Defense Paper Series

Reorienting Defense Technology Policy: Moving from Research to Implementation

Mike Groen

Executive Summary

Sustaining U.S. military advantage demands that the next National Defense Strategy (NDS) move beyond simply acknowledging the importance of emerging technologies like Artificial Intelligence (AI) and instead, make their rapid implementation a central strategic pillar. The current approach, which treats AI as a nascent research topic rather than a mature, warfighting imperative, will relegate it to a backwater of slow-moving bureaucracy. A continued reliance on traditional acquisition models and vendor control similarly stifles the bottom-up, soldier-driven innovation essential to winning on a modern battlefield. To maintain a decisive edge against strategic rivals, the NDS must explicitly prioritize the widespread implementation of commercially available technology, establish clear accountability metrics for a culture of battlefield experimentation, and empower frontline forces to innovate.

Background and Context

The U.S. military has historically relied on a top-down, contractor-driven model for developing and acquiring new capabilities. This approach, while effective for complex, long-lead programs, is fundamentally unsuited to the speed of modern information technology. The Department of Defense has recognized this in principle, yet its strategic alignment often falls short. The next NDS must rectify this disconnect by treating technological adoption as a core line of effort, not just a supporting function. The relegation of the Chief Digital and AI Office (CDAO) to the R&E element is a symptom of this strategic misalignment, demonstrating a misunderstanding of the current technology landscape. AI is a mature, dual-use technology that has already been leveraged to great effect across hundreds of commercial industries, from logistics to manufacturing.

Reorienting AI from Research to Implementation

The NDS must articulate a strategic pivot from a research-centric view of AI to a mission-centric one. The Department of Defense already possesses the core AI technologies necessary for a competitive advantage; the strategic challenge is not in the lab, but in the field. To translate AI from a concept into a warfighting reality, the NDS should:

- Establish Implementation as a Strategic Imperative: The NDS must move beyond vague language and explicitly mandate that the Services focus on applying AI to "real" warfighting processes. The Services do not lack access to AI technology; they lack a strategic mandate and accountability to drive its implementation at scale.

- Mandate Clear Accountability: The NDS should establish specific metrics and leadership accountabilities for the implementation and integration of AI across a range of operational processes. This would help break down the institutional "tribalism" that has historically splintered and diffused transformative outcomes.

- Empower Bottom-Up Innovation: The NDS should enable data structures and technology insertion at the lowest possible levels, allowing "process owners" at the tactical edge to drive the development and integration of AI-enabled processes.

Empowering Battlefield Innovation as a Strategic Pillar

The NDS must recognize that future military power will depend on the ability to rapidly innovate at the tactical edge. The defense industry's reliance on a closed, slow-moving development process subjects combat development to the most expensive and cumbersome methodologies possible. The experience of Ukrainian forces, who have self-optimized the application of military technology and experimented with innovative drone enterprises at the forward edge, demonstrates a new paradigm for battlefield effectiveness. To foster a similar culture of agility, the NDS should:

- Liberate Battlefield Knowledge: The strategy must promote the liberation of system knowledge, specifications, and standards. The NDS should ensure that frontline forces have the information and capabilities they need to invent, innovate, and experiment with military technology.

- Prioritize Warfighter-Driven Innovation: Forcing battlefield innovation through the "soda straw" of defense industry processes is a twentieth-century recipe for defeat. The future of military effectiveness lies on a growth trajectory that values the insight of front-line soldiers to invent, innovate, and experiment at the tactical edge. No external apparatus can keep pace with that level of creativity and adaptation. The NDS must explicitly endorse policies that promote this partnership, transforming the relationship with technology from one of bureaucratic control to one of collaborative innovation - at the critical point of need - the tactical edge.

The Human Edge in an Expeditionary Fight

To effectively counter China, the U.S. will need to rely on its expeditionary force, but the true advantage lies in empowering its people with technology. China enjoys the "home-field" advantages of geography and shorter logistics chains, which are amplified by its anti-access/area-denial (A2/AD) capabilities designed to keep U.S. forces at bay. An expeditionary posture is essential to overcome this, as it allows the U.S. to operate from a dispersed network of bases and platforms, complicating China's targeting and ensuring U.S. forces can project power across vast distances.

However, the foundation of U.S. military power will continue to be the ingenuity, adaptability, and innovation of its people. By equipping these warfighters with advanced technologies like AI, the U.S. can amplify their qualities, making them more productive, agile, and resilient. AI-enabled tools can accelerate decision-making, expand operational reach, and unlock new forms of adaptation, ensuring that America's enduring human advantage remains decisive in a conflict with China. This is how the next National Defense Strategy can ensure that the U.S. not only gets "in the fight" but also wins it by leveraging its personnel's capabilities to overcome any adversary's strategic edge.