



# CAMPAIGN TO **STOP** KILLER ROBOTS



## *Report on Activities*

Convention on Conventional Weapons third informal meeting of experts on lethal  
autonomous weapons systems  
United Nations Geneva  
11-15 April 2016

## **About this report**

This Campaign to Stop Killer Robots report details activities undertaken at the third Convention on Conventional Weapons (CCW) experts meeting on fully autonomous weapons held at the United Nations in Geneva on 11-15 April 2016. It reviews government contributions to the meeting and records the campaign's role.

Campaign coordinator Mary Wareham of Human Rights Watch prepared this report, drawing from statements posted online by the CCW implementation support unit and WILPF's Reaching Critical Will Project as well as from on notes of the deliberations taken by WILPF and by Bonnie Docherty of Human Rights Watch and her students Lan Mei and Kristen Zornada at Harvard Law School's International Human Rights Clinic.

This report is available on the Campaign to Stop Killer Robots website at: [www.stopkillerrobots.org](http://www.stopkillerrobots.org)

Washington DC  
27 June 2016

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## **Summary Overview**

More than three-quarters of the 123 high contracting parties to the 1980 Convention on Conventional Weapons (CCW) participated in its third informal meeting of experts on lethal autonomous weapons systems at the United Nations (UN) in Geneva on 11-15 April 2016.<sup>1</sup> Representatives from 94 countries attended: 82 high contracting parties, one signatory, and 11 non-signatories.<sup>2</sup> The number of participating states was unusually high for an informal meeting of experts and an increase on the previous experts meetings held on 13-16 May 2014 and 13-17 April 2015, attended by 87 states and 90 states respectively.

Ambassador Michael Biontino of Germany chaired the third CCW experts meeting after chairing the previous one in 2015.<sup>3</sup> He invited ambassadors from Chile, Colombia, Finland, France, Sierra Leone, South Korea, Sri Lanka, and Switzerland to serve as “friends of the chair” by facilitating sessions on five broad topics relating to autonomy, definitions, international humanitarian law including weapons reviews, human rights and ethics, and security issues.<sup>4</sup> Ambassador Biontino invited a total of 34 academics and other individuals—12 of them women—provided expert presentations that helped lead-off deliberations.<sup>5</sup>

As with the previous meetings, UN agencies, notably the UN Institute for Disarmament Research, and the International Committee of the Red Cross (ICRC) participated. The Campaign to Stop Killer Robots delegation to the meeting consisted of 40 campaigners from a dozen member organizations. (See “campaign activities” section)

This strong and diverse participation resulted in substantive deliberations with an encouragingly high level of engagement and interest. The Philippines spoke on killer robots for the first time, making a total of 67 countries have articulated their views on this subject since 2013.<sup>6</sup>

### ***Common elements***

The meeting saw general agreement that lethal autonomous weapons systems do not exist yet. States including Ecuador, Egypt, France, Germany, Israel, Japan, South Korea, Mexico, Poland, Russia, South Africa, Spain, Switzerland, Turkey, UK, and US affirmed that lethal autonomous weapons systems do not exist.

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<sup>1</sup> The CCW’s formal title is the 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. The 123 ‘high contracting’ or state parties to the CCW include all five permanent members of the UN Security Council. The last state to ratify the CCW was Lesotho on 26 April 2016. There are five signatories: Afghanistan, Egypt, Nigeria, Sudan, and Vietnam.

<sup>2</sup> States such as China, Israel, Japan, Russia, and the US had large delegations of more than 6 people with several from capital.

<sup>3</sup> Ambassador Jean-Hugues Simon-Michel of France chaired the first CCW meeting on lethal autonomous weapons systems in May 2014. He was replaced in 2015 by Ambassador Alice Guitton, who is served as a friend of the chair of the third CCW meeting.

<sup>4</sup> The new friends of the chair from the previous meetings were Colombia and France.

<sup>5</sup> Roberta Arnold, Danièle Bourcier, Anja Dahlmann, Merel Ekelhof, Denise Garcia, Cecile Hellestveit, Neha Jain, Katrine Nørgaard, Gro Nystuen, Heather M. Roff, Lucy Suchman, and Kimberley Trapp.

<sup>6</sup> A total of 67 countries have for the first time elaborated their views publicly on lethal autonomous weapons systems in a multilateral forum: 44 states in 2013, seven in 2014, fifteen in 2015, and one in 2016. Most states spoke at the Convention on Conventional Weapons as well as the United Nations General Assembly. Almost two-dozen spoke in the first debate on the matter in May 2013 at the Human Rights Council.

Countries including Belgium, Israel, France, Netherlands, Sweden, Switzerland, UK, and US elaborated their views on national-level legal reviews required by Article 36 of Additional Protocol I (1977) of the 1949 Geneva Conventions for the acquisition or development of new weapons systems.

As was the case at the two previous meetings, the notion of meaningful human control of weapons systems was referred to throughout the meeting, reflecting its centrality to the debate as a touchstone. Campaign to Stop Killer Robots members called on states to retain meaningful human control over the selection of targets and over every individual attack or use of force by banning lethal autonomous weapons systems. Other formulations were proposed, including by the US, which articulated its preference for “appropriate levels of human judgment.”

The CCW is a framework treaty that prohibits or restricts certain conventional weapons deemed to be excessively injurious or to have indiscriminate effects and during the meeting, Algeria, Chile, Costa Rica, Mexico, and Nicaragua called for a preemptive ban on lethal autonomous weapons systems, making a total of 14 nations that now support this goal.<sup>7</sup> Throughout the meeting, Cuba, Ecuador, Egypt, the Holy See, and Pakistan forcefully reiterated their strong desire for a preemptive ban.

The United States again spoke favourably about increasing autonomy in weapon systems, citing perceived benefits in precision and the reduction of civilian casualties. Israel said lethal autonomous weapons systems might provide military benefits and humanitarian advantages. China and to a lesser extent Russia spent much of the meeting as they have done previously by reacting to the positions of other states without providing any information about their own position on dealing with or developing lethal autonomous weapons systems.

### ***Recommendations***

The meeting concluded on Friday, 15 April after reaching agreement on [recommendations](#) for the CCW’s Fifth Review Conference to be held in December 2016. The recommendation reads that states “may decide to establish” an open-ended Group of Governmental Experts to explore and agree on “possible recommendations on options.” This recommendation will form the basis for mandate language to be formally adopted by states at the Review Conference on 16 December.

