

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

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The legal, ethical and security challenges posed by lethal autonomous weapon systems (LAWS) have since 2014 been the subject of intergovernmental discussions within the framework of the 1981 Convention on Certain Conventional Weapons (CCW Convention) under the auspices of the United Nations.¹ Since 2017 the discussions have been led by an open-ended group of governmental experts (GGE). The group's mandate is 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'.²

The critical question of whether the challenges posed by LAWS require new regulations—possibly in the form of a new protocol to the CCW Convention—or whether existing law is adequate has divided the GGE from the beginning. However, the group made progress in 2019, with the adoption of 11 guiding principles. These establish, among other things, that international humanitarian law applies to LAWS; that humans, not machines, remain responsible for the use of autonomous weapon systems; and that human-machine interaction should ensure compliance with international law.³ In 2019 the GGE reached consensus that the principles should be used as a basis for its consensus recommendations on 'the clarification, consideration [and development] of aspects of the normative and operational framework on emerging technologies in the area of lethal autonomous weapons systems'.⁴ The guiding principles thus formed the basis of the group's work in 2020. Despite remaining differences of opinion and challenges posed by

¹ For a summary and other details of 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 (CCW Convention or 'Inhumane Weapons' Convention) and its protocols see annex A, section I, in this volume. On earlier discussions on 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; and Peldán Carlsson, M. and Boulanin, V., 'The group of governmental experts on lethal autonomous weapon systems', *SIPRI Yearbook 2020*, pp. 502–12.

² CCW Convention, Fifth Review Conference, Report of the 2016 informal meeting of experts on lethal autonomous weapons systems, CCW/CONF.V/2, 10 June 2016, annex, para. 3. The GGE is 'open-ended' in the sense that it is open to participants from all CCW states parties.

³ CCW Convention, Group of Governmental Experts on Emerging Technologies in the Area of LAWS, Report of the 2019 session, CCW/GGE.1/2019/3, 25 Sep. 2019, annex IV. See also Boulanin et al. (note 1).

⁴ CCW Convention, CCW/GGE.1/2019/3 (note 3), para. 26(e).

the Covid-19 pandemic, the GGE was able to continue considering views on legal, technological and military aspects of LAWS.

This section reports on the work of the GGE in 2020. It first discusses how the GGE process was affected by the Covid-19 pandemic. It then outlines areas of convergence identified in the GGE as of 2020. Finally, it reviews the specific issues discussed during the meeting in September 2020, including the way ahead for the GGE on LAWS. While discussions on LAWS also take place in other forums, including the UN General Assembly, this section focuses on the work of the GGE.

The LAWS debate in the midst of a pandemic

The GGE was scheduled to meet twice in 2020; for five days in June and for five days in August. Like all other diplomatic activities, the discussion on LAWS were affected by the Covid-19 pandemic.

The question on how the GGE should continue its work in the context of the pandemic was contentious. The majority of states, including France and the United States, were largely in favour of continuing meetings online and in hybrid formats, stressing the need for flexibility. However, a number of states, such as Pakistan, Russia, South Africa and Venezuela, criticized that proposal, pointing to practical problems such as gaps in technological capacity and time differences. Notably, Russia argued for complete postponement until physical meetings were again possible. The GGE eventually agreed to meet in a hybrid format (with in-person and remote participation) for five days in September and for five days in November. While Russia did not participate in the September meeting, the November meeting was entirely cancelled and postponed until health restrictions in Geneva again would make in-person participation possible.

In an effort to encourage discussions to continue despite the uncertainty around the formal meetings, the chair of the GGE, Ambassador Jānis Kārkliņš of Latvia, invited states to elaborate in writing on their national positions on the guiding principles and their operationalization at the national level. A total of 23 commentaries and working papers were contributed by 26 state parties, the Non-Aligned Movement (NAM) and civil society organizations.⁵ Despite the obstacles and delays caused by the pandemic, the GGE was therefore able to engage in some substantive discussions.

