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Problematic Issues of Autonomous Weapon Systems In terms of International Law of Weaponry and Politics

Bülent YAZICI[1]

Abstract

The development of war technology has gained tremendous momentum with the information age. New military technological developments such as Nano robots and Autonomous Weapons Systems have caused new debate and concerns in terms of International Conflict and Weaponry Law. In this respect, many examples of Autonomous Weapon Systems (AWS), the joint product of information, sensors and aviation technologies, have been used by many armies. Conflict and weaponry law experts are raising the alarm that the development and deployment of the Autonomous Weapon Systems in the theater of conflict will create new problems in terms of International Weaponry Law and International Relations. In this study, the description of AWS is made; the possible use of lethal AWS is evaluated in terms of International Weaponry Law and assessed with regard to International Politics. Finally, this study is prepared in order to describe these potential problematic issues and establish solutions in the context of existing offensive Autonomous Weapon Systems.

Keywords: International Law of Weapons, Lethal Autonomous Weapon Systems, Proportionality, Distinction, Weapon.

Otonom Silah Sistemlerinin Uluslararası Silah Hukuku Ve Politiği Açısından Sorunsal Meseleleri

Özet

Harp teknolojisinin gelişimi bilgi çağı ile müthiş bir ivme kazanmıştır. Nano-robot ve otonom silah sistemleri gibi yeni askeri teknolojiler uluslararası çatışma ve silah hukuku açısından yeni tartışma ve endişelere sebep olmaktadır. Bilgi, sensör ve havacılık teknolojilerinin müşterek ürünü olan Otonom Silah Sistemlerinin (OSS) örneklerinin birçok ordu tarafından kullanılmaya başlandığını gözlemlenmektedir. Bu kertede çatışma ve silah hukuku uzmanları tarafından Otonom Silah Sistemlerinin kullanımı ve geliştirilmesinin Uluslararası Silah Hukuk ve Politiği açısından yeni sorunsallar yaratacağı değerlendirilmektedir. Bu makalede öncelikle OSS'lerin tanımı yapılmaya çalışılmıştır. Sonrasında OSS'lerin potansiyel kullanımı Uluslararası Silah Hukuku ve Politiği açısından değerlendirilmiş ve somut örnekler verilerek analiz edilmiştir. Son olarak, bu araştırma makalesi mevcut Ölümcül Otonom Silah Sistemlerinden örnekler de verilerek muhtemel sorunsalları ortaya koymak ve kullanımlarına yönelik çözüm yollarına ışık tutmak amacıyla hazırlanmıştır.

Anahtar Kelimeler: Uluslararası Silah Hukuku, Ölümcül Otonom Silah Sistemleri, Orantılılık, Ayrımcılık, Silah.

[1] Doktora öğrencisi, İzmir Ekonomi Üniversitesi, Sosyal Bilimler Enstitüsü, Siyaset Bilimi ve Uluslararası İlişkiler Bölümü, bulent_yazici_eod@hotmail.com

Introduction

Military technology has recorded exponential progression and advancement for several centuries. In military history, the black powder and its relevant weapons revolutionized the understanding of military strategy and tactics. Another historical instance is the aircraft, which was first used for the purpose of the bombardment against Turkish military posts in 1911. The military use of aircraft leads to the air superiority doctrine of subsequent wars . Most pointedly, atomic bombs changed all conventional military paradigms and military power politics in 1945. During the Cold War, this foreign policy is named as mutually assured destruction (MAD) which a military doctrine and security policy based on the nuclear weapons. Naturally, these weapons were all problematic issue in the contexts of international politics and law of armed conflict.

