STOPPING KILLER ROBOTS
Country Positions on Banning Fully Autonomous Weapons and Retaining Human Control

HUMAN RIGHTS WATCH
Stopping Killer Robots
Country Positions on Banning Fully Autonomous Weapons and Retaining Human Control
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Summary

Weapons systems that select and engage targets without meaningful human control are unacceptable and need to be prevented. All countries have a duty to protect humanity from this dangerous development by banning fully autonomous weapons. Retaining meaningful human control over the use of force is an ethical imperative, a legal necessity, and a moral obligation.

In the period since Human Rights Watch and other nongovernmental organizations launched the Campaign to Stop Killer Robots in 2013, the question of how to respond to concerns over fully autonomous weapons has steadily climbed the international agenda. The challenge of killer robots, like climate change, is widely regarded as a grave threat to humanity that deserves urgent multilateral action.

A growing number of legislators, policymakers, private companies, international and domestic organizations, and ordinary individuals have endorsed the call to ban fully autonomous weapons. Since 2018, the United Nations Secretary-General António Guterres has repeatedly urged states to prohibit weapons systems that could, by themselves, target and attack human beings, calling them “morally repugnant and politically unacceptable.”

This report shows how 97 countries have responded to this challenge and elaborated their views on lethal autonomous weapons systems since the matter was first discussed at the

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1 As of July 2020, the Campaign to Stop Killer Robots is comprised of 165 nongovernmental organizations in 65 countries. The Campaign is working to ban fully autonomous weapons and retain meaningful human control over the use of force. See www.stopkillerrobots.org.


3 For a full listing, see the Campaign to Stop Killer Robots website: https://www.stopkillerrobots.org/endorsers.

Human Rights Council in 2013.\(^5\) It surveys where these countries stand on calls to ban fully autonomous weapons and retain meaningful human control over the use of force. Such a legally binding instrument could come in the form of a new protocol to the Convention on Conventional Weapons (CCW), which has discussed this concern since 2014.\(^6\) Or, with sufficient political leadership, killer robots could be banned by a treaty negotiated via a standalone process similar to the initiatives that successfully prohibited antipersonnel landmines in 1997 and cluster munitions in 2008.

The report draws on publicly available information, including statements made in various fora, such as the United Nations (UN) General Assembly. It tracks country participation in eight CCW meetings on lethal autonomous weapons systems held at the UN in Geneva in 2014-2019.\(^7\)

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\(^6\) The CCW’s formal title is the 1980 Convention on Prohibitions or Restrictions on the Use of Certain Conventional Weapons Which May Be Deemed to Be Excessively Injurious or to Have Indiscriminate Effects.

\(^7\) The report tracks country participation in the three informal CCW meetings on lethal autonomous weapons systems, chaired by France in May 2014 and by Germany in April 2015 and April 2016. It also reviews attendance at five open-ended CCW Group of Governmental Experts (GGE) meetings on lethal autonomous weapons systems, chaired by India in November 2017, April 2018, and August 2018, and by North Macedonia in March 2019 and August 2019.
Key Findings

Since 2013, a total of 97 countries have publicly elaborated their views on fully autonomous weapons in a multilateral forum. They have expressed a wide array of serious ethical, legal, operational, proliferation, moral, and technological concerns over removing human control from the use of force.


Their active engagement in the CCW talks on killer robots demonstrates growing awareness of and concerns about removing human control from the use of force. There is widespread acknowledgment that technological developments are enabling militaries to incorporate autonomy into weapons systems. China, Israel, Russia, South Korea, the United Kingdom, and the United States are investing heavily in the development of various autonomous weapons systems, while Australia, Turkey, and other countries are also making investments.

Despite this development, the vast majority of countries that have spoken to date regard human decision-making, control, or judgment as critical to the acceptability and legality of weapons systems. There is now widespread agreement about the need to retain some form of human control over the use of force, including over individual attacks. In 2018, Austria,

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9 Of the 97 states that have publicly elaborated their views on fully autonomous weapons in a multilateral forum, 85 are CCW states parties and 12 are not party to the CCW (Botswana, Egypt, Ghana, Indonesia, Iran, Libya, Myanmar, Namibia, Nepal, San Marino, Thailand, and Zimbabwe).
10 A total of 20 CCW states parties attended at least one of the CCW meetings on killer robots in 2014-2019, but never made a statement or intervention to share their views: Albania, Benin, Bosnia and Herzegovina, Côte d’Ivoire, Cyprus, Dominican Republic, Gabon, Georgia, Jamaica, Laos, Lesotho, Mauritius, Mongolia, Qatar, Saudi Arabia, Senegal, Serbia, Togo, United Arab Emirates, and Uruguay. A total of 20 CCW states parties did not participate in any of the eight CCW meetings on lethal autonomous weapons systems held in 2014-2019: Afghanistan, Antigua and Barbuda, Bahrain, Burundi, Cape Verde, Grenada, Guinea-Bissau, Iceland, Liberia, Malta, Maldives, Monaco, Nauru, Niger, Paraguay, Saint Vincent and the Grenadines, Seychelles, Tajikistan, Turkmenistan, and Uzbekistan.
Brazil, and Chile recommended launching negotiations on a legally binding instrument to ensure meaningful human control over the critical functions of weapons systems.\(^11\)

Banning fully autonomous weapons means prohibiting weapons systems that lack meaningful human control. Since 2013, 30 countries have called for a ban on such fully autonomous weapons: Algeria, Argentina, Austria, Bolivia, Brazil, Chile, China, Colombia, Costa Rica, Cuba, Djibouti, Ecuador, Egypt, El Salvador, Ghana, Guatemala, Holy See, Iraq, Jordan, Mexico, Morocco, Namibia, Nicaragua, Pakistan, Panama, Peru, State of Palestine, Uganda, Venezuela, and Zimbabwe. China has called for a treaty to ban the use of lethal autonomous weapons systems, but not their development or production, which is unsurprising given that it is also among the nations most advanced in pursuing such weapons.\(^12\)

Several groups of states have endorsed statements calling for a ban on killer robots. The Non-Aligned Movement (NAM), which is comprised of approximately 125 member states, has called for a “legally binding international instrument stipulating prohibitions and regulations on lethal autonomous weapons systems” several times since 2018.\(^13\) Benin spoke in April and August 2018 on behalf of a group of African states to recommend launching negotiations on a legally binding instrument on fully autonomous weapons “at the earliest” as weapons systems “that are not under human control should be banned.”\(^14\)


All CCW meetings on killer robots in 2014-2019 saw strong interest or convergence on the importance of retaining human control over weapons systems and the use of force. This is reflected in a principle on human-machine interaction that CCW states agreed to in 2019.\(^{15}\) Human-machine interaction attracted the greatest interest by far during the virtual Berlin Forum on lethal autonomous weapons systems attended by more than 60 countries on April 1-2, 2020. There was widespread recognition at the Rio Seminar on autonomous weapons on February 20, 2020 that human control is where states should focus their collective work.

While the CCW talks were formalized in 2016, they have yielded little in the way of a lasting multilateral outcome. Decisions at the CCW are taken by consensus, which allows just a few or even a single state to block an agreement sought by a majority – and often results in lowest-common denominator decision-making. A handful of military powers, most notably Russia and the United States, have firmly rejected proposals to negotiate a new CCW protocol or standalone international treaty. At the last CCW meeting in August 2019, Russia and the United States again opposed proposals to negotiate a new treaty on killer robots, calling such a move “premature.”\(^{16}\)

The CCW meetings have heard proposals for political declarations and codes of conduct, as well as for greater transparency. Such measures have value, but are, by themselves, insufficient to deal with this serious threat to humanity. Some of the measures could be more productively undertaken after the international legal framework on killer robots has been put in place. A set of “guiding principles” was agreed to by states at the CCW in 2018 and 2019, but these were merely intended to guide their deliberations and, on their own, are not an adequate or appropriate response to the multiple concerns raised by increasing autonomy in weapons systems.

