THE IMPACT OF ARTIFICIAL INTELLIGENCE ON CONTEMPORARY MILITARY ART – ADVANTAGE OR VULNERABILITY –

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This study aims to analyse the impact of emerging technologies, particularly artificial intelligence (AI), on the military domain and modern warfare. In the context of accelerating technological progress, AI is becoming a disruptive force, influencing the way armed conflicts are planned, conducted and carried out, with a major impact on global security and defence strategies.

Through a multidisciplinary approach, the study integrates concepts from technology, security and ethics to provide an overview of the benefits and risks associated with the use of AI in the military environment. It also examines how these technologies can be employed to increase the efficiency of military operations, support strategic decision-making and redefine the art of warfare in the digital era.

The methodology used includes a systematic review of specialized literature, case studies and practical examples from recent military exercises and programs, such as US Air Force projects and NATO initiatives. It enables the identification of the most effective strategies for integrating AI at the strategic, operational and tactical levels, highlighting best practices and potential vulnerabilities.

The results indicate that the implementation of AI-based technologies can lead to faster and more accurate military decisions, as well as the automation of complex processes, thereby reducing reaction time and enhancing efficiency on the battlefield. At the same time, the importance of human control and strict ethical regulation is emphasized in order to avoid the risks of abusive or uncontrolled use of autonomous systems.

Keywords: artificial intelligence; art of war; strategic, operational, and tactical level; military art; decision-making process;

INTRODUCTION

In recent years, artificial intelligence (AI) has gained an increasingly important role, experiencing exponential growth and becoming omnipresent across all areas of technology, with a major impact on the economy and on the way we live. But before anything else, we must start from a fundamental question: What is artificial intelligence, and how is it perceived in society?

Today, there is a wide variety of definitions of artificial intelligence, which differ from one to another due to the complexity of its processes and the multitude of fields in which it is applied. According to the European Council's Artificial Intelligence Act, AI is defined as *"the use of digital technology to create systems capable of performing tasks that would normally require human intervention. Artificial intelligence imitates human thinking but processes information faster and with greater accuracy"* (Artificial Intelligence Act, 2025). The Explanatory Dictionary of the Romanian Language defines artificial intelligence as *"a field of computer science that develops technical systems capable of solving complex problems related to human intelligence"* (https://dexonline.ro/intrare/inteligen%C8%9B%C4%83/28535).

However, the most widely accepted definition belongs to the scientist John McCarthy, who, in 1955, described artificial intelligence as follows: "*It is artificial intelligence when a machine behaves in a way that would be considered intelligent if a human were to do it"* (McCarthy, Minsky, Rochester, Shannon, 1955). Although, at first glance, the field of artificial intelligence might seem like a recent creation, the reality is quite different. The earliest research in artificial intelligence was carried out in the summer of 1956 by Ray Solomonoff, Marvin Minsky and John McCarthy during a workshop held at Dartmouth College.

In the context of accelerating technological progress, artificial intelligence has emerged as one of the most disruptive forces, influencing not only civil society but also the global security environment.

Science and warfare have always been closely interconnected, with technological innovation serving as the common element between war and civilization. Countless examples throughout history demonstrate that certain innovations have been decisive in determining the outcome of conflicts, often tipping the balance toward victory.

ARTIFICIAL INTELLIGENCE AND THE MILITARY ENVIRONMENT

The reality is that artificial intelligence is becoming one of the most important technologies of the 21st century, playing an essential role and having applications across many areas of our lives. Consequently, it has also begun to be integrated into the military domain. In this digital age, the main elements of a conflict are no longer limited to the number of soldiers or the amount of weaponry; increasingly, success depends on the use of technology to gain significant advantages over the enemy, transforming AI into a genuine force multiplier on the battlefield.

Artificial intelligence has the capacity to rapidly transform the way wars are fought, the application of tactics and techniques and the use of military technology on a global scale. The potential of AI in the military field is vast and diverse, ranging from autonomous drones and missile guidance systems to real-time decision-making and threat analysis, making it a decisive factor in modern warfare.

AI not only enhances military capabilities but fundamentally reshapes and redefines the modern battlefield, compelling combatants to adopt new tactics and continuously adapt the way they apply the principles of military art. Systems and technologies based on artificial intelligence are now at the very core of contemporary warfare, driving everything from autonomous drones to real-time battlefield analysis and ushering in a new era where speed, precision and adaptability are just as crucial as firepower.