However, the main subjects of this article will not be these weapons. In the last decades, the information and communication technologies have brought about the concepts of the military usage of robotic and autonomous weapon systems. Partially, some instances of robotic and semi-autonomous weapon system have been deployed in conflict zones. Most notably, the revolution of information technology has been a milestone of potential usage of the AWS in future war zones. Moreover, in recent years, the significant advancement of artificial intelligence (AI) will cause major innovation and change of the war praxis through AWS directed by AI. This circumstance has spurred discussion concerning the use of lethal autonomous weapons in the context of international law of armed conflict and politics. Nevertheless, although algorithms in artificial intelligence have not yet reached the level of human intelligence, they have made significant progress. The most crucial advantage of AWS is that such systems can react in complex situations and within a shorter period of time than human intelligence and perception will allow (Thunder, 2013:3-4).

In the study, data, which is used in methodology, are gathered from the books, academic articles, and reports of institutions, NGOs and international courts decisions. When choosing the literature, I preferred authorities in one's subject who academics and the experts concerning international armed conflict, autonomous weapon systems, and law. Experts and academics who are studying AWS technology, international law of conflict and weaponry law are chosen for the references. Thus, this study contributes to the international law of weaponry by using these references.

Moreover, I use International Legal Process as the conceptual framework of my study. This theory examines how international law is applied to, and how to functions, and how international law can be promoted within international relations. Mary Ellen O'Connell emphasizes “it concentrates not so much on the exposition of rules and their content as on how international legal rules are actually used by the makers of foreign policy". So, ILP does not propose that while international law has no direct effect on the decision-making mechanism of States, international law has the effect of justification, regulation, and constraint on the decisions (O'Connell, 1999: 336). In this respect, I made

assessments on AWS in terms of international conflict law and politics. Again, I considered that the appropriate regulation in international law as the context of prohibitive impediments is recommended concerning the future use of AWS.

The details of the definition, classification and current debates of Autonomous Weapon Systems are given in the first part of the article. Under the second title, the problematic issues of the lethal autonomous weapon systems are evaluated in terms of international law of weaponry. Moreover, the lethal AWS is examined in regard to the core international law of conflict principles of unnecessary suffering and superfluous injury proportionality and discrimination. Then, the possible judiciary consequences of the use of AWS are put forward by examples of historical jurisdictional decisions. In the third part, in case of the misuse of Lethal Autonomous Weapon Systems, the debate has been initiated in terms of in terms of international politics and put forward the what consequences would occur.

In the final section, I present the recommendations for possible proper use of the autonomous weapon systems in conflicts. I do not completely reject the use of AWS on the battlefield in which I justify the use of defensive purposes in the conflict zones against material power. In conclusion in this title, I develop the idea of prohibitive impediments for the AWS in possible misuse of the systems in future battlefield. Consequently, the use of Lethal AWS systems will be evaluated in terms of international humanitarian law and politics, consequences, and recommendations. Initially, the definition of AWS will be comprehensively established.

1. Autonomous Weapon Systems

Autonomous Weapon Systems are not classified as a form of either artificial intelligence or human intelligence because they do not have the factors of the moral dimension such as emotions, awareness, learning ability, or sociability (Noone & Noone, 2015:27). Another point that was to be clarified is the differences between autonomous systems and robotic systems must be understood. Robots are the systems that can perform the missions by pre-programmed data and sequential motion commands in a pre-designed environment. Nevertheless, there is no consensus yet on a concrete definition of the Autonomous Weapon Systems (Bolt, 2013:214).

1.1 Definition of AWS

There are different definitions of relevant experts on the subject. For example, Jeffrey S. Thunder identifies that “AWS as a machine or system that is completely or partly self-controllable, capable of independent decision-making and capable of selecting and engaging on targets without any human intervention” (Thunder, 2013:213). Kelly Cass also defines that “Automated robots do not require direct human control. Instead, an automated robot carries out a pre-programmed sequence of operations or moves in a structured environment.” 4” (Cass, 2015:1023). Moreover, US Department of Defense identifies that “an Autonomous Weapon Systems is a weapon system to have capable of

selecting and engaging enemy targets without the intervention of any human operator" (Department of Defense Directive, 2012: 3000.09). This additional description can be linked to legal reservations. Although there are no full lethal AWS deployed today, armies of many countries use the semi or partly Autonomous Weapon Systems. According to military experts, however, AWS will be the prominent weapon systems that will be used in conflicts in the next 20 years (Thunder, 2013:213).

