

II. The group of governmental experts on lethal autonomous weapon systems

MOA PELDÁN CARLSSON AND VINCENT BOULANIN

The legal, ethical and security challenges posed by lethal autonomous weapon systems (LAWS) have been the subject of intergovernmental discussions within the framework of the 1981 Convention on Certain Conventional Weapons (CCW Convention) since 2014.¹ Over the years this process under the auspices of the United Nations has become the focal point of the expert and intergovernmental discussions on the military applications of recent advances in artificial intelligence (AI) and autonomous systems.² Since 2017 the discussions have been led by an open-ended group of governmental experts (GGE), which has a mandate to ‘explore and agree on possible recommendations on options related to emerging technologies in the area of LAWS, in the context of the objectives and purposes of the Convention, taking into account all proposals—past, present and future’.³

The mandate, which was agreed in 2016, was purposefully left broad and exploratory given that the states parties still had at the time—even after three years of informal discussions—very different views of the scope and nature of the problems posed by LAWS and consequently of the types of policy response that could be appropriate to govern the development of technology in these areas.

Between 2017 and 2019, the GGE made significant progress on the substantial side: a consensus has emerged among states that autonomy in weapon systems cannot be unlimited. On the political side, there is still disagreement on whether additional regulation is needed. This section reports on the activities of the GGE in 2019. It describes the guiding principles adopted by the group and then looks in turn at the other issues discussed and the way ahead for the GGE on LAWS.

¹ For earlier discussions of the regulation of LAWS see Anthony, I. and Holland, C., ‘The governance of autonomous weapon systems’, *SIPRI Yearbook 2014*, pp. 423–31; Davis, I. et al., ‘Humanitarian arms control regimes: Key development in 2016’, *SIPRI Yearbook 2017*, pp. 559–61; Davis, I. and Verbruggen, M., ‘The Convention on Certain Conventional Weapons’, *SIPRI Yearbook 2018*, pp. 383–86; Boulanin, V., Davis, I. and Verbruggen, M., ‘The Convention on Certain Conventional Weapons and lethal autonomous weapon systems’, *SIPRI Yearbook 2019*, pp. 452–57. For other developments in the CCW framework in 2019 see section I of this chapter. For a summary and other details of the CCW Convention see annex A, section I, in this volume.

² ‘Autonomous weapons and the new laws of war’, *The Economist*, 19 Jan. 2019; and ‘Artificial intelligence is changing every aspect of war’, *The Economist*, 7 Sep. 2019.

³ Certain Conventional Weapons Convention, Fifth Review Conference, Report of the 2016 informal meeting of experts on lethal autonomous weapons systems, CCW/CONFV/2, 10 June 2016, annex, para. 3. The GGE is open-ended in the sense that its membership is open: all CCW states parties, other states that participate as observers, international organizations and non-governmental organizations may participate. In contrast, GGEs established under the UN General Assembly are open only to UN member states. Certain Conventional Weapons Convention, Fifth Review Conference, Draft rules of procedure, CCW/CONFV/4, 28 Sep. 2016, rules 46–49.

The guiding principles

The 2019 meetings of the GGE were chaired by Ljupčo Jivan Gjorgjinski of North Macedonia. According to the decision of the 2018 meeting of CCW state parties that established the 2019 GGE, the group was supposed to meet for a total of seven days, which was three days fewer than in previous years. However, the group eventually met for 10 days in total, as the chair convened three days of informal sessions over the course of the year. As in previous years, the GGE included wide participation from both states and civil society. Seven working papers were submitted by states and other participants before the meetings, which was half the number submitted in 2018.⁴ The working papers differed in character and varied in focus, but all had a clear objective of trying to assist the GGE to reach common understanding about how to deal with the issue of LAWS.