States deferred recommending a specific period of time for the Group of Governmental Experts (GGE) to meet in 2017 and instead the recommendations state in a footnote that the “appropriate period of time” will be the subject of consultations until the Review Conference, including at a preparatory meeting on 31 August-2 September 2016. At the experts meeting there was wide support for a proposal that the GGE meet for a total of approximately six weeks over 2017 and 2018.

The recommendations propose that the GGE identify the “characteristics” of a lethal autonomous weapons system and elaborate a “working definition.” It should consider how the weapons would apply to and comply with relevant principles and rules of

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<sup>7</sup> Algeria, Bolivia, Chile, Costa Rica, Cuba, Ecuador, Egypt, Ghana, Holy See, Mexico, Nicaragua, Pakistan, State of Palestine, and Zimbabwe.

international law. The recommendations contain a long list of topics for the GGE to consider, namely: compliance with applicable international humanitarian law, ethical and moral questions, effects on regional and global security and stability, effects on the threshold for armed conflicts, risk of an arms race, proliferation risks including to and by non-state actors, and related risks posed by “cyber operations.”

The recommendations affirm the “critical importance” of “views on appropriate human involvement with regard to lethal force and the issue of delegation of its use.” In its concluding remarks, Biontino remarked that a “rapprochement” was reached between meaningful human control and appropriate human judgment with the awkward phrase “appropriate human involvement.”

If agreed in December, the creation of a GGE will move the CCW work to address killer robots concerns from informal to formal status and create the expectation of a concrete outcome.<sup>8</sup> However, the GGE should be aimed at producing more than just “options.” The recommendations are unambitious as they fail to reflect a sense of urgency to ensuring that humans retain control over weapon systems and the use of force.<sup>9</sup>

The Campaign to Stop Killer Robots believes that the CCW’s process on lethal autonomous weapons systems could lead to a new protocol preemptively banning these weapons and supports continued talks via a GGE, but not at any cost. A long, drawn-out process that achieves a weak or no result must be avoided. The recommendations describe the discussion on lethal autonomous weapons systems as one of the CCW’s “priorities” that should be continued “while not prejudging discussions in other fora.” If the Fifth Review Conference fails to continue the CCW deliberations on lethal autonomous weapons systems in a substantial way, one route to conclude a ban would be to start deliberations outside the CCW in another forum.<sup>10</sup>

The Campaign to Stop Killer Robots calls on states to retain meaningful human control over the selection of targets and over every individual attack or use of force by banning lethal autonomous weapons systems. It urges all nations to develop and articulate

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<sup>8</sup> An open-ended Group of Governmental Experts has been the established method of work for CCW deliberations over the past two decades on concerns ranging from landmines to explosive remnants of war to cluster munitions. Based on that long-standing precedent, the Group of Governmental Experts would be open to all interested states regardless of whether they have joined the framework convention and its five protocols, as well as to NGO representatives. Key documents would be translated into the official UN languages. A GGE would therefore help to enable the broadest possible participation by all states, including developing nations, as China and others have requested.

<sup>9</sup> Editorial by Ray Acheson, *CCW Report*, 15 April 2016.

<http://www.reachingcriticalwill.org/images/documents/Disarmament-fora/ccw/2016/meeting-experts-laws/reports/CCWR3.6.pdf>

<sup>10</sup> The CCW’s response to pressing issues of civilian harm has been criticized as inadequate ever since the failure of the First Review Conference in 1996 to effectively address the humanitarian impact of antipersonnel landmines. The CCW, however, provided a useful incubator for efforts to address the humanitarian consequences of antipersonnel landmines in the 1990s and cluster munitions in the 2000s. After the CCW adopted a weak amended protocol on landmines at the First Review Conference, Canada launched the Ottawa Process that created the 1997 Mine Ban Treaty. Again, it was the failure of the CCW’s Third Review Conference to effectively tackle the humanitarian concerns over unacceptable harm caused by cluster munitions in 2006 that led Norway to embark on the Oslo Process to establish the 2008 Convention on Cluster Munitions.

national policy on these weapons in consultation with relevant actors, including civil society.

## ***Report on the Third Meeting***

### **Lead-Up**

After holding two informal meetings of experts on lethal autonomous weapons systems in May 2014 and April 2015, states agreed by consensus at their annual CCW meeting on 13 November 2015 to hold another five-day meeting on the matter in 2016. Ambassador Ravinath Aryasinha of Sri Lanka served as president of the annual meeting and secured consensus from states to include a new element in mandate for the April 2016 meeting that states that participating countries “may agree by consensus on recommendations for further work for consideration by the CCW’s 2016 Fifth Review Conference.”

In advance of the 2016 experts meeting, Ambassador Biontino circulated a “[food for thought](#)” paper detailing issues to be covered at the 2016 experts meeting together as well as a [draft agenda](#), including the list of speakers. Five nations responded to Biontino’s suggestion to submit papers in advance of the meeting elaborating on their policy views: Canada, France, Holy See, Japan, and Switzerland. The ICRC also provided a working paper for the first time.

Several meetings and actions on killer robots took place in late 2015 and early 2016 in the lead-up to the experts meeting, including:<sup>11</sup>

- On 21 January, the World Economic Forum and TIME convened a [panel discussion](#) to consider “what if robots went to war?” in Davos, Switzerland. Killer robots were first raised at the forum during a 2015 panel on technology.
- On 4 February, the UN Special Rapporteur on extrajudicial, summary or arbitrary executions and the Special Rapporteur on the rights to freedom of peaceful assembly and of association issued a [report](#) to the Human Rights Council that recommended: “Autonomous weapons systems that require no meaningful human control should be prohibited.”<sup>12</sup>
- In early March, the ethics council of the \$830 billion Norwegian Government Pension Fund Global [announced](#) its intent to begin monitoring companies investing in the potential development of fully autonomous weapons systems and see if such investments would be contrary to the fund’s investment policies and ethical guidelines. Council chair Johan H. Andresen [described](#) the initiative as “a statement of fair warning, a heads-up.”
- On 15-16 March, the ICRC convened its second experts meeting on autonomous weapons systems attended by more than a dozen states. Campaign members Heather Roff and Richard Moyes gave presentations.

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<sup>11</sup> This is a partial list for illustrative purposes only. The campaign’s previous report on activities from the CCW’s annual meeting in November 2015 details outreach and activities undertaken in 2015, while this overview covers the period since the annual meeting.