In brief, fully lethal Autonomous Weapon Systems can be defined as systems to have abilities of detection, identification and engagement to the enemy militaries without any human intervention, and it can take the final destruction decision independently (Beard, 2014:627). For this reason, aggressive lethal AWS are the focal point of the debate under international law of weapons. It should be noted that the United States and other countries are currently working on lethal autonomous weapon systems. But, any countries do not have the fully lethal Autonomous Weapon Systems that can identify, engage and destroy an enemy target system without human intervention yet (Kirkpatrick, 2016:27).

Due to the particular characteristics of AWS, military usage of lethal AWS may result in less destruction and loss in war with regard to the warring parties, but in the future the use of lethal AWS may lead to serious ethical, moral and legal concerns in terms of humanitarian law and politics (Anderson and Waxman, 2013: 351). This problem has attracted the attention of international humanitarian experts in conflict and weaponry law. For this reason, the use of lethal AWS was initially discussed by the experts under the UN Office for Disarmament Affairs (UNODA) in regard to the main legislative, moral, ethical, and societal issues of humanitarian law in Geneva between 13 and 16 May 2014 (Watson, 2014). The 4th CCW Lethal Autonomous Weapon Systems Experts meeting was held in Geneva, Switzerland, on 13-17 November 2017 (UNOG, 2017).

1.2 Categorization of AWS

Autonomous Weapon Systems are basically classified under two titles. The first category includes semi-autonomous systems categorized as man-in-loop and man-on-loop. In operator-controlled systems, the control of the system is entirely provided by the human operator and the system cannot take any independent decision without direction from the human operator (Scharre, 2016:9). Currently, many existing Autonomous Weapon Systems are based on operator-controlled algorithms. In addition, operator-supervised autonomous systems work with algorithms loaded on their own computers. Operator surveillance systems act with their own navigational systems and may detect, engage and take the first attack decision independently. Distinctively, all functions of the weapon system are observed and followed by a human operator. Ultimately, the decision to attack a target is made by a human operator (Akerson, 2013:71).

The use of Autonomous Weapon Systems has advantages in battlefields. Firstly, AWS are not affected by human-caused psychological factors. Secondly, they can achieve a mission with minimum

loss of life on the part of the user countries. Lastly, such systems may react quickly and suddenly to unexpectedly emerging threats in a much shorter time than human operators can react. AWS computers can analyze data and information in a very short time, calculate all parameters, and engage an enemy target as soon as possible (Cass, 2015:1027-1028).

Many armies have already deployed full Autonomous Weapon Systems designed for surveillance, reconnaissance, defense, and early warning systems. For instance, the Phalanx CIWS deployed in US NAVY warships is a close-in weapon system for designed for eliminating enemy anti-ship missiles. The system can neutralize enemy missiles at supersonic velocity by calculating all parameters in milliseconds. Similar systems can be deployed on the ground and likewise neutralize the enemy rockets, artillery and mortar ammunition in the air. Fully autonomous air and missile defense systems such as AEGIS, Patriot, and Iron Dome have been used by many armies around the world for years (Thunder, 2014:216). It should be also noted that lethal autonomous weapons systems have not been deployed by any army in conflict zones yet.

2. Problematic Issues in Terms of International Law of Weaponry

Initially, the problem of the use of lethal Autonomous Weapon Systems must be assessed with regard to the principles of unnecessary suffering and superfluous injury, proportionality, and distinction as the core tenets of international law of armed conflict.