The starting point of discussions in 2019 was a list of 10 possible guiding principles that the GGE had agreed in 2018.⁵ This list encompassed the points of convergence in the discussions over the years. Among these were the understanding that international humanitarian law fully applies to LAWS; that humans must continue to exercise responsibility for decisions on the use of weapon systems; and that states should not only conduct the required legal reviews of new weapons, means and methods of warfare (known as Article 36 reviews), but should also consider safeguards to deal with the risk of their acquisition by terrorist groups and the risk of proliferation.⁶ In 2019 the GGE agreed to recommend removal of the qualifier ‘possible’ and adoption of the 10 guiding principles in full along with an additional 11th principle, guiding principle c, on human–machine interaction (see box 13.2). This new principle reflected the increased focus that the issue of human control over LAWS has received over the years. These recommendations were subsequently adopted by the meeting of states parties in November 2019.⁷

The principles guided the discussions at the GGE meetings in 2019 and prompted the five agenda items for the group’s meeting: potential challenges posed by LAWS to international humanitarian law; characterization of the systems to promote a common understanding on concepts; the human element in the use of lethal force; review of potential military applications of related technologies; and possible options for addressing challenges to

⁴United Nations Office at Geneva (UNOG), ‘2019 group of governmental experts on lethal autonomous weapons systems (LAWS)’.

⁵Certain Conventional Weapons Convention, Group of Governmental Experts on Emerging Technologies in the Area of Lethal Autonomous Weapons Systems, Report of the 2018 session, CCW/GGE.1/2018/3, 23 Oct. 2018, para. 21.

⁶Such legal reviews are a requirement of Article 36 of the 1977 Protocol I Additional to the 1949 Geneva Conventions, and Relating to the Protection of Victims of International Armed Conflicts. For a summary and other details of the protocol see annex A, section I, in this volume.

⁷Certain Conventional Weapons Convention, Meeting of States Parties, Final report, CCW/MSP/2019/9, 13 Dec. 2019.

Box 13.2. Guiding Principles agreed in 2019 by the Group of Governmental Experts on Lethal Autonomous Weapon Systems

[The group] affirmed that international law, in particular the United Nations Charter and International Humanitarian Law (IHL) as well as relevant ethical perspectives, should guide the continued work of the Group. Noting the potential challenges posed by emerging technologies in the area of lethal autonomous weapons systems to IHL, the following were affirmed, without prejudice to the result of future discussions:

- (a) International humanitarian law continues to apply fully to all weapons systems, including the potential development and use of lethal autonomous weapons systems;
- (b) Human responsibility for decisions on the use of weapons systems must be retained since accountability cannot be transferred to machines. This should be considered across the entire life cycle of the weapons system;
- (c) 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 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;
- (d) Accountability for developing, deploying and using any emerging weapons system in the framework of the CCW must be ensured in accordance with applicable international law, including through the operation of such systems within a responsible chain of human command and control;
- (e) In accordance with States' obligations under international law, in the study, development, acquisition, or adoption of a new weapon, means or method of warfare, determination must be made whether its employment would, in some or all circumstances, be prohibited by international law;
- (f) When developing or acquiring new weapons systems based on emerging technologies in the area of lethal autonomous weapons systems, physical security, appropriate non-physical safeguards (including cyber-security against hacking or data spoofing), the risk of acquisition by terrorist groups and the risk of proliferation should be considered;
- (g) Risk assessments and mitigation measures should be part of the design, development, testing and deployment cycle of emerging technologies in any weapons systems;
- (h) Consideration should be given to the use of emerging technologies in the area of lethal autonomous weapons systems in upholding compliance with IHL and other applicable international legal obligations;
- (i) In crafting potential policy measures, emerging technologies in the area of lethal autonomous weapons systems should not be anthropomorphized;
- (j) Discussions and any potential policy measures taken within the context of the CCW should not hamper progress in or access to peaceful uses of intelligent autonomous technologies;
- (k) The CCW offers an appropriate framework for dealing with the issue of emerging technologies in the area of lethal autonomous weapons systems within the context of the objectives and purposes of the Convention, which seeks to strike a balance between military necessity and humanitarian considerations.

Source: Quoted from Certain Conventional Weapons Convention, Group of Governmental Experts on Emerging Technologies in the Area of Lethal Autonomous Weapons Systems, 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, 25 Sep. 2019, <<https://undocs.org/CCW/GGE.1/2019/3>>, annex IV.

humanitarian and international security.⁸ The following five subsections address each of these in turn.

Potential challenges posed by LAWS to international humanitarian law

The agenda item on potential challenges to international humanitarian law arises from the introduction to the agreed guiding principles. As in previous years, states agreed that international humanitarian law continues to apply to all weapon systems, including LAWS; that it is humans, not machines, that are accountable for complying with this law; and that human responsibility for the use of force needs therefore to be retained. However, states continued to disagree on whether international humanitarian law is sufficiently clear on the issue of LAWS, or whether there is instead a need for a completely new framework to deal with the possible humanitarian risks posed by these weapon systems.

