

Working paper submitted by Japan to the United Nations on emerging technologies in the area of Lethal Autonomous Weapon systems (LAWS)

24 May 2024

Resolution A/RES/78/241 adopted by the UN General Assembly in December 2023 requests the Secretary-General to seek the views of Member States and observer States on lethal autonomous weapons systems (LAWS) and to submit a substantive report reflecting the full range of views received with an annex containing these views, to the General Assembly at its seventy-ninth session for further discussion by Member States. Japan submits its views on LAWS as follows for the purpose of contributing to the preparation of the report and to the Group of Governmental Experts of the High Contracting Parties related to emerging technologies in the area of lethal autonomous weapon systems (LAWS GGE) discussions being held under the Convention on the Prohibition of the Use of Certain Conventional Weapons (CCW).

I. General Views

1. Japan is committed to maintaining and strengthening a free and open international order based on the rule of law so that all people can enjoy peace, stability, and prosperity, and to promoting diplomacy to realize a safe and secure world where human dignity is protected. In line with these goals, Japan has actively engaged in arms control and disarmament efforts. As the rapid development of emerging technologies is having a significant impact militarily, LAWS has become one of the key issues in the field of arms control and disarmament. It is of the utmost importance to work towards clarifying the normative and operational framework pertaining, to LAWS, while considering its relationship with existing international law, in particular international humanitarian law (IHL), in anticipation of further development of emerging technologies. Japan reiterates its commitment to actively and constructively participate in the discussion in order to contribute to the stability of the international community through international rule-making regarding LAWS.
2. Military use of emerging technologies should be examined in a comprehensive manner, with a sufficient understanding of their risks and benefits, and taking into account both humanitarian considerations and security perspective. In the course of such examinations, Japan places importance on conducting the military use of emerging technologies in a responsible manner, maintaining the "human-centric" principle and ensuring reliability and predictability. Japan also supports the view that the obligations of IHL apply to all weapon systems, including LAWS, that weapon systems must not be used if they are incapable of being used in compliance with IHL, and that other weapon systems should be subject to necessary restrictions to ensure compliance with

IHL. Japan recognizes that, in the use of weapon systems, human responsibility cannot be transferred to machines, and we must ensure that they are operated under a responsible chain of human command and control in a manner consistent with the obligations of states under IHL, and that responsibility is clearly attributed.

3. In addition, in international rule-making on LAWS, universality of rules is required for ensuring effectiveness. It is necessary for stakeholder states, including those with high technological capabilities, to participate in discussions, and from this perspective, Japan strongly supports the continuation of the discussions under the CCW.
4. Based on this fundamental point of view, Japan addresses the main topics of the LAWS GGE discussions being held under the CCW as follows:

II. Views regarding main topics

1. Characteristics of LAWS

- (a) Japan recognizes that the weapon systems to which the current Autonomous Weapon Systems (AWS) discussion relates are those that, once activated, can identify, select, and engage targets with lethal force without further intervention by an operator. This is derived from the description given in the “Draft Articles on autonomous weapon systems – prohibitions and other regulatory measures on the basis of international humanitarian law (“IHL”)”¹ a joint proposal by Australia, Canada, Japan, the Republic of Korea, the United Kingdom, and the United States submitted to the LAWS GGE in March 2023.
- (b) On the other hand, what should be discussed are weapon systems, not specific technologies themselves, such as autonomous technologies. It should be noted that discussions focusing on specific technology may lead to a hindrance of technological development and innovation in the civilian sector, with the possibility of producing chilling effects. Furthermore, given that autonomy is a concept with a spectrum and that technology is constantly evolving, it is difficult to classify prohibitions and restrictions according to a definition based only on the degree of autonomy.
- (c) However, it is important to consider, among those weapon systems that, once activated, can identify, select, and engage targets with lethal force without further intervention by an operator,

¹ *Draft articles on autonomous weapon systems – prohibitions and other regulatory measures on the basis of international humanitarian law (“IHL”)*, CCW/GGE.1/2023/WP.4/Rev.1 * Poland joined the list of co-proposing countries in May 2023

what functions are assumed to be in weapon systems that cannot be used in a manner that complies with IHL. This leads us to the question of the kind of functions that should be restricted, or what kind of risk mitigation measures should be taken to ensure compliance with IHL. By elaborating these issues, Japan believes it is possible to advance our discussion on AWS in response to the concerns of the international community, even if a definition of LAWS itself does not exist.