<sup>12</sup> Campaign to Stop Killer Robots, UN rapporteurs call for ban,” 9 March 2016. <http://www.stopkillerrobots.org/2016/03/unreport/>

- On 17-18 March, the German Foreign Office & German Institute for International and Security Affairs SWP held a workshop in Berlin on defining autonomy and autonomous weapons.

## Opening and General Exchange

On Monday, 11 April, Pakistan's disarmament representative Ambassador Ms. Tehmina Janjua opened the meeting in her capacity as president-designate of the CCW's Fifth Review Conference in December 2016.<sup>13</sup> She proposed that the rules of procedure "be applied in flexible manner."

The chair of the meeting, Ambassador Biontino, invited states to share their positions on national policies and legal provisions as well as to outline their expectations on possible recommendations to be agreed by the meeting. He commented that there is a shared perception on where views are converging, including that "lethal force should not be delegated to machines without possibility of human intervention."

Biontino said he would share draft recommendations at the beginning of the week, then hold informal consults on Wednesday after the formal meeting ended for the day. He said the consultations would be "open-ended, in same format as we meet here" and said he was "open to bilateral discussions as well."

A total of 35 countries spoke in the general exchange of views with disarmament ambassadors delivering a number of statements.<sup>14</sup> The following morning, the meeting heard general statements from the rest of the speakers: UNIDIR, ICRC, the Center for New American Security (CNAS), and nine co-founders of the Campaign to Stop Killer Robots.<sup>15</sup>

The Netherlands announced new policy, stating that it does not support the deployment of weapons systems that lack meaningful human control, but cannot support a moratorium. It promised to review the policy in five years. The US emphasized that a 2012 Department of Defense policy directive "neither encourages nor prohibits" the development of lethal autonomous weapons systems, but rather "sets out what is required in the acquisition process."

Algeria said it is "in favor of a prohibition of acquisition, design, development, testing, deployment and transfer and use of lethal autonomous weapons systems through an international legally-binding instrument." The following speaker, Costa Rica, also called for a ban, stating "these weapons should be prohibited before they are built, in the same way as was done with blinding lasers." Throughout the meeting, Cuba, Ecuador, the Holy See and Pakistan articulated why lethal autonomous weapons systems should be banned as did all NGO speakers. Zambia said a ban must be "on the

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<sup>13</sup> Pakistan is the first Non-Aligned Movement (NAM) group member to serve as a CCW Review Conference president. It is also the first country to call for a ban on lethal autonomous weapons systems.

<sup>14</sup> Algeria, Australia, Austria, Canada, China, Costa Rica, Cuba, Ecuador, Finland, France, Germany, Holy See, India, Ireland, Israel, Italy, Japan, Republic of Korea, Mexico, Morocco, Netherlands, New Zealand, Pakistan, Poland, Russia, Sierra Leone, South Africa, Spain, Sri Lanka, Sweden, Switzerland, Turkey, UK, US, and Zambia.

<sup>15</sup> Article 36, AAR Japan, Human Rights Watch, International Committee for Robot Arms Control (ICRAC), Mines Action Canada, Nobel Women's Initiative, PAX, and the Women's International League for Peace and Freedom (WILPF).

table” as weapons reviews are not sufficient. Austria highlighted the ban call made by two UN Special Rapporteurs in their February 2016 report.

Several speakers affirmed the need to maintain meaningful human control of targeting and attack functions in weapons systems. Pakistan noted the term has “gained some traction” and said it “provides an approach to the weaponization of increasingly autonomous technologies but does not provide an answer to the technological, legal and moral requirements.” The US expressed interest in discussing the term further, but repeated its preference to use “appropriate levels of human judgment.”

Switzerland drew attention to its working paper entitled “towards a compliance based approach to LAWS” that suggests a focus on tasks rather than control. It describes LAWS as “weapons systems that are capable of carrying out tasks governed by IHL [international humanitarian law] in partial or full replacement of a human in the use of force, notably in the targeting cycle.” Switzerland argued that it is premature to draw a line between acceptable and unacceptable systems. It asked if the word “lethal” is necessary as less-than-lethal autonomous weapons are also relevant.

Most states expressed explicit support for a Group of Governmental Experts and none spoke against this proposal. Algeria, Ireland, Spain, and others cited the importance of human rights law and/or role of the Human Rights Council on this topic.

Australia, the Netherlands, and Turkey said that existing international humanitarian law is sufficient to deal with the multiple challenges posed by these weapons. New Zealand endorsed Switzerland’s paper calling for “compliance-based approaches.”

Israel expressly stated that it doesn’t support the call for a preemptive ban and proposed a “step-by-step approach.” Canada said it “does not believe a ban is the best approach now.”

More than a dozen states affirmed that lethal autonomous weapons systems do not exist. Spain said it does not have any types of LAWS nor “any intention to have them in the future.” Cuba and Japan offered their definitions of a lethal autonomous weapon system.

## **Session I: Mapping Autonomy**

On Monday afternoon, Ambassador Alice Guitton of France chaired the first session entitled “mapping autonomy” that began with six presentations by experts from France, the Netherlands, South Korea, Switzerland, and the US. The aim of the exercise was to map actual developments taking place or to be expected concerning autonomous systems in general.

- [Vincent Boulanin](#) described a project that SIPRI is undertaking in 2016 to “produce an evidence-based picture of current developments” of autonomy in the military sphere.”
- [Heather Roff](#) looked at the state of military weapons technology today, providing examples of “autonomy” in critical functions.
- [Mark Hopflinger](#) focused on human-machine “teaming” as well as mobility, swarms, and endurance.

- [David Shim](#) looked at the international trend embracing the use of drones or unmanned aerial vehicles.
- [Leon Kester](#) considered developments of autonomy including its application, the role of the human, and learning and “self-adaptation”
- [Didier Danier](#) defined LAWS according to three criteria: their ability to move freely (mobility), capability to target and fire a lethal weapon and ability to operate or function in total autonomy.

The Q & A saw brief comments and/or questions by six states and one NGO:

- Algeria asked about machine autonomy, adaptation, and the ability to systems to exercise judgment and adapt to changing environments.
- China observed that “experts are saying that these are designed to be safe but at same time, many experts, including Stephen Hawking, say artificial intelligence may cause the extinction of the human race.”
- Egypt said “if we all agree that LAWS do not exist, what’s the difficulty in taking a proactive step to ban these before they do exist?” It described a “contradiction” between “having national policies regulating them and not having them” because “if you don’t have these systems yet, what is the purpose of these policies?”
- Japan said that fully autonomous systems may be out of the command and control of military operators so “is there any necessity to develop such systems?”
- New Zealand and Sierra Leone had questions for the speakers.
- ICRAC chair Noel Sharkey addressed some myths about artificial intelligence and machine learning.