During the discussions in 2019, many states argued that Article 36 reviews could be a valuable method for ensuring that LAWS comply with international humanitarian law. Some delegations (e.g. the European Union and the Netherlands) argued for increasing transparency in Article 36 reviews and sharing of best practices to help other states to better comply with international humanitarian law.⁹ However, several delegations (e.g. Austria) claimed that legal reviews alone might not be sufficient.¹⁰ Some participants (notably the International Panel on the Regulation of Autonomous Weapons, IPRAW, an international group of scientists) went further to argue that the unique nature of LAWS poses challenges to the process of legal reviews as it can be difficult to review components of the weapon systems, such as functions enabled by machine learning.¹¹ Others (e.g. Austria) also noted that Article 36 reviews are national procedures conducted at the discretion of each state and therefore do not contribute to the development of international standards.

There were also discussions about the impact of LAWS on the implementation of international humanitarian law. Some states (e.g. Russia and the United States) argued that LAWS could essentially improve the implementation of international humanitarian law—for example, by allowing

⁸ Certain Conventional Weapons Convention, Group of Governmental Experts on Emerging Technologies in the Area of Lethal Autonomous Weapons Systems, Provisional agenda, 8 Mar. 2019, CCW/GGE.1/2019/1.

⁹ Certain Conventional Weapons Convention, Group of Governmental Experts on Emerging Technologies in the Area of Lethal Autonomous Weapons Systems, ‘An exploration of the potential challenges posed by emerging technologies in the area of lethal autonomous weapons systems to international humanitarian law’, Statement by the European Union, 25–29 Mar. 2019; and Certain Conventional Weapons Convention, Group of Governmental Experts on Emerging Technologies in the Area of Lethal Autonomous Weapons Systems, ‘Agenda item 5(a): An exploration of the potential challenges posed by emerging technologies in the area of lethal autonomous weapons systems to international humanitarian law’, Statement by the Netherlands, 26 Apr. 2019.

¹⁰ Pytlak, A. and Geyer, K., ‘News in brief’, *CCW Report*, vol. 7, no. 3 (29 Mar. 2019), pp. 4–10.

¹¹ Pytlak and Geyer (note 10).

armed force to be applied with greater precision. Conversely, many other states (e.g. Brazil, Chile and Pakistan) and non-governmental organizations (NGOs) argued that LAWS risk undermining it—for Brazil, the use of LAWS would ‘risk a [dilution] of the very concept of accountability as legal answerability over one’s actions and choices’.¹² In addition, Human Rights Watch—an NGO—underscored that LAWS would be incompatible with ‘the principles of humanity and the dictates of the public conscience’ and would thus breach what is known as the Martens Clause, an accepted element of customary international law.¹³

Promoting a common understanding on concepts

In 2019 states continued to have difficulties reaching a common understanding of the characteristics of LAWS. To support the GGE’s work on that matter, the chair proposed several questions for states to consider.¹⁴

The initial question was whether autonomy is an attribute of a weapon system as a whole, or whether it should be attached to the different tasks of weapon systems. States generally agreed that the focus of the discussion should be on autonomy in target selection and engagement—two critical functions. They were also able to agree that autonomy should be seen as a spectrum, and that it is difficult to identify a clear dividing line between semi- and fully autonomous weapon systems. However, at a late-night session in August 2019, the Russian delegation firmly and repeatedly asserted that autonomy is not a key characteristic of LAWS as autonomy is not necessarily problematic and is already a characteristic found in many existing weapon systems. This created frustration among other delegations.¹⁵ Similarly, in 2018 Russia had argued that the GGE should be concerned with ‘the elaboration of general understanding of what the future LAWS could be

¹² Pytlak and Geyer (note 10); and Certain Conventional Weapons Convention, Group of Governmental Experts on Emerging Technologies in the Area of Lethal Autonomous Weapons Systems, ‘Challenge to IHL—Item 5(a)’, Statement by Brazil, 25–29 Mar. 2019.

