new and emerging technologies in the military domain (NTMD) and human rights. What have been your key accomplishments? What challenges have you faced?*

Armed drones

In the area of armed drones**,** PAX has been [investigating](#) the effect of their deployment on the security of civilians since 2012. PAX produced numerous reports on the issue, including on the [developments](#) in the military drone sector, both on the use and proliferation of armed drones in [Syria](#), [Africa](#), [Yemen, Ukraine](#) and [Iraq](#).

With its research-based advocacy, PAX has been advocating for better international regulation of drones' use and proliferation at the UN level. In particular, PAX initiated and co-organised a number of side-events dedicated to drones within the UN General Assembly First Committee, including the first-ever [event](#) on the topic in 2015, and subsequent side event discussions in [2016](#), [2018](#), [2019,](#) and most recently, in [2023](#). PAX has been leading in civil society's advocacy of drone-related policies and regulations towards the First Committee as part of the [Reaching Critical Will coalition](#), with annual contributions of [policy recommendations](#).

In addition to its work with the First Committee, PAX co-organised events and discussions at other UN bodies, particularly, [UN Human Rights Council](#). PAX also provided input to the work of the Counter-Terrorism Committee, both in [2022](#) and during the UNCTED consultation on UAS guiding principles in 2023. In 2015-2021, PAX was coordinating the [European Forum of Armed Drones](#) – a civil society network of organisations working to promote human rights, respect for the rule of law, disarmament and conflict prevention. Moreover, PAX reports on the subject are frequently cited in the expert discussions and in the international media.

Autonomous weapons

PAX first wrote about the issue of autonomous weapons in 2011. In 2013, PAX founded the [Campaign to Stop Killer Robots](#) together with a group of international NGOs. This coalition now consists of more than 200 NGOs from over 80 countries. PAX has been participating in the discussions at the Convention on Certain Conventional Weapons in Geneva and the UNGA First Committee in New York on this topic since 2014. PAX develops thinking on possible elements of a treaty and works together with states to work towards new legal rules. To this end, PAX regularly visits (European) capitals to meet with representatives of the Ministries of Foreign Affairs and Defence, as well as parliamentarians and the general public. PAX conducts research into relevant developments including:

- ['Increasing complexity'](#)(2023) looks at technological trends related to autonomy in weapons systems and how they affect human control and judgement, and gives suggestions for possible elements of a treaty.
- ['Increasing autonomy in weapon systems'](#) (2021) looks at examples of weapons systems with increasing autonomy.
- ['Don't be Evil'](#) (2019) looks at the role of the tech sector.
- ['Slippery Slope'](#) (2019) looks at the weapons industry.
- ['State of AI'](#) (2019) looks at the developments in a number of key countries regarding the development of autonomous weapons.

15. How can the technical community and academic institutions collaborate with civil society organizations to conduct research, provide expertise, and develop best practices to address the human rights implications of NTMD?

Armed drones

Academic institutions, in particular legal experts, can analyse existing practices of military drone use and compare these with legal principles around the use of lethal force, while broader discussion in academia around ethics and moral questions arising from remote warfare can provoke public and political debate around these developments.

Autonomous weapons:

PAX works with the technical community to inform people on the technical concerns. They also provide us with technical expertise to ensure our policy thinking is in line with the actual technology.

16. Are current international law, international humanitarian law, and human rights law, as well as government policies, effective in addressing the human rights challenges arising from NTMD? If not, what improvements can be made to ensure more effective protection of human rights in this context?

With regard to both drones and autonomous weapons, international legal frameworks have a massive gap in addressing challenges round the development and use of these NTMD.

Armed drones

Regarding armed drones, it is crucial to put in place proper policy and legal frameworks to prevent civilian casualties, improve accountability and oversight and adhere to international legal principles in both a humanitarian and human rights law framework. This should both the situations of proxy warfare, as is the case in Syria or Iraq, and counter-terrorism operations outside of conflict areas, for which the government should clearly outline their legal policies around targeted strikes in relation to international humanitarian and human rights law around the use of lethal force outside their national borders. In order to improve accountability and transparency and protection of civilians, all states operating armed drones should be subject to transparency regarding their operations, which requires:

- publishing their rules and procedures to show full compliance with international law, including preventing, mitigating and investigating all unlawful deaths, and more broadly all civilian harm.

- providing timely public information on a case-by-case basis on the legal and factual grounds on which specific individuals or groups are targeted with drones and providing information on the number of casualties and their identities.
- conducting prompt, thorough, independent and impartial investigations into all allegations of unlawful death or civilian harm and publish the results of each investigation in a timely manner. All states must ensure that the rights of victims of drone strikes are upheld, including by ensuring effective access to judicial remedies and reparation.

Autonomous weapons

As mentioned above, International law, international human rights law and international humanitarian law are relevant for the development and use of autonomous weapons. These form a useful basis, but are not sufficient to address the concerns related to autonomous weapons. New legal rules are needed, because these weapons are fundamentally different from existing weapons and raise unique challenges. These challenges are not unambiguously addressed in existing international law, for example how to ensure human control and judgement, and ensure a person can be held accountable for any violations of the law. New legal rules could make this explicit.

17. What strategies and initiatives can civil society, the technical community, and academic institutions undertake to ensure the inclusion and meaningful participation of marginalized or vulnerable groups in discussions and decision-making processes related to NTMD?

Armed drones

For military drones, it is crucial to support research on human rights impacts of drone deployment, including field research in remote areas, to get first-hand account of civilian victims. It is also important to create the platform for drone strikes victims to be heard, raising the need for public discussions around judicial, ethical and military-strategic questions surrounding the use of drones.

Autonomous weapons

We aim to ensure people from various backgrounds are included in the international debate. This can take place through ensuring access to decision makers and policy processes. It can be done by amplifying the voices of marginalised communities, including through recommending speakers from marginalised communities for relevant events and discussions instead of joining "all-male panels." We also aim to include intersectionality in our analysis of the problems related to autonomous weapons, especially what concerns targeting of humans.

18. How does your organization use new and emerging digital technologies in the military domain to protect and promote human rights?

Armed drones

PAX is documenting developments around the use and proliferation of armed drones through its open-source investigations (OSINT) and satellite imagery, locating military bases hosting armed drones in various parts of the world and tracking drone strikes. Moreover, PAX cooperates with other OSINT community actors, including human rights organisations and journalists, for exchange of OSINT information.