UN Secretary-General’s Report on lethal autonomous weapons systems (LAWS)

Germany’s national contribution

I. Introduction

The questions and challenges related to autonomous weapons systems are among today’s most pressing and complex issues in the field of arms control. Potential challenges regarding the development and use of autonomous weapon systems include the possibility of unintended consequences when these systems are employed in armed conflict, questions regarding their compatibility with international law and in particular international humanitarian law (IHL) requirements as well as questions of accountability and potential negative effects on international security and stability. At the same time, technological progress including on dual use technologies is needed with regard to increasing depth and speed in data-processing and decision-making. While the development and deployment of military artificial intelligence (AI) and weapons systems with autonomous functions can have benefits as human decision-making is not infallible neither, autonomy in weapons systems comes with high risks and poses humanitarian challenges if such systems are not being developed, fielded and deployed in accordance with international law, in particular IHL.

Germany highly commends regional efforts to foster the debate about LAWS such as the ones undertaken by Costa Rica, Luxembourg, the Philippines, Trinidad and Tobago, and Sierra Leone. In addition, the Vienna Conference “Humanity at the Crossroads” offered a valuable forum to exchange views and search for further common ground. Germany remains actively engaged in the “Responsible AI in the Military Domain” (REAIM) process initiated by the Netherlands and the Republic of Korea as well as in the implementation of the “Political Declaration on responsible military use of AI and autonomy” launched by the United States. In Germany's view, these initiatives play an important role as they intensify the debate and contribute to the development of norms for responsible behaviour.

II) Principles and working assumptions

Key principles

Germany's position builds on the eleven Guiding Principles consented by the CCW’s Group of Governmental Experts on LAWS (GGE) in 2019 and the following principles of responsible use agreed by NATO in 2021: Inter alia, lawfulness in developing and using AI applications. Human responsibility in order to ensure that the design and operation of AI in military systems will be accountable. Explainability and traceability of AI applications in the military...
domain. **Reliability**, safety, security, and robustness must be assured throughout the entire life cycle of systems with AI and autonomy. **Governability** by ensuring appropriate human-machine interaction and bias mitigation.

**Lethal autonomous weapons systems**

Germany understands LAWS as systems that, once activated, are able to identify, select, track, and apply force to targets, while acting outside human control and a responsible chain of command. In addition, such systems do not allow for further human intervention and are capable of setting their own objectives or modifying their initial programme or mission framework, without the possibility of any human validation.

In this context, Germany considers that certain self-defence systems – such as the PATRIOT system – can and must be able to operate in an automatic mode without human intervention after activation, without posing any IHL related or ethical challenges. Once activated, such systems are designed to automatically detect, select and engage targets without further human interaction when required by time-critical factors (e.g., engagement of very fast targets such as artillery or in the case of missile defence). Systems such as those described above are not to be understood as autonomous systems, but as automatic systems because their algorithms for detecting and engaging targets are deterministic, unlike autonomous systems whose algorithms are based on probability calculations.

**III) Human Control as key requirement to ensure responsible development and use of weapons systems with autonomous functions**

Germany considers LAWS as defined above to be incompatible with international law, in particular with the requirements of IHL.

In assessing the admissibility of weapons systems that contain autonomous functions, **maintaining a framework of human control is in Germany’s view the key requirement**. A responsible chain of command and human control must be at the centre of the development and use of any weapons system, including in weapons systems with autonomous functions. **The decision over life and death must be made by humans.**

The required level of human control depends on the operational context and the characteristics and capabilities of a weapons system. The control of such systems can be retained through a framework of human control.

The framework of human control encompasses not only the human being, but also other measures and requirements that prepare and support decision-making (i.e., *control in design* and *control in use*). This framework entails:
the method of data analysis and specific measures to mitigate unintended biases, and that algorithms featuring AI are based on ethical norms in order to avoid reinforcing and exacerbating existing structures of inequality;

- accountability, through the training of operators involved in the use of weapons and their ability to predict and explain the behaviour of the system being operated;

- predictability, through the development of rules of engagement that define the limits within which the commander and the operator are permitted to use the system, the weapons testing procedure in accordance with Article 36 of Additional Protocol I to the Geneva Conventions;

- a responsible human chain of command that ensures that the system operates within established limits in terms of duration and geographical area of operation, type of targets to be engaged and scale of operation;

- technical safeguards such as self-destruct and self-deactivation of the deployed system to ensure that the system operates within the permitted parameters;

- procedures for reporting incidents that could involve international humanitarian law violations.

Against this background, the design of the human-machine interaction is of key importance as it needs to ensure that weapons systems remain subordinate to the humans deploying and operating them. Humans have to be continuously able to exercise control over the weapons systems and must remain the essential element in this interaction, bearing the overall responsibility.

IV) Way ahead

Two-tier approach to effectively address challenges related to emerging technologies in the area of LAWS

In line with a growing number of GGE members, Germany remains convinced that the “two-tier approach” is most suitable to ensure compliance with the aforementioned principles. In view of the substantial amount of convergence achieved on the basis of this approach, Germany supports further progress that can be built on the following propositions:

First, consenting a legally binding instrument in the CCW’s Group of Governmental Experts (GGE) on LAWS that prohibits the development, fielding or deployment of lethal autonomous weapons systems that cannot comply with IHL and are ipso facto prohibited.

Second, consenting in the CCW’s Group of Governmental Experts (GGE) on LAWS a set of regulations of weapons systems with autonomous functions, to ensure that human control is retained at all times.
Additional CCW protocol on the development and use of LAWS

Germany supports the creation of an additional protocol to the CCW that entails the prohibition of LAWS operating outside of human control and a responsible chain of command.

CCW’s Group of Governmental Experts on LAWS as inclusive forum

International law, in particular international humanitarian law, and the relevant ethical perspectives are guiding the work of the GGE on LAWS. The GGE on LAWS unites experts from the CCW’s High Contracting Parties, including states with technologically leading armed forces. In addition, it includes experts from academia and civil society. Germany highly appreciates their valuable input to the debate. The discussions in the framework of the GGE have resulted in a considerable amount of convergence of substance, and continue to contribute to establishing further common ground.

Germany is convinced that the GGE’s inclusive approach is important in order to generate an effective outcome and remains committed to actively supporting the GGE’s work. To include deeper knowledge of technological developments, the establishment of a group of technical experts may be an option, as outlined in the Joint Working Paper submitted by France and Germany in 2021.

At the same time, there can be no further delay for the GGE to live up to its mandate in order to deliver tangible results. Therefore, Germany was among the early co-sponsors of Resolution 78/241 on LAWS, adopted by the UN General Assembly in 2023, and welcomes the UN Secretary-General’s report taking into account all perspectives as a highly valuable exercise to gather existing standpoints. In Germany’s view, this will help enormously to identify even more areas of convergence and reinvigorate the important debate in the framework of the CCW.