## **Session II: Working definitions**

Tuesday, 12 April began with statements from others that were deferred from the previous day due to the travel plans of invited experts. It did not escape attention that copies of the draft recommendations were distributed around the room as the non-governmental organizations spoke to demand stronger action. The chair then introduced them, noting that “all elements derived from last year and yesterdays’ discussions.” He said informal consultations would take place on Wednesday.

The rest of Tuesday was dedicated entirely to discussing how to move “towards a working definition” of lethal autonomous weapons systems. Ambassador Inchul Kim of the Republic of Korea chaired the morning session, which began with presentations by four speakers from Norway, the UK, and the US on the concepts or approaches of autonomy, critical functions, and predictability:

- Gro Nystuen said not all weapons categories regulated by treaties are exhaustively defined and described definitions as “more about process than substantive elements.” She said definitions of weapons systems are usually reached at the end of treaty negotiations.
- [Chris Jenks](#) called on states to focus on the critical functions and described attempts to quantify levels of autonomy as “unhelpful.” He asked what is concerning about weapons systems beyond selection and engagement? (e.g., self-fueling, navigating, diagnostics/repairing).
- [Lucy Suchman](#) offered a working definition of a “robotic weapons systems in which the identification and selection of human targets and initiation of violent

force is carried out under machine control.” She said certain critical functions like selection and firing on targets would be “delegated in a way that precludes human control.”

- [Wendell Wallach](#) affirmed the importance of reviewing the degree of unpredictable risk in autonomous weapons systems and said the decision should be on how broad the prohibition should be and not whether LAWS should be prohibited.

A record number of ten countries delivered detailed policy statements in the session describing their definition of a lethal autonomous weapons system. These are available from the CCW website and/or Reaching Critical Will Site. They also made the following comments:

- [France](#) said a lethal autonomous weapons system would be able to move in maritime/terrestrial space without human help, to select and engage targets, to “adapt to environment and behavior of objects and agents around it in unpredictable environment” and “fulfill a human-given mission.” France noted “it won’t be entirely predictable.”
- [Ireland](#) suggested starting with a definition of autonomous weapons systems and then using that “as a basis to address LAWS or FAWS or other subsets.” Ireland said it sees merit in the proposal advanced in the Swiss paper on working definition. It asked how to differentiate between “automatic, automated and autonomous” weapons systems.
- [Italy](#) found that lethal autonomous weapons systems would “adapt to changing environments regardless of pre-programming.” It described a ban as “premature.”
- [The Netherlands](#) said that lethal autonomous weapons systems would select and engage targets without any human involvement or control, but they “do not exist.”
- [New Zealand](#) said its view is that “the concept of human control – whether it is understood as meaningful, appropriate or effective - over the critical functions of weapon systems must be retained.” It said “we consider the most relevant aspects of autonomy to be those relating to the critical functions of a weapon system, i.e. the selection, engagement and tracking of a target.” New Zealand said it is studying Switzerland’s proposal that suggested efforts focus on “weapons systems that are capable of carrying out tasks governed by IHL in partial or full replacement of a human in the use of force, notably in the targeting cycle.”
- [Pakistan](#) described “lethality” as the “use of force to engage a target in defence or offensive mode to deprive human being of life and targeting other objects.” It defined “autonomy” as the “ability to select targets” for their critical functions.
- [Poland](#) said fully autonomous weapons do not exist yet. It expressed its preference to define them “in terms of meaningful human control” and described the presence of significant human control as a “prerequisite.”
- [Switzerland](#) found that lethal autonomous weapons systems have “autonomy in the targeting cycle where machine makes targeting determination and fires without human interaction.” It said “our definition speaks of ‘use of force’ without specifying whether it is lethal or not because it can also be used against property.” Switzerland also said it is “premature” to adopt a ban and instead

proposed that states “aim for a purpose-oriented working definition that corresponds to where we are in this debate.”

- The [UK](#) found that “A fully autonomous lethal weapon system ... is capable of understanding, interpreting and applying high level intent and direction based on a precise understanding and appreciation of what a commander intends to do.” Such a system “would decide to take - or abort - appropriate actions ... without human oversight, although a human may still be present.” It also affirmed the outcome “could be unpredictable.” The UK said that “existing highly automated weapons are not and should not be part of this discussion.” It affirmed the “UK’s policy on LAWS does not advocate a pre-emptive ban” because “it is too soon to ban something we cannot define.”

During the Q & A, seven other states commented or asked questions in addition to the the [ICRC](#) and [ILPI](#):

- Canada observed that “what’s unique and potentially problematic of LAWS is nature of human-machine interaction” and asked about “acceptable levels of risk.”
- China declined to provide its definition of a lethal autonomous weapons system, noting how difficult it is to come up with one. It asked “can we find something that is agreeable to all” with respect to the system’s functions, characteristics, effectiveness, target, and scenarios of deployment and use.
- Cuba described its definition of a lethal autonomous weapons system the day before during the general exchange of views. It said the “oversight by a human controller” over the critical functions of targeting and attack is essential because “in no circumstances is it acceptable for machines to make decisions on taking human lives.”
- Egypt observed that “on autonomy there seems to be an understanding that LAWS do not exist.” It found that artificial intelligence “that learns would be fully autonomous” and said “no empirical evidence exists and therefore unlikely we will ever reach it.”
- India declined to provide its definition of a lethal autonomous weapons system and said the definitions put forward are “self-serving” because they seek to “prohibit or whitewash” these weapons. India instead proposed defining the “scope of discussion” because “we’re not in a position to reach conclusions” and recommended the CCW find a specific definition from the “context” of the CCW’s “objectives and purposes.”
- Japan said a lethal autonomous weapons system would lack meaningful human control in their critical functions, namely the identification of a target and decision to attack. It described the use of force against a human target.
- Russia declined to provide its definition of a lethal autonomous weapons systems, calling it “complex” and asking what does meaningful human control mean? What constitutes lethality? It however recommended that the “interesting” working definition in the Swiss paper be “considered and discussed.”