2.1 The Principle of Unnecessary Suffering and Superfluous Injury

The first principle is that unnecessary suffering and superfluous injury encompasses the principles of the prohibition or restriction of extreme injuries that cannot be cured (Anderson, Reisner & Waxman, 2014:400). Due to their nature and presence, the principle of prohibition of methods and means of war causing extreme injuries and unnecessary suffering was first mentioned and adopted in 1868 in the Petersburg Declaration and after The Hague Conferences of 1899-1907. During the First World War, chemical weapons including vesicant and choking war agents caused many painful deaths and permanent injuries among combatants. After the Great War, the principle of unnecessary suffering and superfluous injury formed the 1925 Geneva Protocol which forbids the use of biological and chemical weapons in conflicts (Henckaerts, Doswald-Beck & Alvermann, 2005:237). Finally, Protocol I of Geneva Protocol Article 35(2) of 1977 provides for the comprehensible definition of this principle: "It is prohibited to employ weapons, projectiles and material and methods of warfare of a nature to cause superfluous injury or unnecessary suffering" (1125 U.N.T.S. 3, 1978).

When prohibiting or restricting weapons treaties and conventions are examined, it will be seen that unnecessary suffering and superfluous injury is the fundamental principle that underlying the restriction or prohibition of the relevant weapons systems. Therefore, as with the use of weapons of mass destruction and conventional weapons, the use of AWS should be considered in terms of the principle of superfluous injury and unnecessary suffering. From this point of view, international law of

weaponry may forbid the use of such weapons systems. However, even if the engaged military target is lawful, the weapon systems that are compatible with international law of weaponry will inevitably have harmful and destructive effects. In summary, Lethal Autonomous Weapons Systems should be assessed in the same category as other weapon systems. The main problem here is the extraordinary characteristics of AWS (Beard, 2014: 638). The type of weapons, missiles or ammunition used by AWS in offensive military activities forms the basis of whether this principle has been violated or not.

2.2 The Principle of Proportionality

Lethal AWS should also be considered in terms of the principle of proportionality, which is another crucial principle of international humanitarian law. The principle of proportionality is the tenet that civilians must remain undamaged as a consequence of excessive use of military power in order to achieve a direct and concrete military advantage by warring parties. In other words, the principle of proportionality is the obligation of no collateral damage as a consequence of the use of military power in which the military operation must be balanced against the target, and in conclusion, the force must not be excessive. The principle of proportionality is regulated in "Article 51 (5) (b) of the Additional Protocol to the Geneva Convention" (1125 U.N.T.S. 3, 1978).

Following example may help understand the principle of proportionality better. An air operation is carried out with two air-dropped MK-84 bombs to neutralize an enemy sniper in the village caused the infringement of the principle of proportionality. Undoubtedly, the result of disproportionate use of military force will cause the destruction of village residents because of the effects of the blast, fragmentation, and fire of the MK-84's detonation. While the sniper may be able to be neutralized by a special operations team in safely, many civilian lives will be lost or injured as a result of the air operation, after all (Dinstein, 2010:122-123). The most important problem is how to evaluate Autonomous Weapon Systems based on the principle of proportionality (Cass, 2015:1037).

Professor Markus Wagner states that the exact definition of the principle of proportionality is still a matter of debate. However, in the context of the proportionality principle of is concerned, Markus Wagner expresses that only human can make the right decisions under quantitative and qualitative circumstances. AWSs can also be programmed to make the right decisions in quantitative and qualitative circumstances. However, Professor Wagner states that human operators are intrinsically more likely to make the right decision in such situations (Wagner, 2011:2008-10). Lethal AWSs may face countless situations that concern the principle of proportionality. In such cases, an AWS can only react to countless situations within the limitations of the algorithms that are pre-loaded into it. No computer system can evaluate an attack whether to violate the principle of proportionality as it should be. Similarly, the AWS programmers' ability for each possible extraordinary circumstance during a war is questionable (Cass, 2015:1037).

2.3 The Principle of Discrimination

The principle of discrimination is one of the fundamental principles of the International Law of Armed Conflict. The principle requires that warring factions should distinguish between civilians and warriors. Furthermore, it is also prohibited for warring parties to use weapons systems which are not able to distinguish between non-combatants and combatants within the frame of the principle of discrimination. Protocol I to Geneva Convention in Article 51 prohibits the use of indiscriminate weapons systems to engage military targets and civilians without distinction (1125 U.N.T.S. 3, 1978).