2. Application of International Humanitarian Law (Prohibitions and Regulations)

- (a) Japan will not conduct research, development, or operation of weapon systems whose use is not permitted under domestic or international law, including IHL. Japan confirms that the principles of IHL apply to all weapons, including those utilizing emerging technologies. Japan welcomes affirmation in the 2023 LAWS GGE report² that weapon systems must not be used if they are incapable of being used in compliance with IHL, and other weapon systems should be subject to restrictions necessary to ensure compliance with IHL. Japan's position is that in complying with IHL, we must observe, inter alia, the principles of distinction, proportionality, and precaution. Weapon systems that cannot be used in compliance with these principles, such as those designed to kill or injure people indiscriminately or to target civilians or civilian objects, must not be developed or used. For details of measures that may be taken to prevent the development and use of weapon systems that cannot, under any circumstances, be used in compliance with IHL, please refer to Article 1. of the "Draft articles on autonomous weapon systems – prohibitions and other regulatory measures on the basis of international humanitarian law ("IHL")"³.
- (b) The presence or absence of human involvement is not a concept explicitly stated in IHL per se. However, the lack of human involvement may result in the inability of a system to operate as intended by the users, which in turn may lead to unexpected harm to civilians. In addition, for weapon systems operating completely without human involvement, the engagement of targets may be conducted in a manner that makes it difficult to identify the commander or operator responsible for the consequences of the use of those weapon systems. Furthermore, Japan notes that it is the parties to armed conflict, and not the individual machines, who are obligated to comply with IHL. In order to ensure the use of weapon systems in compliance with international law, especially IHL, human involvement is required, as it is humans who can be held accountable under IHL. Ensuring the traceability of human responsibility and accountability is important in facilitating adherence to IHL.

² *Report of the 2023 session of the Group of Governmental Experts on Emerging Technologies in the Area of Lethal Autonomous Weapons Systems*, CCW/GGE.1/2023/2

³ *Draft articles on autonomous weapon systems – prohibitions and other regulatory measures on the basis of international humanitarian law ("IHL")*, CCW/GGE.1/2023/WP.4/Rev.1

- (c) Furthermore, Japan believes that, at least in the present moment, autonomous weapon systems with lethal force that operate completely without human involvement have not necessarily reached a stage of ensuring compliance with IHL. On the other hand, Japan believes that weapon systems that include an appropriate level of human judgment, operated under a responsible chain of human command and control, and with some autonomous functions that ensure human involvement can reduce human error and contribute to improved compliance with IHL, as well as providing efficiencies in labor and manpower, which can provide significant benefits for security. In light of these points, Japan has repeatedly stated that it does not intend to develop "autonomous weapon systems with lethal force that operate completely without human involvement".
- (d) In light of subparagraphs (a), (b), and (c) above, Japan considers that development and use of AWS that fulfills the following conditions must not be permitted internationally, as such weapon systems can potentially cause unacceptable consequences:
- Weapon systems of a nature to cause superfluous injury or unnecessary suffering, to be inherently indiscriminate, or otherwise incapable of being used in accordance with IHL ; or
 - Autonomous weapon systems with lethal force that operate completely without human involvement, which do not involve an appropriate level of human judgment and which cannot be operated within a responsible chain of human command and control
- (e) Weapon systems other than those that cannot be used in compliance with IHL should be restricted, or risk mitigation measures should be taken in relation to such weapon systems, in order to ensure their use in a manner that complies with IHL. Japan believes that in terms of regulatory measures, it is particularly important to control or limit, or otherwise affect the types of targets that the system can engage, as well as the duration, geographical scope, and scale of weapon system operations through self-destruction, self-deactivation and self-neutralization mechanisms, etc. In addition, it is necessary to improve the predictability and reliability of the effects of the use of such weapon systems as a prerequisite for an appropriate level of human judgment. The details of specific measures are described in Articles 2., 3., 4., and 5. of the "Draft articles on autonomous weapon systems – prohibitions and other regulatory measures on the basis of international humanitarian law ("IHL")"⁴, which outlines measures in accordance with the principles of distinction, proportionality, and precaution.

