UN Secretary-General's Report on the opportunities and challenges posed to international peace and security by the application of artificial intelligence in the military domain

Germany's national contribution

I.   Introduction

Recent years have seen an unprecedented evolution in AI technologies, including the development of applications based on disruptive technologies such as generative AI. It is indispensable for states to be able to leverage the opportunities arising from these technological developments, and to ensure that technological progress will not be hampered. At the same time, states need to ensure that AI applications in the military domain will be developed and used responsibly and in full compliance with international law, including international humanitarian law (IHL). International exchange is of utmost importance in order to master this balancing act.

Against this background, Germany contributes actively to international processes on questions related to the responsible use of AI in the military domain. Inter alia, Germany promoted UNGA resolution 79/239 (2024) on "Artificial intelligence in the military domain and its implications for international peace and security" as part of the core group of co-sponsors and fully supports the efforts of the Secretary-General of the United Nations to submit a substantive report on UN member states' views on "opportunities and challenges posed to international peace and security by the application of artificial intelligence in the military domain".

Germany welcomes the opportunity to examine the views of member states and other stakeholders in more depth and to share elements of Germany's considerations in addressing these important questions.

II.   Principles and working assumptions

Germany's approach to ensure the responsible military use of AI builds on the following fundamental principles identified in the framework of various international fora and discussions.

Germany actively contributed to the elaboration of **NATO's Principles of Responsible Use (PRUs)** in 2021, and remains fully aligned to these important standards: Inter alia, **lawfulness** in developing and using AI applications. **Human responsibility** in order to ensure **accountability** in the design and operation of AI in military systems. **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.**

In addition, Germany endorsed the outcome documents of the two "Responsible AI in the Military Domain (REAIM) Summits" in The Hague 2023 **("REAIM Call to Action")** and in Seoul 2024 **("REAIM Blueprint for Action")**, as well as the **"Political Declaration on responsible military use of AI and autonomy"** initiated by the United States in 2023, and is actively engaged in the Declaration's implementation process.

Furthermore, Germany is also part of the **"AI Partnership for Defence"** initiative**,** where like-minded nations promote the responsible use of AI, advance shared interests and best practices on AI ethics implementation, establish frameworks to facilitate cooperation, and coordinate strategic messaging on AI policy.

In February 2025 Germany endorsed the **"Paris Declaration on Maintaining Human Control in AI enabled Weapon Systems"**, inter alia highlighting the importance of safeguarding human control in the application of AI in the military domain.

III) Key aspects concerning the use of AI in Germany's Federal Armed Forces

Germany's Federal Armed Forces (Bundeswehr) are examining the possibility of using AI both to fulfil the core mission of its armed forces and gain informational, decision-making and effectiveness superiority as well as in order to optimise administrative and logistical processes and in the predictive maintenance of complex systems. AI is also used to support specialist personnel in the context of civil-military early crisis detection across different remits in the analysis of mass data and to make projections for deployments. AI is an integral part of major defence projects, which are also being implemented in a European context, contributing to maintaining and fostering European technological excellence. In terms of national and technological developments in the international armaments sector, AI serves to ensure the capabilities required for national and allied defence in the future. Developing the possibilities to deploy AI, in particular for the protection of national security and for military purposes, is carried out within the remits and responsibilities of the respective ministries and departments. Without prejudice to this, AI technologies and AI applications of security relevance are embedded in the AI Strategy of the German Federal Government.

The Bundeswehr makes the highest ethical demands and sets the highest legal standards on the use of AI in weapon systems. In particular, the Bundeswehr follows the provisions of international humanitarian law in armed conflicts, the guidelines of the Federal Government's

Data Ethics Commission and NATO, in particular the above-mentioned "Six Principles of Responsible Use" for the military use of AI for the duration of their entire lifecycles.

IV)   Essential Considerations

In order to maintain necessary defense and deterrence capabilities, Germany remains determined to seize the opportunities that are related to AI in the military domain and is convinced that technological progress must not be hampered, particularly given the inherent dual-use character of the technologies at stake.

At the same time, Germany will continue to expand the knowledge base by assessing and addressing the risks associated with the use of AI in the military domain, including those related to unindended biases, included those based on gender. In this context Germany attaches high importance to the essential role of academia and the valuable contributions by research institutes and think tanks working in this area. In order to foster relevant research Germany supports relevant research organisations including UNIDIR by financially contributing to goal-oriented research projects.