In 2024, during an interview with *The Washington Post*, General Mark Milley, former Chairman of the US Joint Chiefs of Staff, made the following statement regarding the role of technology in modern warfare: *"The character of war, on the other hand, changes frequently. The character of war refers to tactics, techniques, procedures, doctrine, weapons, training, leader development – where you fight, when you fight: day, night, spring, summer, those kinds of things. All these details of war are what are commonly referred to as the character of war. Now, the character of war is changing, and it has changed quite frequently throughout history. One of the most common drivers of change in the character of war is technology. And I would argue that we are experiencing the most fundamental change in the character of war ever recorded in human history –again, largely driven by technology, though not exclusively by it"* (Washington Post, 2024).

Also, Geoffrey Hinton, the computer scientist often called the *"godfather of artificial intelligence"*, said in an interview with Katie Couric: *"The rise of killer robots will not make wars safer. It will make it easier to start conflicts by reducing*

the human and political cost of fighting. Lethal autonomous weapons – that is, weapons that decide on their own whom to kill or maim – represent a huge advantage if a wealthy country wants to invade a poor one. What prevents wealthy countries from invading poor countries are their citizens returning in body bags. If you have lethal autonomous weapons, instead of dead people coming back, you'll have dead robots coming back" (Business Insider, August 2025).

Gradually, the battlefield tends to cede, little by little, to non-human elements. The emergence of AI-based weapons, such as autonomous drones, raises questions about preserving the human character of the battlefield in the near future, given that these weapon systems are programmed to act or react from long distances at fantastic speeds, far from human access. These trends do nothing but limit and reduce the control that humans have traditionally exercised over the conduct of war and the use of force.

The use of artificial intelligence on the battlefield – that is, systems that excel at a single task – is not a novelty in itself. What is novel is the large number and complexity of tasks that can be automated thanks to artificial intelligence. Consequently, artificial intelligence is nothing more than a tool that can be both effective and harmful to its users. For it to be useful, it requires appropriate employment and proper use within military art to be effective and efficient.

The increasing use and intensity of artificial intelligence on the battlefield creates a new concern for the armed forces employing it, namely that engagements become so fast that the human element cannot remain involved and keep up with the tempo of operations. In this context, the automation of weapon systems causes the time window available to respond to threats to become increasingly small, until the moment when only AI-equipped systems can react in time.

On the other hand, artificial intelligence will not monopolize the conduct of war. Despite its advantages, there are situations in which it is extremely limited, cannot perform every type of task and cannot be used effectively in conflict. Like any other weapon, there are countermeasures against systems that use artificial intelligence, and it would not be surprising to see them, in certain situations, turned against their users.

The ability of artificial intelligence to find its own, independent ways to solve a problem turns it into a remarkably creative tool. Devoid of human prejudices and endowed with far superior computational abilities, it brings new ways to solve problems or to suggest different solutions. Therefore, it is to be expected that the potential of artificial intelligence will be exploited by planners and decision-makers

to better understand the available options. By simulating a problem – for example in the form of a war game – and programming an AI around it, there is a very high chance of obtaining interesting and creative solutions to the problem and approaches to addressing it. In other words, it offers decision-makers additional options and a more complete overview of the decision-making process.

The use of artificial intelligence requires very specific actions and forces to define very clearly its place in the decision-making process, and to have a lucid understanding of its advantages, what its strengths are, but also its limits. Incorporating artificial intelligence into the decision-making processes of military organizations represents a clear change from previous technologies and will certainly contribute to modifying the character of war and the way military art is applied.

Artificial intelligence offers capabilities that exceed human limits in terms of speed and precision. It facilitates real-time decision-making, improves the chances of mission success, and minimizes risks to personnel. However, these advances come with certain disadvantages, including cybersecurity vulnerabilities, ethical dilemmas, and the need for new global frameworks. Understanding the role that artificial intelligence has with respect to how operations are conducted requires examining its applications and assessing the broader implications for military art.

The use of artificial intelligence in the military domain is not just a tool; it represents a change in how armed forces act. For decades, war has depended on human judgment, situational awareness and limited computing systems. Today, AI enables rapid data processing, predictive modelling, and autonomous operations, allowing forces to surpass and manoeuvre beyond traditional methodologies.