## **Session II: Working definitions – continued**

Ambassador Beatriz Londono Soto of Colombia chaired the second part of the working definitions discussion on Tuesday afternoon, which began with four presenters from

Germany, the Netherlands, and the UK addressing indicator-based approaches, meaningful human control, and human judgment:

- [Anja Dahlmann](#) described a research project on “multidimensional autonomous risk assessment” and found that “it might be helpful to have a combination of qualitative approaches, such as meaningful human control, and quantitative indicators to define certain risks.”
- [Richard Moyes](#) proposed a working definition of LAWS as “weapons systems with elements of autonomy operating without meaningful human control.” He listed “key elements” to retain meaningful human control, including predictable and reliable technology, accurate information on objectives and context of the use of weapons, timely human judgment and action over the functions of weapons, and a framework for accountability.
- [Merel Ekeldof](#) emphasized the need to “draw a line between meaningful human control and what it is not.” She found that weapons do not operate in a vacuum but in the targeting process, which “provides many inputs for human decision making.”
- [Dan Saxon](#) said that priority should be given to enforcement of human-machine teamwork. In response to a question about the release of multiple LAWS at a given time by a given actor, he said a number of governments are already working on swarm technology. He proposed the CCW consider “how far should this technology be allowed to go before the concept of human-machine teamwork effectively becomes meaningless.”

In the discussion that followed, six states intervened to provide statements, make comments, or ask questions:

- China, Colombia, and Sierra Leone asked questions to the presenters.
- The [UK](#) provided a 3-page statement detailing its working definition of a fully autonomous lethal weapon system as “capable of understanding, interpreting and applying higher level intent and direction based on a precise understanding and appreciation of what a commander intends to do and perhaps more importantly why.” The weapons system should also have “a sophisticated perception of its environment and the context in which it is operating” and “would decide to take - or abort - appropriate actions to bring about a desired end state, without human oversight, although a human may still be present.”
- The [US](#) provided a 3-page statement explaining what it means by the concept of “appropriate levels of human judgment” and detailing how the term can be exercised in the use of “autonomous and semi-autonomous weapon systems, including potential LAWS.”
- India observed that the CCW has two purposes: prevention and regulation. It said it is unclear which applies and would like a definition to arrive at a balance that is acceptable to all.

### **Session III: International humanitarian law**

All of Wednesday, 13 April, was dedicated to considering “challenges to International Humanitarian Law” and while the CCW has often considered the sufficiency of existing international law, this year the chair has proposed the meeting hold an in-depth

discussion of Article 36 of Additional Protocol I of the Geneva Conventions concerning legal reviews of new weapons systems.

The morning session chaired by Ambassador Urs Schmid of Switzerland was supposed to feature “state presentations on current procedures, with an emphasis on possible best practices and/or benchmarks” concerning Article 36 weapons reviews. The four presenters included the International Committee of the Red Cross and UK and US academics:

- [Gilles Giacca](#) from the ICRC presented on legal reviews of new weapons, means, and methods of warfare.
- [Christopher Ford](#) recommended best practices for legal reviews of new weapons, including questions to ask concerning autonomy and testing.
- [Kimberly Trapp](#) looked at precautionary measures and feasibility. She found that human control over weapons is required due to the complexity involved on a battlefield.
- [Neha Jain](#) reviewed command responsibility, the notion of control in criminal law, and recklessness, negligence, liability, and future accountability.

The Q & A saw detailed interventions by 22 states as well as [Mines Action Canada](#):

- [France](#) said it is premature to discuss a preventive ban as international humanitarian law provides a relevant legal standard for addressing the legal issues raised. It stated that “we could not consider development and use of LAWS, unless they could respect IHL in complex environment.”
- [Poland](#) said the principle of distinction is hard enough for humans and affirmed that a human should always be involved in targeting process.
- China said it sees value in weapons reviews, but noted the failures and “deficiencies” in using them as “unilateral self-discipline mechanisms.” It asked if biological and cyber weapons were subject to review prior to their use.
- The [Netherlands](#) proposed formulating a “guide listing best practices” such as “meaningful human control with respect to the deployment of autonomous weapons.”
- Brazil agreed with China’s comments and noted the “dispute” about whether these weapons will comply international humanitarian law. It observed that Additional Protocol I seems like it is written to relate to actions performed by human beings and questioned its relevance to machines.
- [Germany](#) described how its Federal Ministry of Defense has a permanent steering group responsible for legal weapons reviews and circulated a [paper](#) providing further information and examples on the process.
- [Switzerland](#) said it is currently reviewing its legal reviews process for weapons and delivered a paper entitled “A purpose-oriented working definition for autonomous weapons systems.”
- [Sweden](#) gave a brief account of its experience with Article 36 weapons reviews.
- India observed that not all states conduct legal reviews and asked if those doing so could explain how many times they have rejected a weapon at the various stages of study, deployment, and post-deployment.
- Sierra Leone said “we’re talking about human lives” so lethal autonomous weapons systems should not be deployed “unless we are absolutely sure that these weapons are going to operate with a certain degree of reliability that conforms with international law.”

- The Philippines made its first statement on lethal autonomous weapons systems, reminding states of key principles that the CCW stands for, namely the duty to refrain from threat/use of force, the protection of civilians, and the dictates of humanity and public conscience. It called on states to “move forward and consider whether we should ban or regulate lethal autonomous weapons systems.”
- [Norway](#) said weapons that can search for, identify, and attack targets without human intervention raise ethical and legal concerns, including an accountability gap. It also observed how many core rules of international humanitarian law “presume presence of human judgment in the decision-making process.”
- The [UK](#) claimed there is no need for a preemptive ban as long as we ensure that weapons “can be used lawfully before being sanctioned for use.” It outlined five main areas considered by weapons reviews and found that responsibility lies with the human operator, and “flows up the chain of command.” The UK affirmed its “intelligent partnership” concept in which humans are assisted by autonomous systems.
- Canada described the legal review process as “extremely important” and said it underscores the “value and utility” of a “compliance-based approach” to lethal autonomous weapons systems as proposed by Switzerland.
- Belgium shared a [presentation](#) on its weapons reviews process prepared by the Belgian Legal Review Commission.
- New Zealand asked if states possess the technical knowledge required to analyse whether a breach of international humanitarian law has occurred.
- Japan said its legal team internally shares a weapons review at each phase of the acquisition process.
- The [US](#) shared its views on what a comprehensive weapon review process should entail for weapons with autonomous functions, including the need to “ensure that it is sufficiently predictable and reliable takes on a particular significance.” It again called for the CCW to develop “best practices” on weapons reviews as “an interim step” to addressing concerns over LAWS.
- Iraq asked if states develop an instrument, what is the guarantee those weapons would not be used against us? It asked “are we able to put aside our humanity and our ethics and let our weapons control us?”
- [Israel](#) provided its views on legal reviews of weapons systems, noting the “end goal” should be to ensure the weapon is “reliable and predictable.”
- Russia said it strictly complies with its obligation to conduct legal reviews of new weapons systems.

