Agentic Warfare—The Humans are Central

The Problem: The Department of War (DOW) is at a key moment of transition to agentic artificial intelligence (AI): systems that not only reason and analyze but can take autonomous actions based on these findings. Yet even as the Department acknowledges that AI will profoundly shape enterprise and back-office functions, intelligence operations, and warfighting alike, the linchpin to tactical success on all fronts hinges on humans teaming with AI. AI is unreliable without humans. It will be the human capital of the DOW that is decisive: the people who will power the agentic systems we use to deter, fight, and win wars. Nevertheless, current efforts to build the AI workforce that the DOW needs—including AI literacy for all roles and positions and streamlined hiring processes for technical talent—are too slowly picking up steam. While new initiatives such as the U.S. Tech Force and the Economic Defense Unit (aka "Deal Team Six") bring in experts the Department needs, this approach must be scaled across the force, not just the E-ring. We also have the immense opportunity to add depth, dynamism, and flexibility to the professional military and civilian educational offerings needed to upskill a 3+ million strong workforce at a rate commensurate with the need for collaborative human-machine teaming.

Why It Matters Now: The DOW possesses a tremendous starting advantage relative to allied and adversary nations alike. Not only do the most capable current models and systems come from the U.S. private sector, but Secretary Hegseth and Department leadership have created substantial top-down momentum to embrace AI systems. Yet real operational impact will only be achieved through human-machine teams working together. Collaborative combat aircraft, self-cueing sensor networks, agentic planning tools embedded in combatant commands—these are the systems that need human oversight. Exactly what the role of the human is in each—how and when they need to exercise judgment and the ways in which they are responsible and accountable for system behavior—remains to be fully defined.

Next Steps: The task at hand is vast. Military and civilian personnel must design entirely new AI-native processes across systems and sectors at a time when AI talent is scarce. These processes must put humans on or in the loop and at the center of how AI systems are designed, not just at the controls. This transition to collaborative human-machine teams is not a step change, but a sea change.

1 - Design AI Systems with Humans at the Center and On or In the Loop: As AI takes on increasingly complex and high-stakes tasks, the humans remain. Far from being a temporary training phase, continuous human intelligence is the core infrastructure required to push frontier models and agentic systems past their limitations and prevent autonomous systems from degrading over time, especially in high-stakes applications. Building the agentic warfighting systems we need demands a permanent human-on or human-in-the-loop architecture to verify accuracy and handle edge cases that machines alone cannot solve. As our agentic systems become more capable, the expert judgment of our military operators is ultimately the only way to ensure they remain reliable and safe to deploy.

2 - Seed the Force with the Talent that Can Design, Acquire, and Operate Agentic Systems: Dedicated digital career paths, technology-savvy management, and the sophisticated toolsets found in the private sector can help the DOW adopt better AI tools faster. The Office of the Under Secretary of War for Personnel and Readiness (OUSW(P&R)) and military leadership should revisit the human capital recommendations of the National Security Commission on AI. They should closely consider the Cyber Excepted Service model, and whether establishing an "AI Excepted Service"—one that allows rotation between government and industry and values technical competence—might help attract strong AI talent into the Department. With even modest changes, the Department can substantially upskill its native talent for the AI era.

3 - Establish Differentiated, Role-Based Requirements, Competencies, and Training Opportunities: While all DOW and military personnel will need to be AI "literate"—able to assess risk, ethics, and limitations of the systems—their training and tasking for effective human-machine teaming demands specificity. The Chief Digital and Artificial Intelligence Office (CDAO) now has the opportunity to define a DOW-wide AI competency taxonomy that distinguishes between operators, technicians, and leaders, providing the foundational framework from which role-specific requirements can be built. OUSW(P&R) should integrate that taxonomy into existing or new occupational series, working with the relevant Services to ensure AI competencies are formally recognized. Our engines of professional military education—from the National Defense University to the Warfighting Acquisition University—can also translate that taxonomy into differentiated training requirements and expertise modules, specifying the role-specific competency standards that will govern what each community must know and demonstrate. These efforts must be coordinated: DOW should designate CDAO as the integrating authority responsible for ensuring the competency taxonomy remains coherent across the Services.

4 - Transition Educational Delivery Modules to Continuous Learning: To transform the Pentagon and military workforce into an agile, AI-capable organization expert at human-machine teaming, the DOW must move away from static "classroom-only" instruction that happens at certain points in a servicemember or civilian's career and institutionalize a continuous, competency-based learning ecosystem. The CDAO should lead this transformation for the civilian workforce, rebuilding curricula as an evolving delivery framework that integrates real-time technological updates and on-the-job training, ensuring busy professionals learn within the flow of operations. The Joint Staff J-7, in collaboration with the CDAO and the Joint Staff CDAO, should drive the equivalent reform across professional military education, sequencing AI content across the career cycle rather than treating it as a standalone checkpoint. In all of the operational communities across the DOW that have their own training and recertification programs, the Department must pivot away from rewarding "certificates of attendance" toward a competency-based and -tested model that links substance and process. OUSW(P&R) must reinforce that pivot by tying promotions to demonstrated mastery of AI-driven tools and human-machine teaming protocols. This approach ensures that the DOW's greatest asset—its experienced workforce—remains at the center of AI systems, with humans on or in the loop using expert judgment to operate the agentic systems core to U.S. national security.