3. Human involvement

- (a) The topic of human involvement is one of the most important issues in the LAWS GGE. Japan

⁴ *Draft articles on autonomous weapon systems – prohibitions and other regulatory measures on the basis of international humanitarian law ("IHL")*, CCW/GGE.1/2023/WP.4/Rev.1

believes that the “human-centric” principle must be maintained in the military use of emerging technologies, including LAWS. Emerging technologies, including AI, must elevate human capabilities without controlling or dominating humans.

- (b) Human involvement is a concept that can serve as a premise for attributing responsibility for the various effects of weapon systems and is also important for ensuring the means to prevent or correct errors, malfunctions, and out-of-control behavior of weapon systems. In addition to this, the most important aspect for human involvement is to ensure that commanders and operators are able to operate weapon systems as they intend. To this end, autonomous weapon systems must be operated within a responsible chain of human command and control. Commanders and operators must operate weapon systems in compliance with international law, including IHL. To ensure proper operation under a responsible chain of human command and control, it is necessary for commanders and operators to have sufficient information about the weapon system that is being used, and to ensure human involvement that allows for the exercise of appropriate levels of human judgment.
- (c) Regarding human involvement, various terms are used, such as human control, human judgment, human supervision, etc., and there are cases in which each of these terms can have several different meanings. There is also a divergence of opinion regarding the terminology used to describe the degree of human involvement. Furthermore, human involvement should be considered throughout the lifecycle of weapon systems, but what constitutes “meaningful” involvement may vary depending on the characteristics, performance, and operational status of each weapon system, as well as future technological advances. Although these points complicate the discussion, it is important to first build consensus on the need to maintain the principle of “human-centric” weapon systems and to reflect human intentions when operating weapon systems. It is also important to deepen understandings of concrete measures to implement this consensus through the exchange of best practices and other means.
- (d) In addition, commanders and operators must use weapon systems in accordance with international law, including IHL. In case a military operation is suspected of being in violation of international law by operating weapon systems that ensure human involvement and are able to be used in a manner that complies with IHL, the illegality of the act should be treated as a different issue from the illegality of the weapon systems themselves.

4. Responsibility and accountability

- (a) In principle (b) of the 11 Guiding Principles⁵ adopted by the Meeting of the High Contracting

⁵ *Final report*, CCW/MSP/2019/9

Parties to the CCW in 2019, it was confirmed that human responsibility for decisions on the use of weapon systems must be retained since accountability cannot be transferred to machines, and that this should be considered across the entire life cycle of a weapon system. In addition, the LAWS GGE in 2019 concluded that states, parties to armed conflict and individuals remain at all times responsible for adhering to their obligations under applicable international law, including IHL. It also concluded that states must also ensure individual responsibility for the employment of means or methods of warfare involving the potential use of weapon systems based on emerging technologies in the area of LAWS in accordance with their obligations under IHL⁶. The 2022 LAWS GGE report⁷ recognized that every internationally wrongful act of a state, including those potentially involving weapon systems based on emerging technologies in the area of LAWS entails international responsibility of that state in accordance with international law and that state, as well as humans responsible for the planning and conducting of attacks, must comply with international law.

- (b) Based on the principles described in subparagraph (a) above and as stated in 2. and 3. above, Japan recognizes that weapon systems should be operated within a responsible chain of human command and control, that responsibility should be attributed, and that human responsibility, i.e. the means by which humans can be held accountable for the actions of machines, should be ensured.
- (c) Measures to ensure accountability are described, for example, in Article 6 of the “Draft articles on autonomous weapon systems – prohibitions and other regulatory measures on the basis of international humanitarian law (“IHL”)”⁸.