\(^{15}\) The Guiding Principles state, “Human-machine interaction, which may take various forms and be implemented at various stages of the life cycle of a weapon, should ensure that the potential use of weapons systems based on emerging technologies in the area of lethal autonomous weapons systems is in compliance with applicable international law, in particular International Humanitarian Law (IHL). In determining the quality and extent of human-machine interaction, a range of factors should be considered including the operational context, and the characteristics and capabilities of the weapons system as a whole.” Report of the 2019 Session of the Group of Governmental Experts on Emerging Technologies in the Area of Lethal Autonomous Weapons Systems, CCW/GGE.1/2019/3, September 25, 2019, https://undocs.org/en/CCW/GGE.1/2019/3, pp. 3-4 (accessed July 6, 2020).

At the end of 2019, states agreed to hold four weeks of CCW meetings in 2020-2021 to discuss developing “a normative and operational framework” for lethal autonomous weapons systems. They committed to strive for results by the CCW’s Sixth Review Conference in December 2021.

However, the onset of the Covid-19 pandemic has postponed the 2020 CCW meetings on killer robots. In the interim, the chair has urged CCW states to provide written commentaries or working papers.

Focused deliberations would help lay the groundwork for the international ban treaty that is urgently required to retain meaningful human control over the use of force. To achieve progress, states should identify factors to help determine the necessary kind and extent of human control over weapons systems and the use of force. They should comment on their preferred normative international framework.

A legally binding instrument is the optimal framework for dealing with the many serious challenges raised by fully autonomous weapons. A new international ban treaty could lay down explicit rules to ensure appropriate constraints on autonomy in weapons systems and resolve differing views on human control over the use of force. Most importantly, a new treaty would show that states are serious about responding appropriately and with urgency to this existential threat to humanity.

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Recommendations

Human Rights Watch calls on all states to:

• Work with other concerned states to launch and swiftly conclude negotiations on a new international treaty to retain meaningful human control over the use of force and prohibit weapons systems that lack such human control; and
• Adopt national laws and policies committing to retain meaningful human control over the use of force and establishing prohibitions on the development, production, and use of fully autonomous weapons.
Country Positions on Killer Robots

Algeria

At a Human Rights Council debate on lethal autonomous weapons systems in May 2013, Algeria said it sees “a need to adopt appropriate measures so that the use of this technology respects human rights.” Algeria has expressed numerous ethical, legal, and moral concerns over killer robots and has warned of the potential for an arms race and proliferation to non-state armed groups. In April 2016, Algeria called for “a prohibition of acquisition, design, development, testing, deployment and transfer and use of lethal autonomous weapons systems through an internationally legally binding instrument.” Algeria recommends that the concept of meaningful human control be at the center of the treaty’s negotiations. Algeria participated in every CCW meeting on killer robots in 2014-2019.

Argentina

At the Human Rights Council in May 2013, Argentina delivered a statement on behalf of the Group of Latin American and Caribbean Countries (GRULAC) that raised several concerns over fully autonomous weapons, including the potential to foster reprisal, retaliation, and terrorism. Argentina sees a need “to preserve meaningful human control at all phases of the development and use” of weapons systems. It called for a “preemptive prohibition of

the development of lethal autonomous weapons systems” in December 2016. Argentina participated in CCW meetings on killer robots held in 2014-2019.

**Australia**

When Australia supported a proposal to begin multilateral talks on lethal autonomous weapons systems in November 2013, it expressed interest in discussing applicable international humanitarian law, definitions, military utility, and humanitarian aspects. Australia does not see a need for a new international treaty to address concerns over such weapons. In March 2018, foreign minister Julia Bishop said it is “premature” to consider banning fully autonomous weapons. Australia is developing and testing various autonomous weapons systems. It argues that “autonomous technology has distinct benefits for the promotion of humanitarian outcomes and avoidance of civilian casualties.” Australia participated in every CCW meeting on killer robots in 2014-2019.

**Austria**

At the Human Rights Council in May 2013, Austria expressed interest in discussing the “multi-sectoral nature” of lethal autonomous weapons systems. It has serious ethical and legal concerns with such weapons and sees destabilizing implications. Austria called for a ban on autonomous weapons that are not under meaningful human control in April 2018. It participated in every CCW meeting on killer robots in 2014-2019. At the CCW

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31 Government of Austria, Statement to the Convention on Conventional Weapons Group of Governmental Experts on lethal autonomous weapons systems, April 9, 2018,
in August 2018, Austria, Brazil and Chile formally proposed launching negotiations on a legally binding instrument to ensure meaningful human control over the critical functions of weapons systems. At the UN General Assembly in September 2019, Foreign Minister Alexander Schallenberg called for a ban “on weapons that are fully autonomous,” stating, “we cannot allow machines to decide over human life and death.” Austria has announced its intent to convene an international meeting on killer robots in Vienna in early 2021.

**Bangladesh**

Bangladesh expressed its support for multilateral talks on lethal autonomous weapons systems at the UN General Assembly in October 2016. However, it has never expressed its views on calls to ban them through a new international treaty. Bangladesh participated for the first time in CCW meetings on lethal autonomous weapons systems in 2019, but did not make any statements.

**Belarus**

Belarus said in May 2014 that it was “flexible” regarding calls to negotiate a new treaty on lethal autonomous weapons systems. In November 2019, it expressed its opposition to the “indiscriminate, disproportionate use of fully autonomous weapons and use against the civilian population.” However, Belarus has not supported calls for a new international ban treaty to retain meaningful human control over the use of force. Belarus participated in every CCW meeting on killer robots in 2014-2019.

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Belgium

Belgium supported a proposal to begin multilateral talks on lethal autonomous weapons systems in November 2013.³⁷ It says that “from an ethical and humanitarian point of view,” it “fully shares the concerns on the possible risks and dangers” posed by such weapons.³⁸ In Belgium’s view, killer robots raise several problems for international law, particularly the notion that “humans would not intervene in the final decision to be taken with lethal consequences.”³⁹ In July 2018, Belgium’s national parliament adopted a resolution endorsing a ban on the use of lethal autonomous weapons.⁴⁰ Belgian officials have not explicitly proposed negotiating new international law, but in November 2019 acknowledged the need for international support to prohibit lethal autonomous weapons.⁴¹ Belgium participated in every CCW meeting on killer robots in 2014-2019.

Bolivia

Bolivia said the right to life “should not be delegated to a machine” and called for a ban on lethal autonomous weapons systems in April 2015.⁴² This was its first and only comment on killer robots to date. Bolivia participated in one CCW meeting on lethal autonomous weapons systems, in 2015.

⁴⁰ Voorstel Van Resolutie om de inzet van “killer robots” en gewapende drones door de Belgische Defensie te verbieden, Belgian Parliament Doc 54 3203/001, July 19, 2018, https://www.dekamer.be/doc/flwb/pdf/54/3203/54k3203005.pdf#search=%22killer%20robots%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%2
Botswana

At the UN General Assembly in October 2015, Botswana expressed serious doubts that fully autonomous weapons would meet key standards of international humanitarian and human rights law. In October 2018, it said that “critical decisions involving use of weapons of war and taking of human lives should not be abdicated to machines.” Botswana has not elaborated its position on calls for a new treaty to ban or restrict fully autonomous weapons. It is not a CCW state party and did not participate in CCW meetings on lethal autonomous weapons systems in 2014-2019.