REDEFINITION OF MILITARY ART IN THE CONTEXT OF THE ARTIFICIAL INTELLIGENCE PROGRESS

Military art, in all its dimensions – tactical, operational and strategic –, is undergoing a full recalibration under the influence of emerging technologies. AI is redefining the nature of contemporary warfare, affecting both the capacity to project force and the decision-making process within the operational space and the command-and-control system. This transformation raises a fundamental question: *Does AI represent a force multiplier or a vector of vulnerability in the current military architecture?* This is the question from which we begin in developing the proposed topic.

In the digital age, artificial intelligence is redefining military art in all its dimensions – tactical, operational and strategic. These transformations are no longer

hypothetical; they have already been tested in real exercises such as the US Air Force's *"Experiment 3"* (Bussines Insider, July 2025), where AI assisted operators in targeting decisions, significantly reducing *"cognitive load"* (practicalpie.com) and confirming the value of human-machine collaboration in the *modern kill chain* (*detection, target selection, strike, assessment)* (Defense News, July 2025).

The US Air Force's (USAF) *"Experiment 3"* took place at the Shadow Operations Center Nellis (ShOC-N), within Nellis Air Force Base. It was a four-day exercise conducted by the 805th Combat Training Squadron (Shadow Operations Center–Nellis) as part of a program to evaluate and integrate artificial intelligence into the decision-making process in simulated combat situations. The aim was to accelerate and automate the kill chain decision-making process, from the tactical level to the operational level. The experiment used an AI application developed under the *"Maven Smart System"*, designed to provide real-time recommendations to dynamic targeting teams. Participants compared AI-generated decisions with their own assessments to understand how the two approaches could complement each other.

The key elements of this exercise were as follows:

❖ Innovative planning and execution methodology – inspired by the *"Bamboo Eagle"* exercises. This year, the *"Bamboo Eagle 25-3"* exercise was conducted. The exercise allowed for rigorous testing of emerging technologies in a realistic simulated combat environment (AFGCS, July 2025).

❖ Involvement of manufacturers and operational observers – structured demonstrations were conducted in which ACC officials, USAFWC personnel, and other defence organizations observed the technologies in action and provided feedback for acquisition and integration processes (AFGCS, ib.).

❖ Central goal: human-machine teaming in the decision loop – AI was not intended to replace operators, but to assist them. By directly comparing AI recommendations with human decisions, the advantages of both perspectives could be highlighted. Human-generated data was also used to improve the algorithms (innovativeairforce.com, July 2025).

"Experiment 3" represented an important step for the USAF toward modernizing decision-making in the operational context through the integration of AI into the command-and-control chain. The focus was on:

- Rapid automation and streamlining of the decision-making process;
- Testing technologies in a realistic environment with active human participation;

- Validating concepts through feedback from real users and decision-making observers.

It is a significant step in the evolution of military doctrine toward human-machine cooperation, where AI acts as a force multiplier rather than a replacement.

1. Tactical Level: Speed, Precision, Efficiency – or Dangerous Automation

At the tactical level, artificial intelligence is being integrated into an increasing number of weapon systems, from unmanned aerial platforms (UAVs) to automatic detection and targeting systems. In conventional conflicts, AI enables real-time processing and interpretation of information coming from the battlefield, reducing reaction times and increasing lethality and precision. A tactical-level commander can benefit from algorithmically generated recommendations based on probabilistic models, which provides a significant advantage when making decisions under pressure.

However, this automation of the decision-making process introduces substantial risks. An AI system trained on incomplete or manipulable datasets can generate erroneous recommendations and the transfer of decision authority to lethal autonomous systems involves ethical, legal and operational risks. In hybrid theatres of operation, where the distinction between combatants and non-combatants is unclear, the use of AI to support tactical decisions can lead to undesirable strategic consequences, amplifying the risk of collateral damage and eroding the legitimacy of military action.

AI allows immediate reaction in dynamic scenarios, as illustrated by the Pentagon's use of Project Maven[1], capable of analysing satellite imagery and assisting in target identification with increased efficiency – the rate of target identification and designation rose from approximately 30 targets per hour (without AI) to up to 80 targets per hour (with AI).