### **Session III: IHL - continued**

Ambassador Päivi Kairamo of Finland chairs the second law session on Wednesday afternoon, which featured speakers from Norway, Sweden, Switzerland, and the UK addressing accountability, transparency, and testing and verification procedures:

- [Robin Geiss](#) presented on risk management and state responsibility issues arising from violations from the use of autonomous weapons systems in military operations.
- [Cecilie Hellestveit](#) looked at the reciprocal nature of international humanitarian law, which she said is enforced primarily through command responsibility and a chain of accountability.

- [Roberta Arnold](#) considered criminal responsibility for international humanitarian law breaches by (the use) of LAWS.
- [Martin Hagstrom](#) found that the fielding of complex autonomous weapons will require “reliable” software and suitable doctrines, manuals, and training programs.

In the Q & A that followed, seven states spoke as well as [Human Rights Watch](#):

- Mexico announced that it favors “the negotiation of a legally-binding instrument to preemptively ban fully autonomous weapons.” It described the move as preventive “since the weapons still do not exist.” It affirmed that negotiations “should not necessarily be done through CCW.”
- Cuba said it is vital to preserve a human in-the-loop for the important decisions of targeting and firing. It said semi-autonomous systems require different analysis and deserve regulation though “not necessarily prohibition.”
- Algeria, Brazil, China, Germany, and Pakistan asked questions to the presenters.

### **Session IV: Human rights and ethics**

On the morning of Thursday, 14 April, Ambassador Marta Maurás of Chile chaired a session on human rights and ethical issues that featured speakers from Colombia, France, Israel, and South Africa:

- [Christof Heyns](#) is the UN Special Rapporteur on extrajudicial, summary and arbitrary executions and has authored several reports detailing concerns about the possible use of lethal autonomous weapons systems in armed conflict and law enforcement. The outgoing rapporteur reiterated that “autonomous weapons without meaningful human control should be banned.”
- [Eliav Liebllich](#) described the need for autonomous weapons systems to “exercise discretion.” He found the weapons risk lowering the threshold for going to war, because of the perception of minimized risk to the deploying force.
- [Daniele Bourcier](#) gave a presentation on programming artificial intelligence expertise, specifically professional “judge-like” decisions.
- [Pablo Kalmanovitz](#) reviewed the “tremendous, unforeseeable” risks posed by lethal autonomous weapons systems, which he said means it may be “morally decent” to preemptively ban them.

In the discussion that followed 15 states spoke in addition to [Amnesty International](#) and the Nobel Women’s Initiative:

- Canada acknowledged the perspective of victims and asked how the human dignity of the operator might be degraded through the use of LAWS.
- [Poland](#) observed the need to emphasize “human control over the decision-making and not over the effects” and cautioned against the use of “anthropomorphic terminology.”
- [Chile](#) said it is seriously concerned at the risks and negative impacts created by a lack of human control of autonomous weapons. It affirmed the need to frame the discussion via norms and endorsed the call for a preemptive ban on lethal autonomous weapons systems. Its representative told the campaign to “put us on the list” of ban states.

- Brazil asked how lethal autonomous weapons systems would affect human rights, particularly how "human-machine interaction" would impact human dignity.
- Cuba asked if the weapons affect other collective human rights, such as like the right of persons to self-determination.
- Egypt said with respect to legality "are there any circumstances where killer robots would be okay?"
- The [US](#) gave a detailed intervention that said it is "committed to ensuring the utmost respect for and adherence to human rights" when it comes to the use of any weapon systems "including potential LAWS."
- Sierra Leone said the 2013 call by Heyns for a moratorium on lethal autonomous weapons "makes a lot of sense."
- France asked if it is possible to code ethics into lethal autonomous weapons.
- Ireland affirmed that there are serious human rights concerns with lethal autonomous weapons and reiterated the relevance of the Martens Clause and question of "what is morally acceptable."
- Russia asked a question.
- India sees a need for the CCW to consider the impact of "LAWS" in symmetrical conflict as opposed to asymmetric conflict. It flagged the importance of the ethical and human rights dimension as well as the Martens Clause and matter of public conscience.
- Algeria asked will citizens one day agree to be judged by robots with legal codes.
- China repeated a proposal that it first made at the 2015 experts meeting "to preemptively ban certain evil weapons."
- Norway described the "great importance" of ethical issues and asked Heyns to comment on how autonomous weapons systems might be developed for use in law enforcement.
- [Costa Rica](#) said that use of these weapons could have repercussions for the right to life and human dignity and said because "machines are amoral" and "don't die" they "shouldn't be entitled to take decisions on life and death of human beings."

## **Session V: Security aspects**

Ambassador Yvette Stevens of Sierra Leone chaired the session on Thursday afternoon dedicated to considering possible regional and/or global destabilization due to the deployment of lethal autonomous weapons systems. It began with presentations by four speakers from Brazil, Estonia, Russia, and Sri Lanka:

- [Jayantha Dhanapala](#) cited lessons from history that show how prohibitions can work to prevent arms races and promote security. He affirmed "our collective moral and social responsibility to ensure international law protects human beings."
- [Vadim Kozyulin](#) also warned of arms races over autonomous weapons systems and increased military spending. He lists potential operational risks including the loss of communications, jamming of control, interception, cyber security failures, design failures, and hacking.
- [Denise Garcia](#) also spoke of the dangers of proliferation, weakening restraint in the use of force, and losing the protection of civilians. She said significant emerging global norms provided by humanitarian disarmament and preventive

regulations to protect civilians would be jeopardized by lethal autonomous weapons systems.

- [Eneken Tikk-Ringas](#) looked at the expected tactical and or strategic advantages to be derived from the use of lethal autonomous weapons systems, noting how “advanced capabilities constitute an important element of military deterrence.”

In the discussion that followed two states commented in addition to [ICRAC](#):

- China asked a question.
- [Pakistan](#) made a statement asking if the security dimension of LAWS are being sufficiently considered under the CCW framework as well as whether discussions by other multilateral fora would help, such as the UN General Assembly and the Conference on Disarmament.