Brazil

Brazil expressed several concerns over lethal autonomous weapons systems at the Human Rights Council in May 2013, including “the consequences of a lowered human cost of conflicts like the trivialization of war” and “uncertainties surrounding the accountability for killings committed by autonomous weapons.” Brazil has warned that “technology is not always the best solution for our challenges” and has raised ethical, legal, moral, and other serious objections to killer robots. Brazil called for a ban on fully autonomous weapons in November 2017, stating that certain weapons systems with autonomous capabilities “will prove to be incompatible with international humanitarian law and international human rights law.” Brazil participated in every CCW meeting on killer robots in 2014-2019. Austria, Brazil, and Chile formally proposed negotiating a legally binding instrument to ensure meaningful human control over the critical functions of weapons systems.

systems in August 2018.\textsuperscript{48} Brazil held an international symposium on autonomous weapons systems in Rio de Janeiro in February 2020 that was one of the first multilateral meetings on killer robots to be organized by government outside of UN auspices.\textsuperscript{49}

**Bulgaria**

Bulgaria supported multilateral talks on present and future developments of weapons technology at the UN General Assembly in October 2014.\textsuperscript{50} In Bulgaria’s view, a human “must make the ultimate decision of taking another human being’s life,” as “such moral resolution cannot be delegated to an autonomous weapon system.”\textsuperscript{51} However, it has not supported proposals to negotiate a new international ban treaty to retain meaningful human control over the use of force. Bulgaria participated in every CCW meeting on killer robots in 2014-2019.

**Burkina Faso**

At the UN General Assembly in October 2017, Burkina Faso highlighted the “essential” need to “search for durable solutions to the emergence of new challenges resulting from fully autonomous weapons systems.”\textsuperscript{52} In Burkina Faso’s view, “development and projections of the use of weapons not requiring human intervention” is “a serious source of concern.”\textsuperscript{53} Burkina Faso has not supported calls for an international ban treaty to retain


meaningful human control over the use of force. Burkina Faso is a CCW state party, but did not attend CCW meetings on lethal autonomous weapons systems in 2014-2019.

Cambodia

Cambodia warned in November 2017 that “the short-term benefits of lethal autonomous weapons systems could be far outweighed by the long-term consequences” and regards meaningful human control as key to ensuring accountability and ethical use of weapons systems.\(^54\) Cambodia believes that “machinery alone should not be making life and death decisions.”\(^55\) However, it has not supported proposals to negotiate an international ban treaty to retain meaningful human control over the use of force. Cambodia participated in a CCW meeting on lethal autonomous weapons systems in 2017.

Cameroon

Cameroon supported continuing multilateral talks on lethal autonomous weapons systems in December 2016 and suggested future meetings should explore ethical and legal concerns.\(^56\) Cameroon has not commented on calls to ban fully autonomous weapons and retain meaningful human control over the use of force. Cameroon participated in CCW meetings on killer robots in 2016 and 2017.

Canada

Canada supported a proposal to begin multilateral talks on lethal autonomous weapons systems in November 2013.\(^57\) It says it has “no plans to ever acquire” such weapons systems, but Canadian officials have not supported calls to negotiate a new international treaty.\(^58\) The Canadian Armed Forces say they are “committed to maintaining appropriate

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\(^{55}\) Ibid.


human involvement in the use of military capabilities that can exert lethal force.”⁵⁹ In December 2019, Prime Minister Justin Trudeau instructed his Minister of Foreign Affairs, François-Philippe Champagne, to advance international efforts to ban fully autonomous weapons systems.⁶⁰ Canada participated in every CCW meeting on killer robots in 2014-2019.

Chile

Chile said in April 2015 that it is “unacceptable for a machine to decide who lives and who dies.”⁶¹ Chile has expressed multiple serious concerns over removing human control from the use of force.⁶² Chile called for a ban on fully autonomous weapons in April 2016, arguing that existing international law is insufficient to regulate such weapons and highlighting the precedent provided by the ban on blinding lasers.⁶³ In August 2018, Austria, Brazil, and Chile formally proposed negotiating a legally binding instrument to ensure meaningful human control over the critical functions of weapons systems.⁶⁴ Chile participated in every CCW meeting on killer robots in 2014-2019.

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**China**

At the Human Rights Council in May 2013, China supported beginning multilateral talks on lethal autonomous weapons systems, which it described as “highly complex.” China has highlighted the potential for fully autonomous weapons to upset the international strategic balance and affect arms control. In December 2016, China said that such weapons “present considerable uncertainties” for compliance with international humanitarian law and expressed its desire for precautionary measures, highlighting the precedent provided by the ban on blinding lasers. In April 2018, China called for a ban on fully autonomous weapons, but later clarified its call was limited to use only and not development and production. Since then, China has not explicitly repeated its call for a new international treaty to ban fully autonomous weapons. China participated in every CCW meeting on killer robots in 2014-2019.

**Colombia**

Colombia said in April 2015 that lethal autonomous weapons systems require regulation “at the multilateral level in order to ensure the control by humans persists at all times, so that no machine makes life or death decisions.” Colombia has called such weapons “unethical, and a military and legal threat.” Former Colombian president Juan Manuel Santos endorsed a 2017 declaration by Nobel Peace laureates that calls for a ban

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on fully autonomous weapons.\textsuperscript{71} Colombia participated in every CCW meeting on killer robots in 2014-2019. It called for a new international treaty to retain meaningful human control over the use of force in April 2018.\textsuperscript{72}

**Costa Rica**

At the UN General Assembly in October 2013, Costa Rica warned that “many problems identified with the use of armed drones would be exacerbated by the trend toward increasing autonomy in robotic weapons.”\textsuperscript{73} Costa Rica has proposed that critical functions of weapons systems be subject to meaningful human control.\textsuperscript{74} It called for a preemptive ban on lethal autonomous weapons systems in April 2016, advocating a preventive approach and citing the precedent provided by the ban on blinding lasers.\textsuperscript{75} Costa Rica participated in CCW meetings on killer robots in 2016-2019.

**Croatia**

Croatia supported a proposal to begin multilateral talks on lethal autonomous weapons systems in November 2013.\textsuperscript{76} It is concerned such weapons could potentially cause “significant humanitarian impact.”\textsuperscript{77} In Croatia’s view, it “is not acceptable that fundamental moral judgments over life and death fall into the hands of automated

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technical systems.”

Croatia seriously doubts the capacity of existing international humanitarian and human rights law to deal with the challenges raised by fully autonomous weapons, but it has not called for a new international ban treaty to retain human control over the use of force. Croatia participated in every CCW meeting on killer robots in 2014-2019.

**Cuba**

At the Human Rights Council in May 2013, Cuba warned that lethal autonomous weapons systems could potentially result in “a large and perpetual battlefield.” In Cuba’s view, it is “completely unethical and unacceptable to give a weapon or machine the ‘capacity’ to make life-and-death decisions.” Cuba called for a ban on fully autonomous weapons in May 2014 and it has vigorously promoted that goal ever since. In June 2017, Cuban Foreign Minister Bruno Rodríguez Parrilla said that existing international law is insufficient to deal with the killer robots challenge and called for it to be strengthened through the creation of a legally binding instrument. Cuba participated in every CCW meeting on killer robots in 2014-2019.

**Czech Republic**

The Czech Republic warned in May 2014 that lethal autonomous weapons systems “could fundamentally change the way of fighting wars” and “could pose a serious threat for civilians.” In the Czech Republic’s view, “the ultimate decision to end somebody’s life

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82 Letter from Bruno Rodríguez Parrilla, Foreign Minister of Cuba, to Mary Wareham, June 6, 2017.
must remain under meaningful human control.”

84 It has not supported calls for a new international ban treaty to retain meaningful human control over the use of force, but has suggested that certain critical autonomous features of weapons systems be regulated or prohibited.85 The Czech Republic participated in every CCW meeting on killer robots in 2014-2019.

**Denmark**

Denmark affirmed in April 2015 that “all use of force must remain under meaningful human control.” It has expressed interest in determining “the necessary type and degree of human involvement to ensure that deployment and use of all weapons systems is compatible with the requirements of international humanitarian law.” Denmark has not supported calls to ban fully autonomous weapons and retain meaningful human control over the use of force. Denmark participated in CCW meetings on killer robots in 2015-2016 and 2018-2019.

**Djibouti**

Djibouti called for a ban on fully autonomous weapons in April 2018.88 It participated in CCW meetings on lethal autonomous weapons systems in 2016 and 2018-2019.