Ensuring the inclusivity of the discussions, both geographically as well as by taking into account the views not only from member states but also those from industry, civil society, and academia is considered of utmost importance for Germany.

Addressing opportunities and risks associated with AI-based weapons systems, Germany attaches particular importance to the concept of human control, and considers the existence of an effective framework of human control a necessary condition in order to ensure that any weapons system is in compliance with international humanitarian law. This implies not only technical control but also an element of judgment. Germany's concept of a "framework of human control" encompasses a set of technologically possible steps and actions that set clear boundaries within which the system's algorithm is allowed to operate. International law, and in particular international humanitarian law, is a central element within these boundaries. When it comes to the actual use of AI on the battleground, context is of utmost importance. Germany considers the concept of a framework of human control as an appropriate way to take this adequately into account.

Specific attention is necessary when the use of AI is related to nuclear weapons, where the scientific and political debate is still in its early stages. The possible use of AI in nuclear weapons' command and control systems might have serious repercussions for strategic stability or nuclear escalation. At the same time, AI might open up new avenues on how to contain the spread and use of WMD. Germany aimed to contribute to these debates by hosting a Conference on Artificial Intelligence and Weapons of Mass Destruction as part of Germany's

well established "Capturing Technology –- Rethinking Arms Control" conference series (https://rethinkingarmscontrol.org/) in Berlin on 28 June 2024.

The Biological Weapons Convention (BWC) and the Chemical Weapons Convention (CWC) prohibit entire categories of WMD. Applications such as (generative) Large Language Models can facilitate the proliferation of dual-use knowledge that might be misused to develop, produce or use biological and chemical weapons. The convergence of AI applications such as AlphaFold and synthetic biology can enable malign actors to design novel proteins that due to changes of the DNA sequence can escape detection. AI can analyse big data clouds, e.g. human genome data, and have great benefits for the development of individual medical therapies but could also be misused to develop biological weapons that target specific ethnic groups.

In close cooperation with our international partners, Germany will therefore continue to identify possible lines of actions on how to assess the impact of AI applications on the development and production of prohibited weapons and introduce possible regulations. At the same time, Germany will leverage the benefits of AI for verification, bioforensics and risk reduction.

V)   Germany's commitment to international processes

Since its inception Germany has actively contributed to the **Responsible AI in the Military Domain (REAIM) process** and will continue to do so. Germany was among the core group of co-sponsors of UNGA resolution 79/239 (2024) on "Artificial intelligence in the military domain and its implications for international peace and security". Germany highly commends the interregional and multistakeholder approach of this important initiative and is looking forward to its continuation in Spain in September 2025.

In full complementarity, Germany contributes to the U.S. initiative "**Political Declaration on responsible military use of AI and autonomy**", including by co-chairing the working group on Oversight (jointly with Austria).

Furthermore, Germany is actively engaged in the **AI Partnership for Defence** and participates in the **UNIDIR Expert Network on the Governance of Artificial Intelligence in the Military Domain.**

Germany supports the Chair of the **Group of Governmental Experts on LAWS in Geneva**, Ambassador Robert in den Bosch, and remains actively engaged in the process including by coordinating several member states positions in the framework of the so-called two-tier group.

In close co-operation with our international partners, Germany will continue to work towards fulfilment of the GGE's mandate in time, preferably by the end of 2025.

In the **NATO context** Germany recognised the potential of AI for the further development of the armed forces and the defence capability of the alliance, as well as the challenges the use of AI will pose to the interoperability of the armed forces of the alliance nations. Multinational AI developments and AI standardisation aspects in NATO, the European Union and Germany's partner countries must be fully taken into account in order to ensure the interoperability of the Bundeswehr as a military force in the context of international operations. Consequently, Germany welcomed that NATO countries agreed on Principles of Responsible Use in the context of NATO's AI strategy.

VI)   Way ahead

As emerging disruptive technologies will continue to evolve and shape our world Germany considers inclusive international coordination on the responsible military development and use of AI indispensable. Existing international processes provide an excellent framework to address the meaningful aspects involved, and to take into account the views from the variety of relevant stakeholders. Germany will continue to actively contribute to these efforts in order to implement and broaden the support for political commitments on the responsible military use of AI, such as the U.S. led Political Declaration, or the REAIM process. Germany looks forward to examining the results of the report on AI in the Military Domain that the UN Secretary-General is herewith submitting. Germany will continue to actively contribute to the process on lethal autonomous weapons systems (LAWS) in the framework of the Group of Governmental Experts in Geneva.