The increase was possible because:

- Accelerated data analysis – it receives real-time data from sensors, drones, satellites and other sources, and provides suggestions for target prioritization;
- Reduced decision-making time – algorithms provide clear options, allowing operators to approve or reject the information received;

[1] *Project Maven and kill-chain targeting efficiency*, April 2025, https://en.wikipedia.org/wiki/Project_Maven, retrieved on 5 September 2025.

- Automatic filtering – AI can quickly eliminate *"background noise"* (irrelevant or false targets), allowing the team to focus on real targets.

The *Joint All-Domain Command and Control (JADC2)* concept connects all US military components (land, air, naval, space, cyber) into a common command- and-control system.

The integration of AI offers the following advantages:

- Optimizes the flow of information between these domains;
- Supports rapid decision-making in a data-saturated combat environment;
- Enables real-time response without the need for slow hierarchical approvals.

The following example is relevant to what was previously presented:

Total time for 80 targets:

- Without AI: 80 targets × 2 minutes/target ≈ 160 minutes;
- With AI: 80 targets × 45 seconds/target ≈ 60 minutes;

Conclusion: the same workload, completed in roughly one-third of the time.

Another relevant example is the US Army's *TITAN Project*. The first Multi-Domain Task Force (MDTF) adopts TITAN: a revolutionary artificial intelligence tool. Palantir Inc. is the primary contractor for the TITAN program, having received a contract in March 2024. The first prototype was delivered to Joint Base Lewis-McChord (JBLM) in Washington for testing in 2024 (Defense Post, August 2024).

On 18 December 2024, the First Multi-Domain Task Force (1st MDTF), a next-generation unit designed to operate across multiple domains, integrated the Tactical Information Targeting Access Node (TITAN) as a new capability, becoming the first Army unit to receive the advanced TITAN prototype.

The system was delivered to the unit in July and the Project Manager for Information Systems & Analysis (PM IS&A) completed integration, testing and operator training by December 2024, ensuring the system was fully operational.

This advanced ground-based intelligence, surveillance and reconnaissance (ISR) station is intended to revolutionize the way the Army collects, processes and disseminates critical battlefield information.

TITAN represents a significant advancement in military technology. It uses artificial intelligence and machine learning to rapidly process massive amounts of data from sensors across multiple sources, including space-based, high-altitude, aerial and terrestrial sensors. This rapid processing provides a decisive advantage over adversaries, delivering real-time intelligence and targeting information.

Key capabilities of TITAN include:

- *Rapid data processing:* TITAN's AI-based capabilities allow it to quickly analyse and interpret complex data streams, significantly reducing the time needed to identify potential threats and opportunities.
- *Enhanced situational awareness:* By fusing data from multiple sources, TITAN provides a comprehensive, up-to-date picture of the battlefield, enabling commanders to make informed decisions in dynamic environments.

❖ *Improved targeting accuracy:* TITAN's advanced algorithms enable precise target identification and designation, increasing the effectiveness of precision strikes.

❖ *Increased operational tempo:* TITAN's automation capabilities reduce the workload on soldiers, allowing them to focus on higher-level tasks and maintain a faster operational pace (army.mil, 2024).

1.1. Intelligent Technologies and Systems Implemented in Military Operations

In recent times, other intelligent technologies and systems have also been implemented, bringing major changes to the battlefield.

Use of drones and autonomous combat systems

The integration of artificial intelligence into unmanned aerial vehicles (UAVs) has raised their utility to unprecedented levels. AI-powered drones are no longer just remotely controlled devices; they are sophisticated systems capable of autonomously identifying, tracking and attacking targets. By using machine learning to analyse hours of drone footage, the workload for human analysts is reduced, while the accuracy of threat identification is increased. The development of autonomous combat systems marks a crucial moment in the evolution of warfare. These systems can identify, track and engage targets without direct human control, providing greater precision and reducing risk to military personnel.

AI-based surveillance

Artificial intelligence has revolutionized the concept of situational awareness. Surveillance systems that once relied on human observation or rudimentary sensors can now analyse patterns, detect anomalies and predict outcomes with incredible precision. A notable example is Israel's Iron Dome missile defence system, which demonstrates how AI can process data at lightning speed to calculate interception trajectories, providing real-time protection against incoming threats. Such systems exemplify how AI is transforming defence from reactive to proactive.