¹³ Certain Conventional Weapons Convention, Group of Governmental Experts on Emerging Technologies in the Area of Lethal Autonomous Weapons Systems, ‘Agenda item 5(a) regarding challenged posed to international humanitarian law’, Statement by Human Rights Watch, 26 Mar. 2019. A form of the Martens Clause appears as Article 1(2) of the 1977 Additional Protocol I (note 6) and in the preamble of the 1977 Additional Protocol II, among other treaties and conventions.

¹⁴ Certain Conventional Weapons Convention, Group of Governmental Experts on Emerging Technologies in the Area of Lethal Autonomous Weapons Systems, Provisional programme of work submitted by the chairperson, CCW/GGE.1/2019/2, 19 Mar. 2019, p. 2.

¹⁵ Acheson, R., ‘While a few countries control the CCW, we risk losing control over weapons’, *CCW Report*, vol. 7, no. 7 (22 Aug. 2019), pp. 1–4.

with the “advanced” level of “artificial intelligence”, rather than discussing ‘existing operational systems with a high autonomy/automation degree’.¹⁶

With regard to the question of what characteristics are important from the perspective of compliance with international humanitarian law, views were more divided. Some states (e.g. India) suggested that the capability to self-learn or to redefine a mission or objective independently should be considered as a key characteristic of LAWS.¹⁷ However, several other states (e.g. Costa Rica and Peru) found this characterization to be too restrictive.¹⁸ The question of whether the discussion should focus on the use of LAWS against people rather than against material was also raised, although again some delegations (e.g. Ireland) believed that this distinction was not relevant.¹⁹

In the light of the definitional questions, many states called for a ‘technology-neutral approach’. They argued that, in order to move the debate forward, it would be more productive to focus on the human element in the use of force rather than detailed discussion about technical characteristics of LAWS.²⁰

The human element in the use of lethal force

The agenda item on the human element in the use of lethal force arises from guiding principle b (see box 13.2). Under this agenda item, the GGE considered the need to maintain human responsibility for decisions on the use of weapon systems. The discussions focused on the type and degree of human–machine interaction that should be required in order to comply with international humanitarian law.

As reflected by the adoption of the 11th guiding principle, states agreed that human–machine interaction may take various forms and be implemented at

¹⁶ Certain Conventional Weapons Convention, Group of Governmental Experts on Emerging Technologies in the Area of Lethal Autonomous Weapons Systems, ‘Russia’s approaches to the elaboration of a working definition and basic functions of lethal autonomous weapons systems in the context of the purposes and objectives of the Convention’, Working Paper submitted by Russia, CCW/GGE.1/2018/WP.6, 4 Apr. 2018, para. 3.

¹⁷ Certain Conventional Weapons Convention, Group of Governmental Experts on Emerging Technologies in the Area of Lethal Autonomous Weapons Systems, ‘Characterisation of the systems under consideration in order to promote a common understanding on concepts and characteristics relevant to the objectives and purposes of the convention’, Statement by India, 25 Mar. 2019.

¹⁸ Pytlak and Geyer (note 10).

¹⁹ Certain Conventional Weapons Convention, Group of Governmental Experts on Emerging Technologies in the Area of Lethal Autonomous Weapons Systems, ‘Characterization of the systems under consideration in order to promote a common understanding on concepts and characteristics relevant to the objectives and purposes of the convention’, Statement by Ireland, 25 Mar. 2019.

²⁰ Certain Conventional Weapons Convention, Group of Governmental Experts on Emerging Technologies in the Area of Lethal Autonomous Weapons Systems, Chair’s summary of the discussion of the 2019 Group of Governmental Experts on emerging technologies in the area of lethal autonomous weapons systems, CCW/GGE.1/2019/3/Add.1, 8 Nov. 2019, para. 14.

various stages of the life cycle of a weapon. However, they could not agree on the types and degree of control that would be required in the different stages of a weapon's life cycle. In the debate, some states (e.g. Austria, Brazil and Mexico) expressed concerns about the lack of ethical considerations.²¹ For them, the determination about human–machine interaction should not only be guided by legal and military considerations, but also moral consideration. In their view, ethics require direct human agency in decisions about the use of force.