Moreover, International Court of Justice (ICJ) gave the verdict concerning Nuclear Weapons in 1996 that the use of weapons systems which cannot distinguish between civilians and combatants infringing the International Humanitarian Law based on the discrimination principle (Güneysu, 2013:259-272). The judges of the International Court of Justice indicate that the warring parties should not target civilians for military purposes, or use weapons that cannot distinguish between civilian and military targets. In fact, a weapons system damage civilians due to its nature. The main point here is whether the weapon system can distinguish between civilians and combatants (Beard, 2014:637). To give an example of the issue, the V-2 missiles launched by Nazi Germany in London mostly fell into civilian targets instead of military targets during World War II because of its their non-sensitive guidance system. Thus, The V-2 missiles caused the loss of many civilian lives and the near-ruin of London (Dinstein, 2010:118). Another instance is the use of SCUD missiles with non-precision guidance systems in the First Gulf War, which caused the loss of many civilian lives during the war (Schmitt, 2013:10). These weapons systems are prohibited for use for military operations as they may hit possible civilian targets.

Available Autonomous Weapon Systems have not the capability of distinguishing between combatants and civilians. The real issue here is that the current technological development has not solved this problem yet. While current AWS technology is unable to distinguish between man and tree (Nathan, 2018:52-53). It is questioned that how AWS can distinguish between combatants and civilians in very complex conflict situations in the future. This problem can only be solved by databases which face identification information of all people. However, there is no face recognition system for which all people are registered; so, AWSs will be controversial in the conditions of future warfare from this point.

2.4 Verdict Examples

One of the most important concrete examples in terms of consequences of the international law of armed conflict is the Milan Martic case in the International Criminal Tribunal for the former Yugoslavia –ICTY (Solis, 2010:595). As the commander of the Bosnian Serbian militia, Milan Martic ordered a military attack on 2 and 3 May 1995 against the Nadine and Sakbnja villages of Croatia, without complying with the rules of military engagement and discrimination. Hospitals, schools and civil settlements including historic churches were targeted during the attack. The attack resulted in 68

civilian deaths and more wounded. It has been emphasized that the M-87 Orkan multi-launch rocket system was used for the attack. Importantly, it cannot distinguish between civilian and combatants because it does not have a guidance system, while the system's warhead contains hundreds of sub munitions. As a result of the case, the court convicted Milan Martic for violating the fundamental and traditional principles of international law of conflict and crimes against humanity (Milan Martic Case - IT-95-11-A ICTY, 2008). This case is a good example of what can happen in the future in terms of the use of lethal AWSs and of users in terms of the international law of armed conflict.

Despite current constraints, Kenneth Anderson and Matthew Waxman state that Autonomous Weapon Systems will be able to be used against enemy targets without collateral damage. In their example, the MK 60 Torpedo (CAPTOR) developed for the navy can distinguish and identity between enemies and friendly submarines by means of its acoustic detection system (Cass, 2015:1036). But at this point, they fail to consider the significant point that the main problem is the expectation from AWS concerning whether or not the system has the ability to distinguish between civilian and combatants. In fact, it is almost impossible to become civilian target hundreds of meters under the ocean.

Magnus Wagner in regard to the use of AWS exemplifies the situation in which a child is forced to carry a weapon in a conflict environment. Regrettably, a significant number of children in Africa have been forced to join rebel groups to become soldiers. In such circumstances, a lethal AWS flying at a low altitude in the conflict zone will perceive a child who is carrying a weapon as a soldier or rebel, and the pre-programmed AWS will be able to launch its missile to the child. When considered from this point of view, religious, traditional, and cultural factors will be another issue in terms of the use of AWS in conflict zones. AWS should determine all target parameters before the military attack and calculate all possible factors. Professor Wagner particularly emphasizes that AWSs should have the ability to respond to the aforementioned issues that are matters of human life (Wagner, 2011:113-14).

