

**CENSA Report:
Lethal Autonomous Weapon Systems (LAWS): Legal and Operational Considerations,
Constraints, and Concerns - Executive Summary**

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Guermantes Lailari, Lt Col, USAF (Ret)

BACKGROUND

Despite the growth in the development and proliferation of Lethal Autonomous Weapon Systems (LAWS) over the last few years, a lack of clarity exists in international law and norms guiding their development and use. LAWS create new legal and operational considerations, constraints, and concerns. The author proposes a framework for LAWS development and utilization that abides by international law and military rules of engagement through the use of modes. A mode is defined as a distinct way of operating or using a system. Specifically, by using legal and operational modes for developing and employing LAWS, the author aims to provide legal and operational clarity to the various military and law enforcement LAWS operators. The paper does not attempt to propose a comprehensive solution. Rather it provides legal and operational examples for LAWS developers, military and law enforcement personnel, policymakers and the public that LAWS can be employed in accordance with the laws of war and to standard methods of operationally employing weapon systems.

RECOMMENDATIONS

LAWS can conform to the laws of war such as the distinction principle, principle of proportionality, and the precaution principle as long as LAWS developers, military and law enforcement operators, and military and civilian leaders provide the appropriate legal and operational modes to comport with these international and national laws. These legal and operational modes would fall under, at a minimum, the following six archetypes:

(1) The legal review certification of the LAWS should be conducted through all phases of development to deployment and should consider the legal review challenges associated with Artificial Intelligence / Machine Learning.

Machine Learning (ML) is a field within Artificial Intelligence (AI) that focuses on the ability of computers to learn on their own without being programmed. If machine learning is part of LAWS, then this means the system is constantly changing, adapting, and learning over time. So, LAWS is not the same weapon system when it was last tested. As a result, each time that the LAWS learns, it could perform actions that are not predictable because it has changed, and the action could no longer follow international law and/or operational rules of engagement.

Therefore, countries should consider adding legal reviews above and beyond the UN's minimum standards. For example, legal reviews could be added prior to LAWS testing and fielding and frequently throughout the operational life cycle of the system to ensure that LAWS continues to

conform to international law and operational constraints. The reviews help enhance reliability, reduce the possibility of the LAWS conducting actions that could result in unintentional harm to civilians, adversary forces or even friendly forces.

(2) Developers, military and law enforcement operators, and approving authorities should be able to define/determine which legal modes the LAWS can operate under.

Personnel operating the system should know what legal status under international law the weapon system will be engaging targets. This action provides clarity to the legal parameters that the system is being employed.

(3) The military chain of command and the operators should understand and know the operational modes that will be allowed during a specific operation.

The third archetype helps commanders and military personnel define the operational framework to provide clarity of mission and bounds the use of the system. Without defining the mission and the operational mode, the weapon system could be employed inappropriately.

(4) The level of military command and/or civilian leadership approval should be pre-determined and known to use LAWS in specified operational modes.

For the fourth archetype, each military unit employing the system should have clarity for the level of command that can authorize the weapon's use. This procedure defines the level of responsibility as well as the authorization level required for its use. By using this archetype, there is a built-in LAWS chain of responsibility, and the accidental misuse of the weapon is prevented.

(5) If used for Law Enforcement, the modes would be driven by national / state laws that would not contradict international law. Similar to military use, law enforcement use would also need civilian levels of approval authority for certain types of engagements.

For police forces or other non-military forces employing LAWS, archetype five requires modes in the system that allow them to use LAWS according to the legal and operational framework they fall under. In other words, archetypes one through four should also apply to non-military forces, whether LAWS is used for lethal or non-lethal operational modes.

(6) Non-state violent actors in possession of LAWS also would also need to ensure they comply with international legal and operational considerations, constraints, and concerns.

Archetype six reminds all LAWS users that even non-state actors are still bound by international law and should follow the same parameters, archetypes one through four, that state actors follow.

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