States' divergent views on the necessary form of human–machine interaction was further reflected in the debate about the terminology and phrasing that would most suitably convey the need for a human to exercise responsibility for the use of LAWS. The majority of states continued to use the term 'human control', the term that has been the most frequently used since the start of the LAWS debate. Several delegations (in particular Australia and the USA) continued to be critical of the term, pointing out that the very term 'control' could be interpreted in different—if not contradictory—ways. Australia presented in a working paper the concept of 'system of control', a comprehensive system that Australia implements to ensure that its military processes and capabilities are directed by humans at all stages of their design, development, training and use and are compliant with international and domestic law.²² The USA, as in 2018, continued to argue that the term 'human judgement' would be more meaningful than 'human control'.²³ The US Department of Defense uses the alternative term in its directive on autonomy in weapon systems, which requires that 'Autonomous and semi-autonomous weapon systems shall be designed to allow commanders and operators to exercise appropriate levels of human judgment over the use of force'.²⁴

In the spirit of compromise, several states (e.g. Belgium, Ireland, Luxembourg and the United Kingdom) proposed alternate terminology in their working papers and statements: human responsibility, human

²¹ Pytlak and Geyer (note 10).

²² Certain Conventional Weapons Convention, Group of Governmental Experts on Emerging Technologies in the Area of Lethal Autonomous Weapons Systems, 'Australia's system of control and applications for autonomous weapon systems', Working paper submitted by Australia, CCW/GGE.1/2019/WP.2, 20 Mar. 2019, paras 7–9.

²³ Certain Conventional Weapons Convention, Group of Governmental Experts on Emerging Technologies in the Area of Lethal Autonomous Weapons Systems, 'Human–machine interaction in the development, deployment and use of emerging technologies in the area of lethal autonomous weapons systems', Working paper submitted by the United States, CCW/GGE.2/2018/WP.4, 28 Aug. 2018.

²⁴ Certain Conventional Weapons Convention, CCW/GGE.2/2018/WP.4 (note 23), paras 9–13; and US Department of Defense, 'Autonomy in weapon systems', Directive no. 3000.09, 8 May 2017.

intervention, human supervision, human involvement, human authority, and type and degree of human–machine interaction.²⁵

Eventually, the term ‘human control’, which had been used in previous GGE reports, was removed as a stand-alone phrase from the final report of the 2019 GGE at the insistence of the US delegation.²⁶ This decision was criticized by a number of delegations, notably Brazil and Costa Rica. In the discussions and in several working papers, many states referred to the different stages of human–machine interaction explored by the 2018 GGE.²⁷ This led to the term ‘human–machine interaction’ being used in the 2019 final report as an overarching concept in discussions on which ‘elements of control and judgement’ can be considered the human element in the use of force.²⁸

Review of potential military applications of related technologies

The agenda item on potential military applications of autonomous technologies considered guiding principle k, which recalls that the debate on LAWS should ‘strike a balance between military necessity and humanitarian considerations’. The GGE discussed how militaries might adopt and use autonomous technologies and the potential risks of doing so. States agreed that civilian casualties and injuries must always be considered but disagreed as to whether autonomy would increase or decrease the risk to civilians. Notably, the USA argued that autonomy in weapon systems could lead to increased security for civilians through, for example, better accuracy in target selection and engagement, and could therefore increase compliance with international humanitarian law.²⁹ Further, some states highlighted that autonomy in weapon systems could make military personnel operate more efficiently and with reduced risk of harm.³⁰

²⁵ Certain Conventional Weapons Convention, Group of Governmental Experts on Emerging Technologies in the Area of Lethal Autonomous Weapons Systems, ‘Food for thought paper’, Working paper submitted by Belgium, Ireland and Luxembourg, CCW/GGE.1/2019/WP.4, 28 Mar. 2019; and Certain Conventional Weapons Convention, Group of Governmental Experts on Emerging Technologies in the Area of Lethal Autonomous Weapons Systems, ‘Agenda item 5(d): Further consideration of the human element in the use of lethal force; aspect of human-machine interaction in the development, deployment and use of emerging technologies in the area of lethal autonomous weapon systems’, Statement by the United Kingdom, 25–29 Mar. 2019.

²⁶ Certain Conventional Weapons Convention, Group of Governmental Experts on Emerging Technologies in the Area of Lethal Autonomous Weapons Systems, 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, 25 Sep. 2019.

²⁷ Certain Conventional Weapons Convention, CCW/GGE.1/2018/3 (note 5).

²⁸ Certain Conventional Weapons Convention, CCW/GGE.1/2019/3 (note 26), paras 21–22.