Threat analysis

In today's era of information velocity, AI's ability to predict and respond to threats in real time constitutes an exponential advantage. Machine learning models, trained on vast datasets, can identify cyberattacks, forecast enemy movements and deliver actionable intelligence in moments. These capabilities not only improve decision-making processes but also create opportunities to neutralize threats before they escalate into crises.

Mission planning

Operational planning is a complex process involving numerous variables and AI's role is to simplify and optimize this process through tools that use advanced algorithms to assess risks, allocate resources and generate options. By reducing human errors and accelerating decision-making, these tools increase the likelihood of mission success while conserving valuable resources.

Geospatial intelligence collection

AI's ability to process satellite imagery and drone-derived data has revolutionized data collection. AI-based software is now used to analyse geospatial data, identifying unusual activities or terrain changes within minutes instead of hours. This speed allows for more agile and informed decision-making, which is essential in scenarios where time is a decisive factor.

2. Operational Level: Information Dominance or Decision Overload

The integration of AI at the operational level has the potential to fundamentally transform the planning and conduct of military operations. In conventional warfare, AI enables the integration and analysis of large volumes of data coming from sensors, surveillance networks, and communications, generating a coherent and up-to-date common operational picture. Machine-learning algorithms can be used to anticipate enemy movements, optimize logistics and identify critical nodes in the adversary's force disposition.

In hybrid scenarios, AI becomes essential in detecting and countering information operations, influence campaigns, and coordinated cyberattacks. AI's ability to identify anomalous patterns in the digital behaviour of populations or hostile actors allows for an adaptive and multidimensional response.

However, widespread use of AI at this level can create a critical dependency on digital infrastructure, turning data networks and command-and-control systems into a vulnerable centre of gravity. In addition, the increased complexity of AI-assisted decision processes can lead to what the military literature calls *"cognitive overload"*,

in which human decision-makers become prisoners of an excessive amount of information, lacking the capacity to filter the significant from the irrelevant.

AI is essential in processing large volumes of ISR data in real time. Project Maven served as a pilot project for exploiting multi-domain data, supporting the vision of network-centric warfare in the spirit of the *"system-of-systems"* doctrine and the *BMC3I (Battle Management, Command, Control, Communications & Intelligence)* concept (globalsecurity.org). This concept integrates the essential functions required for planning, directing, coordinating and efficiently conducting military operations. Its purpose is to provide commanders with a complete picture of the battlefield to enable rapid and accurate decision-making.

The BMC3I system aims to achieve the following: faster decision-making based on concrete data; coordination between own and allied forces; provision of a Common Operational Picture (COP); increased combat efficiency and response to threats. It can be employed in: air and missile defence systems; land, air, naval, or cyber operations; C2 centres; drone missions; NATO or multinational operations.

A BMC3I system can integrate:

- A radar that detects an enemy missile (Intelligence);
- A command centre that decides which interceptor to launch (Command);
- Encrypted communications that transmit the order (Communications);
- An operator monitoring the action in real time (Control);
- All these functions are coordinated by an integrated digital platform (Battle Management).

Some current global examples include:

❖ NATO AWACS (E-3A Sentry): radar aircraft providing command, control and aerial surveillance;

❖ ACC – Allied Command and Control Structure: NATO's integrated command structure for coordinating multinational operations;

❖ Patriot System: a system operating in integration with Aegis, THAAD and other NATO platforms;

❖ Aegis Ashore missile defence system operated by the USA in Romania under NATO collaboration. It is part of the European Phased Adaptive Approach (EPAA) – the US strategy for missile defence in Europe.

From the perspective of emerging risk (unlikely or non-existent previously, but now relevant or critical in the present or near future), a few examples include: the use of autonomous AI in combat with lethal drones without direct human control; excessive reliance on AI for decision-making without human oversight.

The complexity of AI raises the risk of *"cognitive overload"*, where human decision-makers can be overwhelmed by the volume and weight of information. In addition, hybrid entities can launch automated disinformation campaigns using deepfakes, affecting internal cohesion and operational stability.

3. Strategic Level: Algorithmic Supremacy or Automated Escalation

At the strategic level, AI influences politico-military decision-making through its ability to analyse complex scenarios, model the evolution of conflicts and provide support in risk assessment. In conventional warfare, this capability can be used to calibrate proportional responses, identify points of geopolitical pressure, or anticipate the reactions of alliances and state actors.