### **Session V: Security aspects - continued**

On Friday morning, Ambassador Ravinatha Aryasinha of Sri Lanka chaired the second part of the session on security risks with speakers from Australia, Denmark, New Zealand, and Singapore. The presentations focused on proliferation risks, including to non-state actors and terrorists, and military value/operational risks of the deployment in different scenarios:

- [Jai Galliot](#) argued that humans can remain in meaningful human control even if they are not involved in the decision to use lethal force. He suggested employing the weapons “carefully” and putting a mechanism in place to ensure that designers, engineers, and others are involved in developing system that can be held accountable.
- [Katrine Norgaard](#) said that greater technology blurs the boundaries between legal, political, and ethical actions. She recommended a “practice and context-oriented approach to what might be called human-machine cooperative risk management.”
- [Collin S. L. Koh](#) discussed autonomous weapons systems in the maritime domain, specifically the Asia-Pacific, and found their high cost put them out of reach of most nations.
- [John Borrie](#) addressed “unintentional risks and system accidents” such as arms races and proliferation to non-state armed groups.

In the Q & A, three states intervened in addition to [ICRAC](#):

- Canada asked if the operational environment (air, land, sea) matters when considering the deployment of lethal autonomous weapons systems.
- China asked if programmers are responsible for their products, how is it possible to ensure responsibility for faulty systems?
- India said it sees a “high predisposition towards escalation” if symmetrical conflict involves the use of lethal autonomous weapons systems.

### **Concluding Session on Summary Report and Recommendations**

The final part of the 2015 CCW experts meeting of summary remarks from the eight friends of the chair took up the rest of Friday morning. The meeting then concluded until 5:00pm as bilaterals took place on the draft recommendations.

Late that afternoon, the chair presented his draft 16-page [summary report](#) on the meeting, and took feedback from China, India, the Netherlands, and the UK. The report

is built on oral summaries that Biontino gave throughout the week before each session began summarizing the previous day's deliberations. The report was not adopted as it is not a formal outcome document, but prepared by the chair in his personal capacity.

In the second half of the week, the chair convened three rounds of informal consultations to take views on the draft recommendations, taking up more than four hours on Wednesday evening and during the lunch break on Thursday and Friday. Campaign to Stop Killer Robots representatives attended and the coordinator intervened during the first consultation to request that states retain clear language on human control of weapons systems.

During the week the chair issued three versions of draft recommendations until states agreed to his fourth draft on the final afternoon. The informal consultations, which are off-the-record, saw intense negotiations over the draft text. During the closing plenary several states provided their views on the recommendations and process involved in agreeing to them:

- China said it was not satisfied with the current version of recommendations, but could live with it.
- India said “we are willing to live with” the reference to weapons reviews, but requested the addition of “in the context of LAWS.” This was accepted.
- Cuba supported India and said it could accept the proposed draft recommendations “in the spirit of it being a compromise”
- Russia described the recommendations as “informal” and said agreement on them “will not prejudice the results to be achieved” at Review Conference. Russia called more formal discussions “premature” as the experts meeting saw “divergent and conflicting positions” relating to “a common understanding of the subject under discussion and the scope of this issue.”

At approximately 5:50pm the chair gavelled through the decision by states agreeing to the [recommendations](#) for the Fifth Review Conference to adopt in December 2016. In its capacity as president-designate of the Review Conference, Pakistan thanked Biontino and expressed hope that a Group of Governmental Experts will be established.

Argentina made its first statement at the meeting, affirming there are still many unanswered questions, describing key principles of international humanitarian law as “seriously compromised,” and finding the “lack of human control can lead this weapon to be misused, especially when there is no accountability.” China, Pakistan, and Sierra Leone also spoke.

In his concluding remarks, Biontino said the meeting was “an interesting journey with ups and downs” and welcomed the consensus agreement on recommendations for the Review Conference. He said the decision “shows we are moving forward and can now concentrate on substance.” Biontino thanked participants and organizers.

The meeting concluded at approximately 6:10pm on Friday evening.

## **Campaign Activities**

Following the November 2015 decision to continue CCW talks on lethal autonomous weapons systems by holding another meeting in April 2016, the Campaign to Stop Killer Robots undertook significant outreach to encourage broad and substantive

participation in the meeting as well as encourage an even more inclusive line-up of expert presenters.

In early December, campaign representatives met with Biontino and other diplomatic representatives in Geneva to discuss the campaign's objectives for the third meeting. They again urged diversity and proposed that the objective of meaningful human control be incorporated as a cross-cutting topic across all sessions of the meeting. Campaign coordinator Mary Wareham communicated regularly with the UN Office for Disarmament Affairs in Geneva and particularly its CCW implementation support unit, on the registration process, media requests, and NGO statements and side events. Campaign representatives from PAX and WILPF attended informal consultations convened by the chair in the lead-up to the meeting.

The campaign helped to ensure the 2016 experts meeting was genuinely inclusive of female experts. It provided the chair and organizers with an updated [9-page binder](#) of selected female experts to consider inviting to present. Women comprise 42% of the 34 speakers at the third CCW meeting on lethal autonomous weapons systems compared to 33 percent of the 30 presenters the previous year and none at the first CCW meeting in May 2014, which featured 18 men. Female ambassadors from five states—Chile, Colombia, Finland, France, and Sierra Leone—served as friends of the chair at the 2016 meeting, while women comprised half of the campaign's delegation to the meeting (21 out of a total of 42 campaigners). The first thematic panel at the 2016 meeting marked the first time that women have chaired and/or presented in every session of a CCW experts meeting on killer robots.

This inclusion of women reflects the success of the “no more manpanels” initiative started by campaigners in May 2014 and follows the adoption in 2015 of the “Geneva Gender Champions” initiative by Michael Møller, Director-General of the UN Office at Geneva, UN agencies such as UNIDIR, and country delegations.

The Campaign to Stop Killer Robots made numerous contributions to the 2016 experts meeting, including:

- Human Rights Watch and Harvard Law School's International Human Rights Clinic issued a 16-page report on “[Killer Robots and the Concept of Meaningful Human Control](#).” The report reviews legal precedents for control and finds that meaningful human control over the use of weapons promotes compliance with the principles of international humanitarian law and international human rights law.
- Dr. Heather Roff of Arizona State University, who is also a member of ICRAC, authored a new briefing on “[Meaningful Human Control, Artificial Intelligence, and Autonomous Weapons](#)” together with Richard Moyes of Article 36.
- Article 36 circulated a series of briefing papers on maintaining meaningful human control over individual attacks; on using [national legal reviews of weapons](#) as a response to the concerns raised by lethal autonomous weapons systems; and an [analysis of UK policy](#) on lethal autonomous weapons systems.
- Amnesty International issued an action alert for its network on autonomous weapons systems and their implications for international human rights law and standards;
- The Campaign to Stop Killer Robots held three side event briefings during the week: why transparency is not enough ([13 April](#)), meaningful human control

([14 April](#)), and how to move forward with momentum ([15 April](#)). Campaign members participated in side event briefings convened by UNIDIR, Germany and the World Economic Forum, and SWP.