²⁹ Certain Conventional Weapons Convention, Group of Governmental Experts on Emerging Technologies in the Area of Lethal Autonomous Weapons Systems, ‘Implementing international humanitarian law in the use of autonomy in weapon systems’, Working paper submitted by the United States, CCW/GGE.1/2019/WP.5, 28 Aug. 2018

³⁰ Pytlak and Geyer (note 10).

In contrast, as in previous years, a majority of states expressed serious concern about whether LAWS would perform as expected in complex environments and be capable of being used in accordance with the requirements of international humanitarian law.³¹

Options for addressing challenges

The eventual policy outcome of the GGE process has been a contentious issue since the GGE was formed in 2017. The policy options on the table for discussion in 2019 were more or less the same as in 2018: these range from a full prohibition to no action at all.

By the end of 2019, many states had called for the negotiation of a legally binding instrument—in the form of a protocol to the CCW Convention or an independent treaty—that would prohibit or regulate LAWS or impose obligations on their use.³² France and Germany called for the negotiation of a political declaration containing politically, but not legally, binding commitments, which would possibly lead to a code of conduct based on the guiding principles.³³ Several states (e.g. Argentina) called for Article 36 reviews to be improved and for states to increase information sharing on these reviews.³⁴ Other states (e.g. Australia, Israel, Russia and the USA) claimed that there is no need for further legal measures because existing international humanitarian law is fully applicable to the challenges posed by LAWS.³⁵

A new proposal was made—by Portugal—in 2019: a review of existing applicable international law.³⁶ This would be comparable to the 2008 Montreux Document, which describes how existing international law

³¹ Certain Conventional Weapons Convention, CCW/GGE.1/2019/3/Add.1 (note 20); and Certain Conventional Weapons Convention, Group of Governmental Experts on Emerging Technologies in the Area of Lethal Autonomous Weapons Systems, 'Possible options for addressing LAWS—Agenda Item 5(e)', Statement by Brazil, 25 Mar. 2019.

³² For a list of these states—which is more or less the same as in previous years—see Campaign to Stop Killer Robots, 'Country views on killer robots', 25 Oct. 2019. On the existing CCW protocols see annex A, section I, in this volume.

³³ Certain Conventional Weapons Convention, Group of Governmental Experts on Emerging Technologies in the Area of Lethal Autonomous Weapons Systems, 'On agenda item 5(e) possible options for addressing the humanitarian and international security challenges posed by emerging technologies in the area of lethal autonomous weapons systems in the context of the objectives and purposes of the Convention without prejudicing policy outcomes and taking into account past, present and future proposals', Statement by Germany, 27 Mar. 2019.

³⁴ Certain Conventional Weapons Convention, Group of Governmental Experts on Emerging Technologies in the Area of Lethal Autonomous Weapons Systems, 'Questionnaire on the legal review mechanism of new weapons, means and methods of warfare', Working paper submitted by Argentina, CCW/GGE.1/2019/WP.6, 29 Mar. 2019.

³⁵ E.g. Certain Conventional Weapons Convention, CCW/GGE.1/2018/WP.6 (note 16).

³⁶ Certain Conventional Weapons Convention, CCW/GGE.1/2019/3/Add.1 (note 20), para. 30.

applies to the participation of private military companies in armed conflict.³⁷ Portugal's proposal was considered to be similar to the proposed code of conduct in that it would be a non-legally binding, technical outcome.³⁸

As no significant progress was made in reaching consensus on how to address the challenges posed by LAWS, states called for working groups of technical, military and legal experts from the GGE to discuss the issues further and to provide input on and further elaboration of the guiding principles.³⁹ States also noted that, regardless of the type of instrument, there is a need for further clarification of how to define the type and degree of human responsibility, judgement or control required.⁴⁰

The way ahead

According to the chair's summary of the 2019 meetings, the GGE aims to reach consensus on how to address the legal, ethical and security challenges posed by the use of autonomy in weapon systems by 2021. The chair therefore recommended that in 2020 the GGE should focus on legal, ethical, technological and military work aspects, and in 2021 on the 'consideration, clarification, and development of aspects of the normative and operational framework' on emerging technologies in the area of LAWS.⁴¹ This would allow the GGE to deliver concrete recommendations for the 2021 Review Conference of the CCW Convention. The recommendations were formulated in purposefully broad terms to accommodate the range of views on the way ahead. Nonetheless, lengthy discussions followed on the group's mandate and the number of days for upcoming GGE meetings. These discussions carried over from the August meeting of the GGE to the November meeting of CCW Convention states parties, where there was a protracted struggle to reach agreement.

