

EMERGING TECHNOLOGIES IN DEFENCE: AI, AUTONOMY, AND CYBERSECURITY







Maj Gen (Ret.)
Gordon 'Skip' Davis
Former Deputy Assistant Secretary-General for Defense
Investment, NATO HQ (Moderator)



Brig Gen (Ret.)
Nick Cowey
Former Head of Military Capability Delivery
British Army HQ

MEET THE PANEL



Michael Benhamou Executive Director OPEWI – Europe's War Institute



Federico Borsari Leonardo Fellow Center for European Policy Analysis (CEPA)



Antoine SmallegangeSr Business Consultant C4ISR & AI Operation & Human Factors
TNO

PANEL OUTLINE

The technological epoch has ushered in revolutionary tools that are drastically altering defence and security strategies. Artificial Intelligence (AI) is no longer a nascent concept but an integral component in decision-making processes and battlefield operations and simulations. Autonomy, with its capability to execute precise and risky operations with varying degrees of human control, reduces human exposure to danger zones. Meanwhile, as defence mechanisms digitise and become interwoven with the world of 0s and 1s, cybersecurity emerges as a nonnegotiable pillar, defending against invisible threats. While these technologies herald unprecedented capabilities, they also introduce challenges in terms of trust, control, ethics, and vulnerabilities.

Listeners will emerge with a nuanced understanding of the pivotal technologies driving defence's future. They'll grasp the potential and the pitfalls of Al, autonomy, and cybersecurity in warfare, gain insights into policy implications, and appreciate the ethical challenges and debates surrounding tech-driven warfare. This panel promises a 360-degree exploration, equipping attendees to anticipate and navigate the defence sector's evolving landscape.

UNLOCKING THE POTENTIAL OF AI, AUTONOMY, AND ROBOTICS IN DEFENCE: EXPERTS WEIGH IN

In a recent panel discussion moderated by Maj Gen (Ret.) Gordon 'Skip' Davis, Deputy Assistant Secretary-General for Defence Investment at NATO HQ, experts delved into the transformative potential of Artificial Intelligence (AI), autonomy, and robotics in the defence sector. Brig Gen (Ret.) Nick Cowey from British Army HQ, Michael Benhamou, Executive Director of OPEWI – Europe's War Institute, Federico Borsari from the Center for European Policy Analysis (CEPA), and Antoine Smallegange, Senior Business Consultant at TNO, shared valuable insights on the current landscape and future implications of these technologies.

The panelists unanimously agreed that while Al, autonomy, and robotics have been in existence for decades, their development and application are now accelerating, reshaping defence capabilities and operational strategies. They emphasised the interconnectedness of these technologies and their broad commercial and defence applications. Al, as a key enabler of autonomy and cyber capabilities, is revolutionising various aspects of defence, from data analysis and intelligence processing to decision support and operational effectiveness.

However, despite their immense potential, the panelists highlighted several challenges and limitations. Al heavily relies on trustworthy data and rigorous testing to mitigate biases and unexpected outcomes. Cybersecurity remains a constant concern, with evolving threats and the expanding attack surface of connected systems. Autonomous technologies face constraints such as computing power, communication systems, and cost-effectiveness.

To fully harness the potential of these technologies, the panelists outlined several key initiatives. These include fostering collaboration between industry, academia, and

government sectors, accelerating development cycles, and prioritising education and training on Al capabilities and limitations. Building trust among policymakers, operators, and the public is deemed essential, along with establishing ethical and legal frameworks for responsible use and human oversight.

Moreover, the panelists stressed the need for bold leadership in adopting these technologies, despite inevitable challenges and uncertainties. They advocated for a balanced approach to regulation, avoiding stifling innovation while ensuring interoperability and common standards across military forces.

Looking ahead, the panelists cautioned against overestimating the pace of integration of Al and autonomous systems into military operations. They highlighted the importance of addressing technical, ethical, and operational challenges, including data quality, security threats, and human-machine interaction. Integrating Al into military training and exercises was deemed crucial for enhancing Al literacy and developing effective concepts of operation.

In conclusion, while AI, autonomy, and robotics hold immense promise for enhancing defence capabilities, their successful integration requires a holistic approach encompassing technological innovation, regulatory frameworks, and human-centric considerations. By navigating these challenges thoughtfully, military forces can unlock the full potential of these transformative technologies while maintaining strategic advantage in an evolving security landscape.

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