- Nine campaign members made statements to the meeting: AAR Japan, Amnesty International, Article 36, Human Rights Watch, ICRAC, Mines Action Canada, Nobel Women's Initiative, PAX, and WILPF.
- Five campaign members accepted invitations to address plenary sessions of the meeting in their expert capacity: Dhanapala from Pugwash, Moyes from Article 36, and Garcia, Roff and Suchman from ICRAC.
- During the meeting the campaign met with delegates from countries including Australia, Canada, France, Germany, Netherlands, Sri Lanka, UK, and US, as well as UN special rapporteur Christof Heyns.
- Campaigners helped to generate significant media coverage of the meeting. (See the annex of media coverage). On the opening day the campaign issued a [press release](#) and representatives Williams, Sharkey, and Wareham spoke at a briefing for members of the Association des Correspondents Auprès des Nations Unies (ACANU).
- [@BanKillerRobots](#) and campaigners live-tweeted highlights of the meeting in various languages to help draw attention and record the deliberations.
- Campaign co-founder WILPF's Reaching Critical Will collected statements on its dedicated CCW website and issued a daily [CCW Report](#) summarizing highlights and NGO views on the deliberations.

For more information on the 2016 CCW experts meeting on lethal autonomous weapons systems, please see:

- 2016 CCW meeting [website](#) and UN [audio recordings](#) from the meeting. Advanced version of the [recommendations](#) agreed on 15 April and the [chair's summary report](#) on the meeting.
- Reaching Critical Will's [web page](#) on the meeting and daily [CCW Report](#).
- This [Storify](#) prepared from tweets by [@BanKillerRobots](#) and governments and campaigners [tweeting](#) the meeting, published by [Mines Action Canada](#).
- This 3:21-minute [film](#) by Sharron Ward for the campaign's [YouTube channel](#) and daily video [updates](#) by Mines Action Canada.
- [Photographs](#) by members of the Campaign to Stop Killer Robots.
- Campaign to Stop Killer Robots web posts from [before](#) (5 April) the meeting and its [conclusion](#) (15 April).

# **Annex I: Campaign Delegation**

## **Campaign Delegation**

Convention on Conventional Weapons  
Third experts meeting on lethal autonomous weapons systems  
Geneva  
11-15 April 2016

The Campaign to Stop Killer Robots delegation to the CCW's 2016 experts meeting on lethal autonomous weapons systems is comprised approximately 40 campaigners from 12 member NGOs in countries including Austria, Canada, Colombia, Germany, Japan, the Netherlands, Sri Lanka, Switzerland, UK, and US. Women made up half of the campaign's delegation to this meeting.

### **Campaign to Stop Killer Robots**

Ms. Mary Wareham – Head of CCW Delegation  
Prof. Toby Walsh, University of New South Wales  
Ms. Sharron Ward

### **Amnesty International**

Ms. Rasha Abdul-Rahim

### **Article 36**

Mr. Richard Moyes  
Mr. Thomas Nash  
Mr. Paddy Walker

### **Association for Aid and Relief, Japan**

Ms. Yukie Osa  
Ms. Natsuki Matsumoto

### **Facing Finance**

Mr. Thomas Küchenmeister  
Ms. Clare Marie Oberheu

### **Human Rights Now**

Mr. Kazuko Ito

### **Human Rights Watch**

Mr. Steve Goose  
Ms. Bonnie Docherty  
Mr. Mark Hiznay  
Ms. Lan Mei  
Ms. Kristen Zornada

### **International Committee for Robot Arms Control**

Prof. Noel Sharkey  
Dr. Jürgen Altmann  
Dr. Peter Asaro

Prof. Denise Garcia  
Dr. Heather Roff  
Dr. Frank Sauer  
Dr. Lucy Suchman

**Mines Action Canada**

Mr. Paul Hannon  
Ms. Erin Hunt

**Nobel Women's Initiative**

Ms. Jody Williams

**Nonviolence International**

Mr. Yeshua Moser-Puangsuwan

**Norges Fredslag (Norwegian Peace Association)**

Mr. Frederik Heldal

**Pax Christi Ireland**

Mr. Tony D'Costa

**PAX (formerly IKV Pax Christi)**

Ms. Miriam Struyk  
Ms. Roos Boer  
Mr. Daan Kayser  
Mr. Frank Slijper

**Project Ploughshares (Canada)**

Mr. Cesar Jaramillo  
Ms. Branka Marijan

**Pugwash Conferences on Science & World Affairs**

Amb. Jayantha Dhanapala

**SEHLAC**

Mr. Camilo Serna

**Women's International League for Peace and Freedom**

Ms. Ray Acheson  
Ms. Mia Gandenberger  
Ms. Jessica Lawson  
Ms. Isabel Bull

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## Annex II: Selected Media Coverage

The 2016 CCW meeting on lethal autonomous weapons systems was covered in at least 43 articles published in English, 11 in Dutch, 7 French, 6 German, 2 Italian, 3 Spanish, 2 Korean, and one each in Arabic and Chinese. An *Associated Press* article was republished 117 times and *The New York Times* article 22 times.

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LE DANGER DES ROBOTS TUEURS](#)

[L'ère des robots tueurs est imminente, selon Human Rights Watch](#)

[« Encadrons l’usage des robots tueurs »](#)

[Tuer le robot tueur dans l’œuf](#)

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[Human Rights Watch warnt vor Killerrobotern](#)

[Wenn Killerroboter selbstständig Entscheidungen treffen](#)

[„Wir müssen uns nicht vor Killer-Robotern fürchten“: Autor Thomas Rid im Interview](#)

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[Der menschliche Faktor](#)

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Korean

[‘인간 통제 밖’ 킬러 로봇을 멈춰라](#)

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Spanish

[Nuevo reporte pide prohibir robots asesinos](#)

[Reporte de Human Rights Watch prohíbe la creación de “robots asesinos”](#)

[Derechos Humanos pide prohibición a "robots asesinos"](#)