3. Problematic Issues In Terms of International Politics

The Soviet Nuclear False Alarm Incident in 1983 is a crucial historical example with regard to how humanity has superabundant confidence in military technology against the kinds of catastrophes it may cause. This incident took place on September 26, 1983, in the nervous days of the Cold War, during the shift of Lieutenant Colonel Stanislav Petrov, who was stationed in the Moscow underground operations center. Early warning systems controlled by computers warned that several US nuclear ballistic missiles were launched by the United States during the shift. It would take 12 minutes to strike the Russian lands of the launched missiles, so it was necessary for the USSR to launch a counterattack and to launch its nuclear weapons. But Lieutenant Colonel Petrov, by force of his military education, assessed that there would be no reasonable explanation that the US had

launched such an attack with just a few missiles, and did not decisively react to the fake attack. He saved the world from possible catastrophic consequence. In the official documents announced years later, it was revealed that the early warning satellites of the USSR misconceived the clouds in the high atmosphere, and misidentified as US ballistic missiles (Rossinow, 2015: 113).

In 2003, US-led coalition forces occupied Iraq by reasons of Saddam Hussein secretly continued his program of mass destruction weapons and supported al-Qaeda terrorist organization. During this occupation, MIM-104 Patriot Air Defense Systems were deployed in order to prevent enemy ballistic missiles and air attacks from Iraq. At the time of the operation, the Patriot systems were engaged and hit two friendly aircraft due to systematic faults. The first incident happened on March 24, 2003. The Royal Air Force's Tornado Aircraft was hit by a missile launched from Patriot battery because of the failure of its systems of identification friend or foe-IFF. The secondary Patriot incident occurred on April 2, 2003; the Patriot System launched a missile to the US F-18C aircraft that perceived an enemy ballistic missile. As a result, the aircraft crashed, and the pilot lost his life. In both incidents, the Patriot System worked in Autonomous Mode, and systematic detection errors resulted in the loss of allied (Scharre, 2016:30-31).

Another incident occurred in 2007 when nine army soldiers were killed and 14 soldiers were wounded due to the malfunction of fire a control system of a 35 mm anti-aircraft gun. The system was set in an automatic mode during the military drill conducted by the South African National Defense Force. Although the results of the incident investigation were connected to mechanical failure, this is an example of what type of consequences that will be occurred when the weapons systems were adjusted to an automatic mode of fire (ICRC-Expert Meeting, 2014: 72).

During US military operations against terrorism, the frequently used unmanned combat aerial vehicle (UCAV) has caused the loss of many civilian lives due to misevaluation. In 2012, 505 to 532 people and 271 people in 2013 lost their lives as a result of these attacks. It is estimated that nine out of ten people who lost their lives are civilians (Ackerman, 2013). This circumstance caused serious damage to the bilateral diplomatic relations in countries such as Pakistan, Afghanistan, Iraq, and Yemen who the United States worked in collaboration with the fight against terrorism. It also led to the loss of public support in these countries and the debate about the legitimacy of the struggle. Even terrorist organizations gained more public support from this situation by counter-propaganda. It is one of the important elements that lethal AWSs can provoke similar results, even though these types of consequences can occur even after an attack with unmanned combat aerial vehicles controlled by human operators (Roff, 2015:47-48).

There are tense regions in the world in which a small misunderstanding will likely turn into a conflict. There has been a ceasefire between South and North Korea for about 65 years. Although some minor skirmishes have occurred for almost 65 years, conflicts have not been at regional. The

SGR-A1 military border guard robot, developed by Samsung for use in the North and South Borders of Korea, is a positive example of the use of AWS. This semi-autonomous robot is designed to help border guards to avoid boundary line infiltrations. The system is equipped with a camera, a laser rangefinder, and a machine to project rubber bullets and tear gas. Most importantly, it has sensors and algorithms that can perceive the difference between humans and animals. The system is able to autonomously engage the target via the detection and identification under the control of the human operator (Kirkpatrick, 2016:27). The important point here is that the semi AWS is equipped with non-lethal weapons and will is operated under human operator control. It is concluded that South Korea may share the same concerns for lethal AWS to avoid undesired incidents. Currently, like Syria, an incorrect decision taken by lethal AWS in conflicts experienced civil war and involved in many military powers that have self-interests and politics may cause direct conflicts among the powers of a proxy war.