In the hybrid environment, AI becomes an instrument of power projection by non-kinetic means. It can be used for campaigns of strategic destabilization, influencing public opinion, or disrupting the functioning of state institutions through sophisticated cyber operations. State and non-state actors that possess AI capabilities can build algorithmically-driven disinformation ecosystems capable of undermining social cohesion and trust in political and military leaders.

The major danger at this level stems from the opaque nature of AI – the algorithm's *"black box".* Strategic decisions generated by AI, without a deep understanding of how they were derived, can lead to disproportionate responses, inadvertent escalation, or errors in strategic perception. At the same time, the proliferation of AI capabilities to authoritarian regimes or insurgent groups can unbalance the international security system by democratizing access to influence and strategic sabotage technologies.

AI offers sophisticated tools for wargaming, large-scale simulations and the reduction of strategic uncertainty. Modelling nuclear effects and scenario analysis can be performed without real-world testing, contributing to planning and deterrence.

The term *"Hyperwar"* describes conflict dominated by rapid algorithmic decisions that exclude or minimize the human factor – a scenario in which strategic reactions can escalate without human discernment. Likewise, the global race for drone swarms between the USA (The New Yorker, 2023; the US Replicator, launched in 2023 by the US Department of Defense, aiming at fast, efficient production of autonomous drones) and China (mynews, 2024; researchers at Nanjing University have developed drones that can split mid-air into 2 to 6 autonomous units, inspired by the structure of a maple seed, each sub-drone having a distinct role: communications, reconnaissance and attack) – can destabilize the international

order through rapid proliferation and large-scale use.

At present, counter-technologies exist for the two programs described above, known as *anti-swarm* systems:

❖ The USA has tested anti-drone systems based on microwaves, directed-energy systems (High Power Microwave/HPM) such as THOR (Tactical High Power Operational Responder), capable of neutralizing swarms of UAVs in a single strike (airforce-technology, 2021). Operation is achieved through an instantaneous electromagnetic pulse *("speed-of-light")* that disables drones over a wide area.

An electromagnetic pulse weapon called *"Leonidas"* (directed-energy, High Power Microwave) (Defense News, 2023), designed and developed by the company Epirus as early as 2020 and funded under the IFPC HPM contract (2023-2024), has demonstrated the capability to disable dozens of drones simultaneously in a rapid counter-swarm demonstration. By March 2024, Epirus had delivered four prototypes of the system to the US Army.

An example of a fictional *Hyperwar* scenario would be the following: a radar detects the launch of five hypersonic missiles; AI triggers countermeasures without human approval; autonomous attack drones detect and neutralize the adversary's command nodes; part of the conflict takes place in cyberspace, where servers, networks and satellites are disabled or compromised; critical decisions are made in less than one second, without humans understanding the full picture.

As of this date, the countries developing capabilities for *Hyperwar* are:

- USA: DARPA programs, AI systems for command and control (IDST, 2025);
- China: Massive investments in military AI, cognitive warfare, and autonomous drones (Asia Times, 2023);
- Russia: AI-integrated defence systems, automated information manipulation (cna.org, 2022);
- NATO: Initiatives to adapt to the accelerated pace of multi-domain conflict (arxiv.org, 2023).

Hyperwar is not just a possibility – it is a direction toward which modern warfare is inevitably moving, alongside technological advancement. Preparing for such a conflict involves: developing compatible technological capabilities, adapting military doctrines, and, very importantly, defining clear ethical and legal frameworks.

ETHICS, REGULATION AND HUMAN CONTROL

Strategic horizons also require a robust ethical foundation. Recent documents emphasize the necessity of FATE principles (Fairness, Accountability, Transparency, Ethics) in AI applications, along with qualities such as fairness, proportionality and decision-making responsibility.

Today, *Lethal Autonomous Weapon Systems (LAWS)* raise legal and moral dilemmas because these weapon systems are capable of selecting and engaging targets without direct human intervention, using artificial intelligence algorithms. Discussions are ongoing regarding the development of a regulatory framework for AI weapons, but no definitive outcome has been reached yet. The key question remains: *If a LAWS weapon makes a mistake, who is responsible?* The answer is uncertain: the weapon's developer, the commander of the unit operating it, or the state that owns it? The current Statute of the International Criminal Court does not explicitly cover autonomous weapons.