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Ecuador

At the UN General Assembly in October 2013, Ecuador highlighted serious ethical, humanitarian, legal and other concerns with fully autonomous weapons. In Ecuador’s view, “it is unacceptable that fundamental decisions about life and death could be assigned to lethal autonomous weapons.” In May 2014, Ecuador became the second country to call for a ban on fully autonomous weapons, citing the precedent provided by the blinding lasers ban. Ecuador has promoted a ban since then and supported an August 2018 proposal to negotiate a legally binding instrument to ensure meaningful human control over the critical functions of weapons systems. Ecuador participated in CCW meetings on killer robots in 2014-2016 and 2018-2019.

Egypt

At the Human Rights Council in May 2013, Egypt warned that lethal autonomous weapons systems have “possible ramifications on the value of human lives [and] the calculation of the cost of war.” Egypt was the third country to call for a ban on lethal autonomous weapons systems in May 2014, proposing specific prohibitions on acquisition, research and development, testing, deployment, transfer, and use. Egypt often cites the precedent provided by the preemptive ban on blinding lasers and states that “technology should not overtake humanity.” Egypt is not a state party to the CCW, but participated in CCW meetings on killer robots in 2014-2016 and 2018-2019.

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El Salvador

At the UN General Assembly in October 2018, El Salvador said that “a machine that has the responsibility to decide about a person’s life is of great concern, and it raises great ethical and legal challenges.” 96 El Salvador called for an international ban on lethal autonomous weapons systems in November 2018. 97 El Salvador participated in CCW meetings on killer robots in 2014-2019.

Estonia

Estonia expressed support for continuing multilateral talks on lethal autonomous weapons systems in August 2016. 98 It considers them to be “any weapon system that can select and engage targets without human intervention,” and says that “lethality is, in our view, not a defining feature of any weapon system, autonomous or otherwise.” 99 Estonia has expressed interest in exploring how to retain meaningful human control over the use of force, but says it is “unpersuaded” on the need for a new international treaty. 100 Estonia participated in every CCW meeting on killer robots in 2014-2019.

Finland

At the UN General Assembly in October 2014, Finland expressed interest in continuing multilateral talks on lethal autonomous weapons systems, which it called “a complex

issue.” Finland says that the “development of weapons and means of warfare where humans are completely out of the loop would pose serious risks from the ethical and legal viewpoint.” It says that “humans should always bear the ultimate responsibility when dealing with questions of life and death.” Finnish officials have not supported proposals to negotiate a new international treaty to ban or restrict killer robots. However, in June 2019, Finland’s new government released a coalition platform that seeks to ban weapons systems based on artificial intelligence. Finland participated in every CCW meeting on killer robots in 2014-2019.

France

At the Human Rights Council in May 2013, France said that “it does not possess and does not intend to acquire robotized weapons systems with the capacity to fire independently.” It considers killer robots to be “weapon systems that have no human supervision once they are activated.” France acknowledges that removing human control from the use of force raises complex ethical, legal, operational, and technological concerns. It has affirmed that “humans must retain the ability to take the final decision over the use of lethal force.” In April 2019, Minister of Defense Florence Parly rejected

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calls to ban “weapons systems which would be able to act without any form of human supervision,” while also stating that “France refuses to entrust the decision of life or death to a machine that would act in a completely autonomous manner and would be beyond any human control.”\footnote{Florence Parly, Minister of Defense, “Intelligence artificielle et defense,” April 5, 2019 (unofficial translation), https://www.defense.gouv.fr/english/salle-de-presse/discours/discours-de-florence-parly/discours-de-florence-parly-ministre-des-armees_intelligence-artificielle-et-defense (accessed July 20, 2020).} As CCW president, France launched multilateral talks on lethal autonomous weapons systems in November 2013 and chaired the first CCW meeting on the topic in May 2014. France participated in every CCW meeting on killer robots in 2014-2019. France and Germany have proposed the CCW agree to a non-legally binding political declaration.

**Germany**

Ghana

In November 2013, Ghana supported a proposal to open multilateral talks on lethal autonomous weapons systems.\(^{114}\) Ghana called for lethal autonomous weapons systems to be prohibited in April 2015, affirming the need for a preemptive ban as “it is obvious that proponents of these systems believe they will not be the victims, but that others will.”\(^{115}\) Ghana is not a CCW state party, but attended CCW meetings on lethal autonomous weapons systems in 2014-2016 and 2018-2019.

Greece

Greece supported a proposal to begin discussing lethal autonomous weapons systems in October 2013.\(^{116}\) Greece has expressed discomfort with “the fundamental question of whether humans should delegate life and death decisions to machines.”\(^ {117}\) It defines killer robots as “a type of weapons that once launched or deployed (human decision) its mission cannot be terminated by human intervention,” and that “has the capacity to learn and undertake on its own a range of critical functions, such as detection and engagement of targets.”\(^ {118}\) Greece has expressed skepticism that international humanitarian and human rights law is sufficient to deal with the challenges raised by fully autonomous weapons. It has repeatedly emphasized the need to “ensure the appropriate human judgment over the use of force.”\(^ {119}\) However, Greece has not supported proposals to ban fully autonomous

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Guatemala
Since May 2014, Guatemala has raised a host of concerns over fully autonomous weapons, warning of risks to “the most basic human rights” and their lack of compliance with “the standards and principles of international humanitarian law.” Guatemala called for a ban on fully autonomous weapons in December 2016. It participated in CCW meetings on lethal autonomous weapons systems in 2014 and in 2017–2019.

Holy See
In November 2013, the Holy See expressed grave ethical concerns over the inability of pre-programmed, automated technical systems to make moral judgments over life and death, respect human rights, and comply with the principles of humanity. It regards killer robots to be “a weapon system capable of identifying, selecting and triggering action on a target without human supervision.” The Holy See called for lethal autonomous weapons systems to be prohibited in May 2014, citing the precedent provided by the preemptive ban on blinding lasers, and warning of their potential to “increase the dehumanization of warfare.” The Holy See provided the CCW with a ten-page statement in April 2015.

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outlining its ethical objections to lethal autonomous weapons systems.\textsuperscript{125} The Holy See participated in every CCW meeting on killer robots in 2014-2019.

**Honduras**

Honduras first and last commented on killer robots in April 2018, when it expressed interest in exploring concerns relating to proportionality, proliferation, deployment, use, accountability, and human-machine interaction.\textsuperscript{126} Honduras has not commented on calls for a new international ban treaty to retain meaningful human control over the use of force. Honduras attended CCW meetings on lethal autonomous weapons systems in 2015-2017 and 2019.

**Hungary**

In 2016, Hungary acknowledged that lethal autonomous weapons systems warrant “substantial consideration” and supported continuing diplomatic talks on the concerns.\textsuperscript{127} Hungary attended most CCW meetings on killer robots in 2015-2019. However, it has not elaborated its views on concerns over removing human control from the use of force or commented on calls to ban or restrict fully autonomous weapons.

**India**

At the UN General Assembly in October 2013, India supported a proposal to begin multilateral talks on lethal autonomous weapons systems.\textsuperscript{128} India has stated several times that challenges over such weapons must be resolved “in a manner that does not further widen the technology gap between states or encourage the use of lethal force to settle international disputes.”\textsuperscript{129} India has expressed concern that using the concept of

\textsuperscript{125} Ibid.


\textsuperscript{129} Government of India, Statement to the Convention on Conventional Weapons informal meeting of experts on lethal autonomous weapons systems, May 13, 2014, https://unoda-web.s3-accelerate.amazonaws.com/wp-
meaningful human control could risk legitimizing such weapons systems.\textsuperscript{130} In March 2019, India said that “responsibility for development, production and deployment” of lethal autonomous weapons systems “should rest with the concerned state” but also said that “associated risks as regards proliferation (including to non-state actors), need to be covered under dual responsibility of the state and by strengthening international regulations.”\textsuperscript{131} India is investing in the development of various autonomous weapons. However, in September 2019, Defense Minister Rajnath Singh reportedly stated that “the final attack decisions should be made by humans in the military, not by artificial intelligence.”\textsuperscript{132} India participated in every CCW meeting on killer robots in 2014-2019 and chaired the CCW meetings in 2017-2018.