⁵ All commentaries and working papers can be found on the meeting website, UN Office for Disarmament Affairs, Meetings Place. For a brief description and list of member states of NAM see annex B, section I, in this volume.

Identifying areas of convergence

The GGE's work in 2020 centred around identifying key areas of convergence in order to consolidate its work ahead of the Sixth Review Conference of the CCW Convention, scheduled to be held in 2021. To that end, Kārklīņš published a 'commonalities paper' ahead of the September meeting that identified six recurring areas of agreement from states' written contributions: (a) international humanitarian law applies to and regulates the use of LAWS; (b) the guiding principles are applicable in the entire life cycle of the weapons; (c) further work is required to determine the type and extent of human involvement or control necessary to ensure compliance with applicable law; (d) national measures are needed in order to ensure that LAWS can be used in compliance with international law; (e) states must pay particular attention to the unique characteristics of emerging technologies in the area of LAWS when they conduct the legal reviews required by Article 36 of Additional Protocol I of the Geneva Conventions;⁶ and (f) the CCW Convention continues to be the appropriate framework to continue work on the topic.⁷

Kārklīņš's paper revealed that states continued to diverge on several issues, including the question of the status and role of the guiding principles. NAM argued that further work is necessary, while Finland and France, for example, argued that the principles are ready to be operationalized at the national level.⁸ However, the most divisive (and discussed) issues related to how to ensure compliance with international law; how to prevent an accountability gap; and what type and degree of human-machine interaction are needed in order to develop and use LAWS in compliance with international law. Ultimately, the GGE discussed whether or not new international law is necessary to regulate or prohibit LAWS. The September meeting addressed these issues under its six main agenda items, which are discussed in turn below. Kārklīņš was replaced as chair prior to the September meeting by Ljupčo Jivan Gjorgjiński of North Macedonia, who had chaired the GGE in 2019.

⁶ For a summary and other details of the 1977 Protocol I Additional to the 1949 Geneva Conventions, and Relating to the Protection of Victims of International Armed Conflicts see annex A, section I, in this volume. See also Boulanin, V. and Verbruggen, M., *Article 36 Reviews: Dealing with the Challenges Posed by Emerging Technologies* (SIPRI: Stockholm, Dec. 2017).

⁷ CCW Convention, Group of Governmental Experts on Emerging Technologies in the Area of LAWS, 'Commonalities in national commentaries on guiding principles', Working paper by the Chair, Sep. 2020, para. 21.

⁸ All commentaries, statements and working papers related to the Sep. meeting and video recordings of its 10 sessions can be found on the meeting website, UN Office for Disarmament Affairs, Meetings Place.

Potential challenges posed by LAWS to international humanitarian law

While the GGE agreed that international humanitarian law applies to the use of LAWS, states continued to express different views as to whether the existing law is sufficient to address the challenges posed by LAWS, or whether adjustments or new frameworks are needed. Supporters of the former view included Australia, the United Kingdom and the USA, while Brazil and Venezuela, among others, argued that existing provisions are inadequate.

A key point of contention continued to be the question of whether autonomy enhances or undermines the user's ability to make the qualitative assessments that are needed to comply with international humanitarian law. Delegations that voiced concerns, such as Switzerland and the members of NAM, highlighted the impact of autonomy on predictability, particularly on the ability of a weapon's user to reasonably predict the effects of using the weapon. Risk assessments, adequate training and increased use of legal advisors were suggested by Australia, Finland, Sweden and the USA as necessary national measures to deal with predictability issues and to support compliance with international humanitarian law. The conduct of Article 36 legal reviews was also reiterated by most delegations as a critical step to ensure the ability to develop and use emerging technologies in compliance with international humanitarian law.⁹ However, significant challenges remain. For example, some states, Chile and Switzerland in particular, highlighted the lack of transparency around national processes and the technical difficulties associated with conducting legal reviews of LAWS, and called for greater information sharing in that area.