Within the UN, in 2014, the Group of Governmental Experts discussed regulating LAWS; however, no consensus has been reached on a prohibition. Still, several states (including the EU) call for a total ban or clear limitations.

There are also a few academic and civil initiatives, such as:

- Future of Life Institute (futureoflife.org) and Human Rights Watch[2] promote international treaties to ban LAWS, similar to those for anti-personnel mines or chemical weapons;
- Specialized structures (military and civilian) worldwide, along with the International Committee of the Red Cross (ICRC)[3] propose a legal framework that includes: ethical and legal assessment of each system; guaranteed human control; auditability and transparency of AI decisions[4].

LAWS raise fundamental legal and moral issues. Therefore, developing an international control framework for autonomous AI weapons is considered not only feasible but urgently necessary. Current academic discussion focuses on finding a balance between technological innovation and compliance with international norms.

The guarantee of *"Meaningful Human Control"*[5] is a central concept in debates, meaning that any lethal decision must involve an informed and responsible human agent.

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[2] https://www.stopkillerrobots.org/wp-content/uploads/2020/08/arms0820_web_final.pdf, retrieved on 30.08.2025.

[3] https://www.icrc.org/en/law-and-policy/legal-review-weapons/, retrieved on 30.08.2025.

[4] https://unidir.org/files/2021-07/UNIDIR%, retrieved on 30.08.2025.

[5] https://una.org.uk/sites/default/files/2022-01/lethal_autonomous_weapons_systems.pdf, retrieved on 29.08.2025.

Returning to the context of *Hyperwar*, where AI makes rapid decisions without human intervention, FATE principles are essential, in our view, to: prevent accidents or unintended escalation; maintain human control in all situations; comply with International Humanitarian Law (IHL); preserve trust in technology and in the commanders of all structures they lead.

CONCLUSIONS

Artificial intelligence is reshaping the complexity of modern warfare, yet it cannot replace human reasoning. The success of AI implementation depends on balancing:

- Operational efficiency and cognitive peace;
- Autonomy and responsibility;
- Power projection and ethical governance.

It is imperative that military strategies incorporate robust human control, transparent policy development and international cooperation to prevent AI from becoming an agent of instability rather than a catalyst for security.

AI is both a double-edged sword and a catalyst for transforming military art. Depending on how it is integrated, regulated and used, AI can provide decisive advantages or become a major vulnerability. Military decision-makers must maintain a balance between technological innovation and human oversight to ensure national security and global stability.

AI is not only a force multiplier but also a redefiner of how military art is conceived and conducted in the 21st century. While the benefits of AI integration are undeniable, they must be weighed against the associated vulnerabilities. From operational risks posed by reliance on autonomous systems to strategic instability amplified by opaque and hard-to-control AI, the challenges are numerous.

From the perspective of military art, AI should not be viewed as a replacement for the human commander but as a sophisticated, yet imperfect, support tool. Decision-making sovereignty must remain in human hands, capable of integrating context, moral judgment and advancement wisdom – aspects that no algorithm, however advanced, can authentically substitute. Only through balanced and ethical integration of AI into military architecture can it avoid transforming from an operational asset into a systemic vulnerability.

The benefits of AI in the military context are profound and diverse. AI accelerates decision-making by processing massive amounts of data in real time, enabling military leaders to respond to threats with unmatched speed. Its accuracy minimizes

collateral damage and enhances the effectiveness of strike systems. Moreover, AI's adaptability ensures that military systems remain relevant as technologies and tactics evolve.

However, AI presents several disadvantages:

- AI systems are vulnerable to erroneous data inputs, which can lead to unintended consequences;
- Ethical concerns arise from the use of AI in warfare, particularly regarding autonomous weapons that could make life-or-death decisions without human intervention;
- Malfunctions or hacking pose serious threats – if AI systems are compromised, adversaries could manipulate military actions, resulting in catastrophic outcomes;
- Another significant issue is AI unpredictability. If a system malfunctions, it may be difficult to determine responsibility. This concern becomes more critical as technologies become increasingly autonomous. Malfunctioning AI could harm innocent civilians and accountability may be unclear.

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