\section*{Indonesia}

At the Human Rights Council in May 2013, Indonesia highlighted legal and other challenges raised by lethal autonomous weapons, particularly, “the possible, far-reaching effects on societal values, including … the protection and value of life and on international stability and security.”\textsuperscript{133} At the UN General Assembly in October 2019, Indonesia delivered a statement on behalf of the Non-Aligned Movement that asserted, “there is an urgent need to pursue a legally binding instrument on lethal autonomous weapon systems.”\textsuperscript{134} Indonesia is not a CCW state party and did not attend CCW meetings on killer robots in 2014-2019.


\textsuperscript{132} Defense Minister Rajnath Singh also reportedly stated, “Humans are the heart, the spirit and the center of the military. Humans should not be hands and feet.” See Satohi Toshi, “Indian Defense Minister emphasizes AI utilization in all military fields,” Yahoo Japan, September 27, 2019 (unofficial translation), https://news.yahoo.co.jp/byline/satohitoshi/20190927-00144473/ (accessed July 20, 2020).


Iran

At the Human Rights Council in May 2013, Iran expressed interest in opening multilateral talks on lethal autonomous weapons systems. Iran has not commented on the concerns raised by removing human control from the use of force or supported proposals to negotiate a new international ban treaty. Iran is not a CCW state party, but it attended CCW meetings on killer robots in 2016 and 2018-2019.

Iraq

In November 2015, Iraq warned that fully autonomous weapons could generate “an arms race which could have catastrophic results,” and asserted that “no decision that could lead to the death of any human being can be given or entrusted to a machine; all decisions must remain under human control.” Iraq called for a preemptive ban on lethal autonomous weapons systems in November 2017 and has repeatedly expressed its support for a prohibition since then. Iraq participated in CCW meetings on killer robots in 2016-2019.

Ireland

At the UN General Assembly in October 2013, Ireland expressed interest in starting multilateral talks on lethal autonomous weapons systems. Ireland has expressed concern at the “eventual use of these technologies outside of traditional combat situations, for example in law enforcement.” It questions the relevance of lethality in

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considering fully autonomous weapons. Ireland has consistently emphasized the need for weapons systems to “remain under meaningful human control.” Ireland has not supported calls to ban fully autonomous weapons or proposed a new international treaty, but expressed interest in the “regulation” of “weapon systems that incorporate emerging technologies with increasingly autonomous functions” in November 2019. Ireland participated in every CCW meeting on killer robots in 2014-2019.

**Israel**

In November 2013, Israel said that lethal autonomous weapons systems “do not exist currently.” It has urged states to keep “an open mind regarding the positive capabilities of future lethal autonomous weapons systems,” as it finds they “might ensure better compliance with the laws of armed conflict in comparison with human soldiers.” Israel has rejected calls to negotiate a new international treaty to ban or restrict fully autonomous weapons. It is developing, testing, producing, and using weapons systems with autonomous functions. Israel participated in every CCW meeting on killer robots in 2014-2019.

**Italy**

Italy supported a proposal to begin multilateral talks on killer robots in November 2013. In April 2018, it said that “existing automated weapons systems... are not LAWS [lethal autonomous weapons systems]” and asserted that “weapon systems do not present accountability gap issues, as long as responsibility for their effects can be ascribed to the

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human operators who decided to field and activate them.”145 In October 2019, Italy emphasized that “any existing or future weapon system must be subject to human control, particularly in relation to the ultimate decision to use lethal force.”146 Italy has not acknowledged ethical and moral concerns over removing human control from the use of force or supported proposals to ban fully autonomous weapons. Italy participated in every CCW meeting on killer robots in 2014-2019.

Japan

At the UN General Assembly in October 2013, Japan supported a proposal to begin multilateral talks on lethal autonomous weapons systems.147 It regards killer robots as weapons systems that, “once activated, can effectively select and engage a target without human intervention.”148 Japan urges the peaceful use of robotics and says it has “no plan to develop robots with humans out of the loop, which may be capable of committing murder.”149 Japan has not supported calls for a new international ban treaty to retain meaningful human control over the use of force. Japan participated in every CCW meeting on killer robots in 2014-2019. In February 2020, Japan’s Foreign Ministry announced its intent to hold a regional meeting on killer robots concerns in December 2020.150

Jordan

In August 2016, Jordan emphasized the “urgent need to retain human control over the use of force.”\(^{151}\) Jordan has warned that weapons systems that operate without effective human control could “trigger an arms race” and lead to a “clear change in the rules of war and the code of conduct for armed conflict,” with “pernicious consequences for all.”\(^{152}\) Jordan called for a legally binding instrument to ban lethal autonomous weapons systems in August 2019.\(^{153}\) Jordan participated in every CCW meeting on lethal autonomous weapons systems in 2014-2019.

Kazakhstan

Kazakhstan supported continued multilateral talks on concerns over killer robots in November 2015.\(^{154}\) It sees a need to maintain human control over weapons systems and has expressed doubt that lethal autonomous weapons systems would comply with key principles of international humanitarian law.\(^{155}\) In November 2017, Kazakhstan said there is an “obvious” need to adopt a legally binding measure to prohibit or regulate fully autonomous weapons.\(^{156}\) Kazakhstan participated in the CCW meetings on killer robots in 2014-2019.


Kuwait

At the UN General Assembly in October 2015, Kuwait stated that lethal autonomous weapons systems “pose moral, humanitarian, and legal challenges” for the international community. Kuwait has expressed interest in developing legislative controls to prevent “the potentially destructive effects” of fully autonomous weapons, but it has not explicitly called for a ban. Kuwait participated in CCW meetings on killer robots in 2017-2019.

Latvia

Latvia first commented on killer robots at the UN General Assembly in October 2016, where it supported continuing multilateral talks on lethal autonomous weapons systems. Latvia has not elaborated its views on removing human control over the use of force or supported calls to prohibit or restrict fully autonomous weapons. A CCW state party, Latvia participated in every CCW meeting on lethal autonomous weapons systems in 2014-2019 and will chair CCW meetings on the topic in 2020.

Lebanon

At the UN General Assembly in October 2015, Lebanon urged that “human rights and international humanitarian law should remain our guiding principles” regarding new developments such as lethal autonomous weapons. Lebanon has not elaborated its views on concerns over removing human control from the use of force or commented on calls to ban fully autonomous weapons. Lebanon ratified the CCW in 2017 and participated in CCW meetings on killer robots in 2018-2019.

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Libya


Liechtenstein


Lithuania

Luxembourg

In April 2018, Luxembourg said that “humans should continue to be able to make the ultimate decision in regards to the use of lethal force.”\textsuperscript{164} It recommended developing a political declaration on lethal autonomous weapons systems, but cautioned it “should be viewed as a first step, and not an end in itself.” In March 2019, Luxembourg called for the development of a legally binding instrument with a positive obligation to maintain human control over the use of force.\textsuperscript{165} Luxembourg participated in CCW meetings on killer robots in 2014 and 2017-2019.

Madagascar

Madagascar supported a proposal to begin multilateral talks on lethal autonomous weapons systems in November 2013 and suggested states “consider moral and ethical values in the use of these weapons.”\textsuperscript{166} Madagascar has not elaborated its views on concerns over removing human control from the use of force or supported proposals to ban lethal autonomous weapons systems. It attended CCW meetings on killer robots in 2014-2015, but not those held in 2016-2019.

Mali

In May 2014, Mali expressed concern that lethal autonomous weapons systems may not be able to discriminate between soldiers and civilians, calling them “a step backwards for the international community.”\textsuperscript{167} Mali participated in one CCW meeting on lethal autonomous weapons systems in 2014.