Many delegations called for a programme of work to advance a negotiating mandate for a legally or politically binding regulation on LAWS. For example, France and Germany argued that it was high time to start operationalizing the findings from the GGE meetings and suggested that the guiding principle could form a useful basis for the adoption of their suggested political declaration.⁴² The Campaign to Stop Killer Robots—a coalition of NGOs—also asserted that, if the 2019 meeting did not deliver a clear negotiating mandate,

³⁷ Swiss Federal Department of Foreign Affairs and International Committee of the Red Cross (ICRC), *The Montreux Document on Pertinent International Legal Obligations and Good Practices for States Related to Operations of Private Military and Security Companies during Armed Conflict* (ICRC: Geneva, Aug. 2009).

³⁸ Certain Conventional Weapons Convention, CCW/GGE.1/2019/3/Add.1 (note 20), para. 30.

³⁹ Certain Conventional Weapons Convention, CCW/GGE.1/2019/3/Add.1 (note 20), para. 26(d).

⁴⁰ Certain Conventional Weapons Convention, CCW/GGE.1/2019/3 (note 26), para 22(b).

⁴¹ Certain Conventional Weapons Convention, CCW/GGE.1/2019/3/Add.1 (note 20), para. 40.

⁴² Certain Conventional Weapons Convention, Statement by Germany (note 33).

then it would be time to move the negotiations elsewhere, for instance to the First Committee of the UN General Assembly.⁴³

The chair and many states argued for the GGE's mandate to be expanded from merely the 'clarification' and 'consideration' of aspects of the normative and operational framework of LAWS to also include the 'development' of those aspects.⁴⁴ Opposing this, Russia claimed that the GGE did not have the right to change its own mandate and that this was to be decided at the 2021 Review Conference. However, in the end, the meeting of states parties included 'development' in the phrasing of the mandate of the 2020 and 2021 GGEs.⁴⁵

There was further extensive discussion about the number of meeting days in the coming years. Almost all states agreed that the GGE should meet for 30 days over 2020 and 2021 since they believed that the 2019 meetings had been too short, resulting in too many informal sessions. Some delegations, notably France, complained that the informal sessions were held outside the official agenda with no language support, contributing to unequal opportunity for delegations to attend and to express themselves in their preferred language. Russia was the only opponent of an increased number of meeting days in the upcoming years. It argued that the GGE should only meet for 20 days due to the worrying financial situation of the CCW regime and that 10 days each year would be sufficient time to make progress.⁴⁶ The consensus decision reached was that the GGE should meet for 10 days in 2020 and for between 10 and 20 days in 2021, with the final duration to be decided at the meeting of state parties in 2020. The chair of the GGE in 2020 will be Jānis Kārklīņš of Latvia.

In the discussions over the number of days and the wording of the mandate, there was a clear divide between a handful of technology advanced military powers and the other CCW states parties. The Campaign to Stop Killer Robots and a number of delegations have invoked the possibility that, if no major progress is achieved by 2021, it will be time to take the discussion up in another forum such as the UN General Assembly or even in a separate process comparable to the Oslo process that led to the 2008 Convention on Cluster Munitions (CCM).⁴⁷ However, for such a process to be successful, it would have to be politically and financial driven by a champion state and it remains unclear at this stage which state that could be. None of the technology advanced military powers that are keen to see progress in the CCW framework have expressed a clear interest in starting a separate process at this stage.

⁴³ Pytlak and Geyer (note 10).

⁴⁴ Certain Conventional Weapons Convention, CCW/GGE.1/2019/3/Add.1 (note 20), paras 36, 40.

⁴⁵ Certain Conventional Weapons Convention, CCW/MSP/2019/9 (note 7), para. 31.

⁴⁶ Certain Conventional Weapons Convention, CCW/MSP/2019/9 (note 7), para. 18.

⁴⁷ For a summary and other details of the CCM see annex A, section I, in this volume. On the implementation of the CCM in 2019 see section I in this chapter.