Identifying a common understanding on concepts

Reaching a common conceptual understanding of LAWS continued to be an area where progress was difficult. Indeed, the Netherlands pointed out that it was the issue area where the GGE had made least progress.

As in previous years, disagreement centred around whether 'lethality' should be considered a key defining characteristic of LAWS. Germany and Ireland argued that it should not, as lethality lies in the application of the system and not in the system itself. This view was supported by Austria, Pakistan, South Africa and the USA.

States did not agree on a working definition (or whether one was even needed), but their views converged on a number of points: (a) autonomy should be considered as a spectrum; (b) any definition of LAWS should be guided by elements of human control; and (c) any definition should be technology-neutral in order to be applicable to future technological developments.

⁹ CCW Convention, Working paper by the Chair (note 7), para. 13.

The human element in the use of lethal force

For technical, legal and ethical reasons, the agenda item on the human element in the use of lethal force was considered of primary importance to the GGE. The group agreed that human control should guide the development of a future normative and operational framework.

Overall, as identified in Kärkliņš's commonalities paper or as expressed during the meeting, states agreed that human control (a) is not an end in itself but a means through which compliance with international humanitarian law is ensured; (b) is highly dependent on context; (c) can be implemented at the national level through a variety of steps; and (d) should be considered broadly throughout the life cycle of the weapon, as human control is a process, rather than a single action.¹⁰

However, terminology continued to be a point of disagreement among states.¹¹ While Brazil and a group of largely European states, for example, preferred the term 'human control', the UK and the USA were in favour of 'human-machine teaming'.

GGE members focused in particular on the elaboration of the type and degree of human control in the two critical functions of LAWS: target selection and engagement.¹² Austria, Brazil, France, Germany, Switzerland, the USA, NAM and the International Committee of the Red Cross (ICRC) suggested types of human control measure (e.g. limits on tasks and targets), temporal and spatial restrictions, and requirements on commanders (ranging across the ability to supervise, intervene, deactivate, modify controls and exercise direct control). In addition, the UK further elaborated on type and degree of human involvement in a separate working paper published following the September discussions.¹³

The need to ensure human responsibility and prevent an accountability gap in the use of LAWS was also discussed under this agenda item. Some, including Brazil, Germany and the USA, suggested that accountability of designers and developers be considered. Rigorous testing and training of users were also mentioned by Germany and the USA as measures to improve accountability mechanisms at the national level.

¹⁰ CCW Convention, Working paper by the Chair (note 7), paras 11–12.

¹¹ For earlier discussions on terminology see CCW Convention, CCW/GGE.1/2019/3 (note 3); and Peldán Carlsson and Boulanin (note 1), p. 508.

¹² International Committee of the Red Cross (ICRC), *Autonomous Weapon Systems: Implications of Increasing Autonomy in the Critical Functions of Weapons*, Expert meeting, Versoix, Switzerland, 15–16 Mar. 2016 (ICRC: Geneva, Aug. 2016), p. 7.

¹³ CCW Convention, Group of Governmental Experts on Emerging Technologies in the Area of LAWS, 'United Kingdom expert paper: The human role in autonomous warfare', Working paper by the UK, CCW/GGE.1/2020/WP.6, 18 Nov. 2020.

Review of potential military applications of related technologies

Under the agenda item on review of potential military applications of related technologies, states discussed whether, and under which circumstances, the use of autonomous weapon systems would increase or decrease the risk posed to civilians and the implications for international peace and security.

Views expressed remained similar to previous years. Delegates from NAM warned of the risks of proliferation to non-state actors, hacking and arms races and of the general risk to civilians. The Pakistani delegation noted that ‘States that are in possession of LAWS are bound to perceive a distinct military advantage, undeterred by the loss of its soldiers and citizens on the battlefield. This would lower the thresholds for going to war and armed conflicts.’¹⁴ Meanwhile, Australia, France, Israel, Japan and the USA, all of which are working to develop autonomous weapon systems, argued that technologies in the area of LAWS offer military and humanitarian benefits, including improved decision-making capabilities, reduction of human errors, and the ability to operate in hard-to-reach and dangerous environments.