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Mexico

Mexico warned that lethal autonomous weapons systems “might decide arbitrarily on the life and death of human beings” at the Human Rights Council in May 2013. Mexico has expressed doubts such weapons systems would comply with key principles of international humanitarian law and sees a need to retain “a significant level of human control” in the use of force. In April 2016, Mexico said that it favors “the negotiation of a legally binding instrument to preemptively ban fully autonomous weapons,” describing the proposal as preventive “since the weapons still do not exist” and noting that negotiations “should not necessarily be done through CCW.” Mexico participated in every CCW meeting on killer robots in 2014-2019.

Moldova

The Republic of Moldova said in December 2016 that “all weapons must remain under effective (or meaningful) human control.” It has not commented on calls to ban lethal autonomous weapons systems. The Republic of Moldova participated in CCW meetings on killer robots in 2014-2015 and 2017-2019.

Montenegro

Montenegro has supported continuing multilateral talks on killer robots on several occasions since December 2016. It has not elaborated its views on concerns over removing human control from the use of force or commented on calls to ban fully autonomous weapons. Montenegro participated in CCW meetings on lethal autonomous weapons systems in 2014 and 2017-2019.

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Morocco

Morocco expressed serious concern over allowing machines to “have the right to determine the life of human beings” at the Human Rights Council in May 2013 and expressed interest in discussing the “moral and legal implications” of lethal autonomous weapons systems.  

Morocco called for a ban on lethal autonomous weapons systems in November 2018 because “the absence of a legal framework could leave the door wide open to the development and acquisition” of such weapons.  

Morocco participated in every CCW meeting on killer robots in 2014-2019.

Myanmar

At the UN General Assembly in October 2017, Myanmar said that lethal autonomous weapons systems constitute “a security issue warranting serious consideration.” In October 2019, it noted “growing concerns on new types of weapons such as lethal autonomous weapon systems and their destructive power.” Myanmar has not commented on calls to ban fully autonomous weapons. Myanmar is not a CCW state party, but participated in CCW meetings on killer robots in 2017-2018.

Namibia

Namibia called for a ban on fully autonomous weapons at the UN General Assembly in October 2019, calling them “totally incompatible with international humanitarian law.” Namibia is not a CCW state party and did not attend CCW meetings on lethal autonomous weapons systems in 2014-2019.

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177 Government of Namibia, Statement to the UN General Assembly First Committee on Disarmament and International Security, October 24, 2019. Notes by Human Rights Watch.
Nepal

Nepal said at the UN General Assembly in October 2018 that “a sound regulatory framework” is needed for artificial intelligence and “automated robots” that “pose serious threat to humanity.” Nepal is not a CCW state party and did not attend CCW meetings on lethal autonomous weapons systems in 2014-2019.

The Netherlands

At the UN General Assembly in October 2013, the Netherlands supported a proposal to begin multilateral discussions on killer robots, which it said raise “many legal, ethical and policy questions.” The Netherlands said it considers “fully autonomous weapon systems, which can change their goal-function themselves or alter pre-programmed conditions and parameters, not to be under meaningful human control and considers them therefore prohibited under international law.” National policy is based on a 2015 report by two advisory councils and finds that meaningful human control in the programming phase before deployment of weapons systems is sufficient and not necessary over the selection and attack of targets. The Netherlands has said it “has no plans for the development of completely autonomous systems.” It has rejected calls to ban fully autonomous weapons as “inexpedient and unfeasible, mainly due to the fact that most artificial intelligence technology comes from civilian developments.”

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national parliament adopted a resolution calling for a legally binding instrument on new weapons technologies, including autonomous weapons. The Netherlands participated in every CCW meeting on lethal autonomous weapons systems in 2014-2019.

New Zealand

At the UN General Assembly in October 2013, New Zealand said that governments should work with civil society to develop and implement effective solutions to challenges raised by new technologies such as fully autonomous weapons. In May 2019, Minister for Disarmament and Arms Control Winston Peters said, “New Zealand has...concerns about the legal, ethical and human rights challenges posed by the development and use of lethal autonomous weapons systems.” He said, “our view is that international law already sets limits” on such weapons and said New Zealand would focus on using existing law “to make sure there will always be meaningful human control over weapons incorporating autonomy.” New Zealand participated in every CCW meeting on killer robots in 2014-2019.

Nicaragua

In November 2015, Nicaragua expressed concern that fully autonomous weapons would “not guarantee the distinction between civilians and combatants, nor the assessment of proportionality and precaution established by international humanitarian law.” It has warned that such weapons “will be incompatible with human rights law.” Nicaragua

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called for a preemptive ban on lethal autonomous weapons systems in April 2016.\textsuperscript{190} Nicaragua participated in every CCW meeting on killer robots in 2014-2019.

**North Macedonia**

North Macedonia first commented on killer robots in 2019, when its representative chaired the CCW talks on lethal autonomous weapons systems. North Macedonia supports the development of “a normative and operational framework” to address rising concerns over killer robots.\textsuperscript{191} North Macedonia first participated in CCW meetings on killer robots in 2019.

**Norway**

In May 2014, Norway acknowledged ethical and legal concerns raised by lethal autonomous weapons systems, which it warned “could blur lines of responsibility and accountability.”\textsuperscript{192} Norway considers such weapons to be “weapons systems that would search for, identify, and attack targets, including human beings, using lethal force and without a human operator intervening.”\textsuperscript{193} Norway said in August 2018 that it has not decided if lethal autonomous weapons systems “warrant the development of a new international instrument.”\textsuperscript{194} Norway participated every CCW meeting on killer robots in 2014-2019. The ethics committee of the Norwegian Government Pension Fund Global recommended in June 2020 that the Fund add lethal autonomous weapons systems to the...
exclusion list of weapons that it will not invest in. The Norwegian parliament will consider and vote on the proposal in 2021.

**Pakistan**

At the Human Rights Council in May 2013, Pakistan said that lethal autonomous weapons systems “raise complex moral, ethical, and legal dilemmas” and became the first nation to call for them to be prohibited, citing the precedent provided by the preemptive ban on blinding lasers. Pakistan also delivered a statement on behalf of the Organization of the Islamic Conference, representing more than 50 states, which warned that removing human control from the use of force “fundamentally changes the nature of war” and raises the potential for an “accountability gap.” Pakistan has repeatedly called for a new international ban treaty since then and has rejected lethal autonomous weapons systems as “illegal, unethical, inhumane, and unaccountable as well as destabilizing for international peace and security.” Pakistan participated in every CCW meeting on killer robots in 2014-2019.

**State of Palestine**


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Panama

Panama called for a preemptive ban on lethal autonomous weapons systems in December 2016, stating such weapons are “contrary to international humanitarian law.”\(^{200}\) Panama has expressed ethical, legal, and technical concerns with such weapons, arguing, “it is inadmissible that mere machines can take independent decisions on the life and death of people,” and it cites the precedent provided by the CCW's preemptive ban on blinding lasers.\(^{201}\) In November 2019, Panama warned that fully autonomous weapons would not comply with international humanitarian law or international human rights law, would lead to an arms race and undermine international security, as well as be at risk from technical failures and cyber attacks.\(^{202}\) Panama participated in every CCW meeting on killer robots in 2016-2019.

Peru

In December 2016, Peru called for an international treaty to prohibit development, acquisition, and use of fully autonomous weapons.\(^{203}\) In November 2017, it called such weapons a threat to human rights and said that weapons systems that lack meaningful human control should be prohibited.\(^{204}\) Peru has warned that lethal autonomous weapons systems could lead “a new arms race and an exacerbation of armed conflict,” with “a negative impact on our efforts to maintain international peace and security.”\(^{205}\) Peru says it


as “fundamental to have a certain level of human control” over the use of force.\textsuperscript{206} Peru participated in CCW meetings on killer robots in 2014 and 2016-2019.