The political consequences that may arise between governments regarding the use of AWSs are a separate issue from the legal responsibility. The main concern is who will have legal responsibilities in the circumstances of the collateral damage either willingly or by mistake. In the case of civilian casualties in the military conflict, countries are generally inclined to evade responsibility in the court of international public opinion. Naturally, with a country deploying a weapon held to be responsible for AWS, the most important question to answer is whether the company that produces the AWS, the algorithm programmer of AWS or the executer officer of AWS to send to a target will be accused by the International Criminal Court. The executor of AWS will have legal responsibility for carrying out an operation with the existing man-in-loop and man-on-loop semi-AWSs. However, the executor of lethal AWS will have no legal responsibility, because current AWS systems have no capability to discriminate between civilian and combatants (Thunder, 2014:225).

4. Conclusion

As a result of the tremendous progress in the field of technology, the speed, range and hit rate of weapon systems have increased substantially. The velocity, range and hit rate of the missile systems have also increased in the same way; however, it has become an ordinary situation to have missiles for terrorists or guerrilla groups. When evaluated in this respect, the humanitarian and lawful option emerges in terms of the use of the Autonomous Weapon Systems. The use of AWS for defense purposes seems more reasonable and sensible.

For example, the Phalanx CIWS system can promptly compute and the velocity, type, and heading of approaching enemy missiles, rockets and mortars launched from land or sea thanks to algorithms loaded on its computer faster than a human. It can react in a very short period of time. Finally, the system engages and destroys the enemy military targets in the air. Another example is that the long-range anti-ship missile (LRASM) system developed by Lockheed Martin is a defense system

designed for the anti-ship purpose by human operator surveillance. Iron Dome, used by the Israeli Army, is a man-on-the-loop of a full autonomous air defense system that reacts very quickly by preloaded algorithms on its computer against threats in the air such as enemy airplanes, missiles, rockets, and mortars.

Finally, the semi-autonomous Unmanned Aerial Vehicle-UAV System Taranis developed by Britain is another good example. This system has the ability to prevent an air aggression and can drop and launch munitions and provide intelligence. Taranis takes the final offensive order from the executer officer to strike when it engages a target. After the system autonomously detects, identify and engage to the targets through its own optics and radar, the mission of destruction of the target is executed by a human operator. This feature reassures the opponents of lethal AWS.

While the examples above describe AWS systems already developed and deployed to take into consideration, the user and developing countries have the same concerns in terms of international law of weaponry and policy. This situation is a good reason to hope. While this looks promising, unfortunately, there is no guarantee that every country will have the same sensitivity. In this respect, I emphasize that the annual meeting of the Group of Governmental Experts (GGE) on Lethal Autonomous Weapon Systems by The UN Office for Disarmament Affairs (UNODA) is vital. Especially military technological developments have progressed much faster than we thought. Therefore, it is hoped that international law of armed conflict and politics experts will maintain sensitivity to the same concerns, to study potential problems and offer solutions.

For recommendation, there are concrete examples of prohibitive impediments in terms of international humanitarian law. Biological weapons convention, Convention on Certain Conventional Weapons Protocol I restricts weapons with non-detectable fragments and Protocol IV restricts blinding laser weapons are prohibitive impediments. I analyzed all factors of Lethal AWS for the high possibility as use of weapons, and put forward the recommendation to make a regulation in the context of prohibitive impediment. I mentioned above that it may cause unpredictable and irreversible consequences for international politics and law.

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