Wartech Nexus -
The ultimate Human-Machine Fusion?

Authors: **Bernhard Schulyok** has research interests in Security Policy and Military Capability Development. He has written three handbooks and numerous individual articles in the journal "Truppendienst" and in the online journal "The Defence Horizon Journal". He is also the National Director of the multinational platform: Military Capability Development Campaign (MCDC).

Katharina-Franziska Zeman is deeply interested in the intersections of cognition, security policy, and emerging technologies. With experience in the public sector, she has worked on diverse topics, focusing on the societal and security impacts of modern technologies. Her interdisciplinary approach blends innovative perspectives with in-depth analysis.

The views contained in this article are the authors' alone and do not represent the views of the Austrian Federal Ministry of Defence.

Abstract: AI-powered autonomous weapons, from advanced drones to robotic soldiers, are reshaping warfare with unmatched speed, precision, and adaptability. Capable of life-and-death decisions, they deliver tactical power and coordination, reducing human risk and amplifying military strength. Intelligent swarming and real-time responses provide a formidable combat edge. However, robust controls are crucial to wield these tools responsibly, shaping warfare's future with strategic brilliance and caution. Yet, will robots replace humans on the battlefield, or could even more AI—from a living room—subtly turn people into compliant vassals of power, perhaps fostering complicity by choice?

Bottom-line-up-front: Autonomous weapons driven by AI are set to dominate future warfare, offering unmatched tactical power, rapid decision-making, and life-or-death autonomy. While promising reduced human risk and unprecedented speed, they also present critical challenges in control and accountability. For military forces to fully harness these tools, robust oversight is essential to prevent unintended consequences and ensure strategic goals are met without compromising human judgment.

Problem statement: How can society, with the military as part of it, maintain control and dominance over AI-driven systems powered by self-learning algorithms while leveraging their advantages?

So what?: Military forces must implement robust control and oversight mechanisms to effectively deploy AI and AI-driven autonomous weapons. Additionally, military leadership must be highly attuned to the influence of AI on social media, recognizing its potential to shape behavior. This responsibility lies

with military leaders, policymakers, and international organizations to ensure the ethical and strategic use of AI, while safeguarding human judgment and accountability.

"Weak human + machine + better process is superior to strong human + machine + inferior process."[1]

(Garry Kasparov)

The fusion of human intellect and machine efficiency reshapes modern warfare, forging a powerful interplay of cognitive brilliance and mechanical precision. This article explores three pivotal scenarios of this transformation.

First, human enhancement and human-machine teaming elevate human capabilities in extreme environments through technologies like EEG interfaces and adaptive displays, enhancing perception, cognition, and decision-making. These innovations blur the human-machine divide while raising ethical, legal, and technical challenges, particularly around autonomy and energy sustainability.

Second, the rise of battlefield automation introduces autonomous drones and swarm systems, enhancing efficiency but challenging control, accountability, and targeting precision. Cybersecurity risks, from programming flaws to malicious manipulations, further complicate deployment.

Third, the manipulative potential of AI in social media comes into focus. Psychographic targeting enables mass behavioral influence, undermining social norms and advancing political or military goals. This capability threatens to alter geopolitical and geoeconomic balances by granting asymmetric advantages to its wielders.

The article highlights the synergy between human creativity and machine precision, offering immense promise while demanding strict regulatory frameworks and human-centered oversight. This imaginative journey reflects advancements already achievable today. These possibilities are both alarming and underscore the urgent need for regulation, emphasizing vigilance against those operating outside established rules. Additionally, tailored education and training are vital to prepare Western forces for the challenges of technology-driven warfare. Together, these shifts will redefine the future of war and global security.

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[1] https://warontherocks.com/2022/07/weak-human-strong-force-applying-advanced-chess-to-military-ai/