### The Philippines

In April 2016, the Philippines supported continuing multilateral talks on lethal autonomous weapons systems and suggested that future meetings consider how to retain meaningful human control over the use of force.\textsuperscript{207} The Philippines says that new technologies pose “an immense challenge to the disarmament community,” but it has not supported proposals to ban fully autonomous weapons.\textsuperscript{208} The Philippines participated in CCW meetings on killer robots in 2016-2019.

### Poland

Poland said that human beings must maintain control over “kill decisions” in April 2015, asking, “can a machine be allowed to decide whether to kill?” and answering, “the military answer to that question is simply NO, we want and have to be in control.”\textsuperscript{209} Poland says “the type and degree of human control needs to be evaluated to establish limits on autonomy in weapons systems.”\textsuperscript{210} At the UN Security Council in August 2019, Poland’s President and Minister for Foreign Affairs Jacek Czaputowicz flagged challenges posed by “new developments in contemporary armed conflict,” particularly “artificial intelligence.


\textsuperscript{207} The Philippines suggested, for example, the following questions: “Would we seek to curtail the development of technology or related technologies for the development of autonomous weapons systems?,” “Would we seek to ban the development of autonomous weapons systems...or do we regulate or control its application or deployment?,” and “What methodologies do we envision to ensure compliance or adherence with agreed-to actions?” Government of the Philippines, Statement to the Convention on Conventional Weapons informal meeting of experts on lethal autonomous weapons systems, April 13, 2016, http://conf.unog.ch/digitalrecordings/index.html?guid=public/61.0500/B3431A05-F41F-489C-B2AA-2599EBF1A9D0_10h08&position=7187 (accessed July 20, 2020).


and autonomous weapons” that “are reducing the role of humans more broadly.” Poland has not supported calls to ban fully autonomous weapons. Poland participated in every CCW meeting on killer robots in 2014-2019.

Portugal
At the UN General Assembly in October 2014, Portugal supported continuing multilateral talks on lethal autonomous weapons systems. Portugal says it “shares specific humanitarian, moral, and legal concerns” over such weapons and sees a need to retain human control over critical functions of weapons systems. Portugal has not supported proposals to ban fully autonomous weapons and instead suggested in March 2019 that states focus on examining how existing international law applies to such weapons. Portugal participated in every CCW meetings on killer robots in 2014-2019.

Romania
At the UN General Assembly in October 2015, Romania supported continuing multilateral talks on lethal autonomous weapons systems. Romania has not elaborated its views on concerns over removing human control from the use of force or commented on calls to ban fully autonomous weapons. Romania participated CCW meetings on killer robots in 2014 and 2016-2019.

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Russia

At the Human Rights Council in May 2013, the Russian Federation said that lethal autonomous weapons systems “could have serious implications for societal foundations, including the negating of human life,” and could “significantly undermine the ability of the international legal system to maintain minimal legal order.” Russia has consistently opposed proposals to negotiate a legally binding instrument on such weapons or other measures, as it says “existing international law, including international humanitarian law, has some very important restrictions that fully cover weapons systems that have high degrees of autonomy.” Russia says it disagrees that lethal autonomous weapons will be “a reality in the near future,” but it is researching, developing, and investing in autonomous weapons systems and has made military investments in artificial intelligence and robotics a top national defense priority. In November 2019, Russia argued that the concepts of “human control” and “human involvement” involve subjective assessments and are irrelevant. Russia participated in every CCW meeting on killer robots in 2014-2019.

San Marino

At the UN General Assembly in October 2019, San Marino said it “believes that meaningful human control is required over life and death decisions” and called for the development of new international standards on lethal autonomous weapons systems. San Marino is not a CCW state party and did not participate in CCW meetings on killer robots in 2014-2019.

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Sierra Leone

At the UN Human Rights Council in May 2013, Sierra Leone expressed support for national moratoria on lethal autonomous weapons “until an internationally agreed-upon framework is established.” Sierra Leone has articulated several concerns over removing human control from the use of force, such as lack of accountability, “vulnerability to cyber attacks,” and “human rights and humanitarian impacts.” It has expressed interest in developing a legally binding instrument to address concerns raised by lethal autonomous weapons systems. Sierra Leone attended every CCW meeting on killer robots in 2014-2019.

Slovakia

In December 2016, Slovakia supported a proposal to formalize multilateral talks on lethal autonomous weapons systems. Slovakia has not elaborated its views on concerns over removing human control from the use of force or commented on the call to ban fully autonomous weapons. Slovakia participated in every CCW meeting on killer robots in 2014-2019.

Slovenia

Slovenia supported formalizing multilateral talks on lethal autonomous weapons in December 2016. It concurs that “such weapons raise a number of ethical, legal, moral,
and technical, as well as international peace and security related questions.”

226 At the UN General Assembly in October 2016, Slovenia said it was “concerned” by “the growth of new weapon technologies” and stressed the “necessity for human control over all autonomous weapon systems.”

227 It has not commented on calls to ban fully autonomous weapons. Slovenia participated in every CCW meeting on killer robots in 2015-2019.

South Africa

At the UN General Assembly in October 2013, South Africa expressed interest in beginning multilateral deliberations on lethal autonomous weapons systems. In South Africa’s view, the possibility of weaponizing artificial intelligence and robotics “raises fundamental ethical, legal, operational, and political questions.” It has expressed concern at the “humanitarian implications” of fully autonomous weapons, their potential impact on human rights, and doubts they could comply with “basic international humanitarian law rules of distinction, proportionality, and military necessity.” South Africa has affirmed the “necessity for human control in the selection of targets to enforce accountability.”

228 Since April 2018, it has called for a legally binding instrument to regulate lethal autonomous weapons systems. South Africa attended every CCW meeting on killer robots in 2014-2019.


South Korea

In November 2013, South Korea, also known as the Republic of Korea, supported a proposal to open multilateral talks on lethal autonomous weapons systems. South Korea said in April 2015 that it is “wary of fully autonomous weapons systems that remove meaningful human control from the operation loop, due to the risk of malfunctioning, potential accountability gap, and ethical concerns.” South Korea said in April 2018 that it is “premature” to negotiate a legally binding instrument on lethal autonomous weapons systems and requested more meetings “to enhance our common understanding...without prejudging specific policy outcomes.” South Korea is researching, developing, and investing in military applications of artificial intelligence and weapons systems with autonomy in their functions, but says it does not possess lethal autonomous weapons systems and does not intend to develop or acquire them. South Korea participated in every CCW meeting on killer robots in 2014-2019.

Spain

Spain supported a proposal to begin multilateral talks on lethal autonomous weapons systems in November 2013 and expressed interest in exploring ethical and legal concerns. Spain said in April 2018 that it does not possess lethal autonomous weapons systems and “does not intend to develop or acquire them in the future.” Spain says that...
“all lethal weapons with some degree of autonomy should be subject to meaningful human control.” Spain has not supported proposals to ban fully autonomous weapons. It instead “reiterates that the respect of IHL requires sufficient human control on all weapons systems.” Spain participated in every CCW meeting on killer robots in 2014-2019.

Sri Lanka
In April 2015, Sri Lanka expressed numerous accountability, ethical, and other concerns with fully autonomous weapons, including their potential to negatively affect international security, “escalate the pace of warfare,” and “undermine the existing arms controls and regulations, to aggravate the dangers of asymmetric warfare, and destabilize regional and global security.” At the UN General Assembly in October 2019, Sri Lanka proposed the negotiation of a legally binding framework on lethal autonomous weapons systems, “with meaningful human control as its central thrust.” Sri Lanka participated in every CCW meeting on lethal autonomous weapons systems in 2015-2019 and served as CCW president in 2016, when the CCW talks were formalized.