5. Risk assessment and mitigation measures

- (a) As recognized in principle (g) of the 11 Guiding Principles, risk assessments and mitigation measures should be part of the design, development, testing and deployment cycle of emerging technologies in any weapon system. This is an area where significant consensus has developed across the divergent positions in the LAWS GGE.
- (b) Japan recognizes that measures should be taken according to the magnitude of the risks, after properly understanding the characteristics of the technology, and identifying the risks that may

⁶ *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, paragraph 17(C)

⁷ *Report of the 2022 session of the Group of Governmental Experts on Emerging Technologies in the Area of Lethal Autonomous Weapons Systems*, CCW/GGE.1/2022/2, paragraph 19

⁸ *Draft articles on autonomous weapon systems – prohibitions and other regulatory measures on the basis of international humanitarian law (“IHL”)*, CCW/GGE.1/2023/WP.4/Rev.1

arise from weapon systems using the technology. It is particularly important to take measures such as bias minimization measures, monitoring of capabilities updated through self-learning, introduction of safeguards to avoid unintended consequences, and education on the use of AI and other technologies. Unintended engagements, including those caused by loss of system control, have consequences that are not desired by responsible militaries. Such unintended engagements include engagements against civilians and civilian objects, as well as engagements that have no military rationale in conducting operations. In incorporating technologies such as AI and automation into military applications, there is a need to improve technologies to avoid unintended harmful consequences, such as through the introduction of safeguards, as well as technologies to help commanders achieve their intended operational objectives. It is important to share good practices on risk assessment and mitigation measures, taking into account each country's need to maintain secrecy from the perspective of security. Sharing good practices is also meaningful for confidence building.

- (c) Japan intends to appropriately incorporate civilian knowledge as needed, paying attention to minimizing bias, ensuring transparent and verifiable systems, and incorporating rigorous and appropriate testing and evaluation in domestic research and the development of equipment using emerging technologies such as AI. In addition, training for commanders, operators, and others who use AI technologies, and those who instruct them to use such technologies, will be implemented to ensure that they are able to use AI technologies appropriately.

6. Legal review

- (a) In the study, development, acquisition or adoption of a new weapon, means or method of warfare, it must, in accordance with the obligations of states under international law, be determined whether their use/employment is prohibited by international law in some or all circumstances. In particular, with regard to legal reviews, Article 36 of Additional Protocol I to the Geneva Conventions establishes the obligation to determine in the study, development, acquisition, or adoption of a new weapon, whether the employment of such a weapon would be prohibited by international law.
- (b) It is important to conduct a legal review concerning the study, development, acquisition, adoption, and employment of weapon systems using emerging technologies in the area of AWS in determining whether they are prohibited by international law that is applicable to the country concerned.
- (c) On the other hand, the specific means of conducting legal reviews are left to each country. Therefore, Japan considers that it would be useful to states establishing their own domestic systems to share guidelines and good practices regarding the matters to be considered at the time of conducting a legal review, as well as to identify risks and their mitigation measures that could

be considered at each stage of design, development, testing, and deployment.

III. Views on the Future of Discussions

1. Currently, the LAWS GGE has a three-year mandate through 2026. The Group is expected to conduct its work and adopt its report by consensus and submit a report to the Seventh Review Conference of the CCW. Although there are still some differences in the positions among states, it is important to persistently continue discussions and aim to produce some kind of concrete outcome to clarify the normative and operational framework regarding LAWS. Japan reiterates that what is required in the outcome is not legal bindingness, but rather effective rules.
2. In a challenging security environment, the development of rules by consensus is key to ensuring the effectiveness of the rules. In this process, it is important to take into account the perspective of seeking a balance between humanitarian considerations and security perspectives, and ensuring the participation of all stakeholder states, including those with advanced technological capacities. It is important to demonstrate steady progress within the international community through the establishment of codes of conduct, guidelines and good practices based on the application of IHL, as well as the identification of norms through political declarations and other means. Japan strongly hopes that constructive discussions will contribute to the continuation and development of the LAWS GGE.
3. Furthermore, Japan welcomes the recent discussions on the responsible military use of AI. Since AI technology itself is used in a legal manner not only in existing weapon systems but also in a wide range of fields, such as decision support tools, etc., the discussion on LAWS, including prohibition and restrictions, should be separated from discussions on responsible military use of AI because of the difference in their characteristics. On the other hand, it is useful to deepen understandings of the military use of AI and other emerging technologies, and to promote realistic and practical efforts towards their responsible use in order to maximize their benefits while reducing their risks. Japan expects that the discussions on the responsible military use of AI will complement and strengthen discussions in the LAWS GGE under the CCW.
4. Finally, Japan will continue to contribute to LAWS discussions under the CCW, while participating in discussions on the responsible military use of AI, and will work actively and constructively to develop international rules for weapon systems using emerging technologies.