Despite these differences, states could agree on the conclusion that it is the application of autonomous weapon systems—not the technology itself—that should be limited, and thus that the focus should be on developing preventive tools for misuse.

Possible options for addressing challenges to humanitarian and international security

The ultimate outcome of the GGE’s work continued to be a subject of disagreement in 2020. NAM and civil society argued that the GGE should work towards the creation of a legally binding instrument or resolution, while Australia, India, Israel, the UK and the USA argued that this would be counterproductive, given the perceived benefits of the use of LAWS. Instead, they argued, the GGE should aim to develop a normative and operational framework guiding the use of LAWS.¹⁵

Under this agenda item, states also discussed the state of the GGE process and appropriate next steps. Pointing to the compressed time frame, some (e.g. Austria, Chile and Costa Rica) argued that it was time to embark on treaty negotiations. This was contested by others (e.g. France, India, Israel, Japan, the Netherlands and the USA).

¹⁴ CCW Convention, Group of Governmental Experts on Emerging Technologies in the Area of LAWS, Statement by Pakistan, 1st session of 2020, 7th meeting, 24 Sep. 2020, UN Web TV, 0:9:44–0:10:06 (author transcription).

¹⁵ CCW Convention, Group of Governmental Experts on Emerging Technologies in the Area of LAWS, Commentary by Campaign to Stop Killer Robots, 5 June 2020.

Consensus recommendations on the normative and operational framework

Under its final agenda item, the GGE made efforts to identify and consolidate areas of convergence on which the normative and operational framework could be based. Chile presented a list of what it identified as core commonalities, including the need for legally binding rules and that the use of LAWS is subject to international humanitarian law, international criminal law, international human rights law and the Martens Clause (i.e. compatibility with ‘the principles of humanity and the dictates of the public conscience’).¹⁶

While not all states agreed with the list of commonalities identified by the Chilean delegation, its consensus-seeking approach was welcomed by most states. This indicated a shared political will to drive the process forward, even though the exact direction remained contested. However, Russia’s absence from the meeting means that it cannot be assumed to share this view.

In order to support the group in its consideration of consensus recommendations and the elaboration and development of the guiding principles, the GGE chair suggested the creation of three work streams: one legal, one technological and one military. While the work streams did not materialize in 2020, they might be used to guide the work of the GGE in 2021.

The way ahead

Due to the Covid-19 pandemic, the GGE discussion on LAWS in 2020 was, to a large extent, replaced by a discussion on formalities. This may have been wilfully exploited by some states—Russia in particular—to halt the process. Fundamental disagreements over the outcome and mandate of the GGE, notably between Western delegations, NAM and Russia, persist and raise serious questions as to what the group will, in fact, be capable of achieving besides the 11 guiding principles.

While states continued to consider the GGE as the appropriate forum to discuss LAWS, parallel discussions outside the CCW framework may become increasingly relevant in the light of the GGE’s limited progress. In a possible sign of developments in this direction, on the day after the GGE session closed, the Austrian foreign minister, speaking to the UN General Assembly, expressed strong concern about giving machines ‘the power to decide, who lives and who dies’ and invited all states to participate in an international meeting in Vienna in 2021 ‘to address this urgent issue’.¹⁷

¹⁶ CCW Convention, Group of Governmental Experts on Emerging Technologies in the Area of LAWS, Statement by Chile, 2nd session of 2020, 8th meeting, 24 Sep. 2020, UN Web TV, 0:06:15–0:13:40. A form of the Martens Clause appears in the preamble of the CCW Convention (note 1), among other treaties and conventions.

¹⁷ Schallenberg, A., Austrian Minister for European and International Affairs, Speech at the 75th session of the UN General Assembly, 26 Sep. 2020.