Sweden
Sweden said in 2014 that it could not “foresee a situation in the near future in which a weapon system would be operated without any human control or oversight” thereby providing “full combat autonomy to machines.” Sweden has expressed its desire for

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humans to always be in the decision-making loop for decisions to use force against persons. Sweden’s officials have not supported proposals to negotiate a legally binding instrument on killer robots. However, in November 2019, Foreign Minister Ann Linde and Deputy Prime Minister Isabella Lövin acknowledged, “we have a responsibility to act while there is time,” and established a committee to make “concrete proposals on how to achieve an effective ban” on lethal autonomous weapons systems. Sweden participated in every CCW meeting on killer robots in 2014-2019.

Switzerland

At the Human Rights Council in May 2013, Switzerland said that “in no circumstances may states delegate their responsibility when it comes to the use of lethal force.” In November 2013, Switzerland supported a proposal to open multilateral talks on lethal autonomous weapons systems, which it said raise “complex” political, military, technological, legal, and ethical questions. Switzerland has expressed concern over “development of weapons systems in which their acquisition, identification and attack of targets, including human ones, are not subject to meaningful human control.” In Switzerland’s view, “lethality” should not be conceptually regarded as a prerequisite characteristic of autonomous weapons systems. Switzerland has expressed interest in

practical measures aimed at preventing weapons systems that would violate international law, but it has not supported calls to ban fully autonomous weapons. Switzerland participated in every CCW meeting on killer robots in 2014-2019.

Thailand
At the UN General Assembly in October 2018, Thailand expressed concern at the “wide and understudied implications” of lethal autonomous weapons systems and affirmed “the importance of respecting and evolving international humanitarian law.” It has not commented on calls to ban such weapons and retain meaningful human control over the use of force. Thailand is not a CCW state party. It attended CCW meetings on killer robots in 2014-2015, but not in 2016-2019.

Tunisia
At the UN General Assembly in October 2018, Tunisia said that with regard to lethal autonomous weapons systems, “we hope the appropriate measures will be taken to avoid militarization” and appealed for “regulation of the use of artificial intelligence for military purposes.” Tunisia has not commented on calls to ban fully autonomous weapons and retain meaningful human control over the use of force. Tunisia participated in CCW meetings on killer robots in 2015-2017, but not in 2014 or 2018-2019.

Turkey
In November 2013, Turkey supported a proposal to begin multilateral talks on lethal autonomous weapons systems. In April 2016, Turkey said that “such weapon systems do not exist and we are working on an issue which is still hypothetical,” therefore, “we

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253 Government of Tunisia, Statement to the UN General Assembly First Committee on Disarmament and International Security, October 17, 2018. Notes by Human Rights Watch.
hesitate on the accuracy of a general prohibition preemptively.” It also affirmed the “need for human control and accountability” of weapons systems. Turkey is developing, producing, and using various weapons systems with autonomous functions. Turkey participated in every CCW meeting on killer robots in 2014-2019.

Uganda

Uganda called for a preemptive ban on lethal autonomous weapons systems in November 2017. It also aligned itself with a statement by the Non-Aligned Movement calling for a legally binding instrument on such weapons. Uganda participated in every CCW meeting on killer robots in 2014-2019.

Ukraine

In November 2013, Ukraine supported the proposal to commence multilateral talks on lethal autonomous weapons systems. It has never elaborated its views on concerns over removing human control from the use of force or commented on calls to ban fully autonomous weapons. Ukraine participated in CCW meetings on killer robots in 2015-2016, but not in 2014 or 2017-2019.

United Kingdom

At the Human Rights Council in May 2013, the United Kingdom said it considers existing international humanitarian law to be “sufficient to regulate the use” of lethal autonomous weapons and “therefore has no plans to call for or to support an international ban on

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them.” In 2011, the UK Ministry of Defence said it has “no intention to develop systems that operate without human intervention in the weapon command and control chain, but it is looking to increase levels of automation where this will make systems more effective.” The UK said in November 2017 that “there must always be human oversight and authority in the decision to strike” and said that responsibility lies “with the commanders and operators.” The UK is developing various weapons systems with autonomous functions. In the 2019 general elections in the UK, the Scottish National Party called for a ban on lethal autonomous weapons. The UK participated in every CCW meeting on killer robots in 2014-2019.

United States
At the Human Rights Council in May 2013, the United States said that lethal autonomous weapons systems raise “important legal, policy, and ethical issues” and recommended further discussion in an international humanitarian law forum. A 2012 Department of Defense policy directive on autonomy in weapons systems was renewed without substantive amendments in 2018 for another five years. The policy permits the development of lethal autonomous weapons systems, but the US insists that “it neither

encourages nor prohibits the development of such future systems.” The US is investing heavily in military applications of artificial intelligence and developing air, land, and sea-based autonomous weapons systems. In August 2019, the US warned against stigmatizing lethal autonomous weapons systems because, it said, they “can have military and humanitarian benefits.” The US regards proposals to negotiate a new international treaty on such weapons systems as “premature” and argues that existing international humanitarian law is adequate. The US participated in every CCW meeting on killer robots in 2014-2019.

Venezuela

In December 2016, Venezuela called for a ban on the “development, acquisition, trade, deployment, and use of lethal autonomous weapons systems.” Venezuela opposes entrusting machines to make life and death decisions without any human intervention and says that human life “cannot be programmed.” As president of the Non-Aligned Movement (NAM) in 2016-2019, Venezuela often reiterated NAM’s call for a legally binding instrument stipulating prohibitions and regulations on lethal autonomous weapons systems. Venezuela participated in every CCW meeting on killer robots in 2016-2019.

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Zambia

In April 2015, Zambia said that delegating “life and death decisions to machines” is “against human rights.” Zambia said in April 2016 that existing international humanitarian law is inadequate and insufficient to address concerns raised by lethal autonomous weapons systems and said “a ban must be on the table.” Zambia called for the negotiation of a new international treaty on lethal autonomous weapons systems in November 2017. Zambia participated in CCW meetings on killer robots in 2015-2017, but not in 2014 or 2018-2019.

Zimbabwe

In November 2015, Zimbabwe affirmed the need to “maintain meaningful human control over military weapons or weapons with a dual use” and called for a preemptive ban on lethal autonomous weapons systems. Zimbabwe is not a CCW state party and did not participate in CCW meetings on killer robots in 2014-2019.

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Acknowledgments

This report was researched and written by Mary Wareham, advocacy director in the arms division at Human Rights Watch. Wareham coordinates the Campaign to Stop Killer Robots, the international coalition of more than 160 nongovernmental organizations in 65 countries working to prohibit fully autonomous weapons and retain meaningful human control over the use of force.275

This report was reviewed and edited by arms division executive director Steve Goose and senior researcher Bonnie Docherty. James Ross, legal and policy director, and Tom Porteous, deputy program director, provided legal and program review. This report was prepared for publication by Jacquelynn Kantack, associate in the arms division, Fitzroy Hepkins, senior administrative manager, and José Martinez, administrative officer.

Weapons systems that select and engage targets without meaningful human control are unacceptable and need to be prevented. All countries have a duty to protect humanity from this dangerous development by banning fully autonomous weapons, or killer robots. Retaining meaningful human control over the use of force is an ethical imperative, a legal necessity, and a moral obligation.

*Stopping Killer Robots* reviews the positions of 97 countries that have publicly elaborated their views on lethal autonomous weapons systems since 2013. Most participated in eight Convention on Conventional Weapons (CCW) meetings on lethal autonomous weapons systems in 2014-2019, while several raised concerns over killer robots at the United Nations Human Rights Council and UN General Assembly.

This report shows that most of these countries support calls for a new international treaty to ban or restrict lethal autonomous weapons systems. The main opponents to regulation are Russia, the United States, and a handful of other nations that are investing heavily in the military applications of artificial intelligence and developing air, land, and sea-based autonomous weapons systems.

The vast majority of countries regard human decision-making and control as critical to the acceptability and legality of weapons systems. A new international ban would lay down explicit rules to ensure appropriate constraints on autonomy in weapons systems and show that nations are serious about responding with urgency to this existential threat to humanity.

*All countries have a duty to save humanity by retaining meaningful human control over the use of force and banning fully autonomous weapons.*

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