War Department Narrows Technology Development Focus to Half Dozen Areas



Nov. 19, 2025 | By C. Todd Lopez, DoW News

Directed energy, hypersonics and artificial intelligence are among the six technology focus areas for the War Department meant to ensure America's warfighters will quickly have what's needed to fight and win on the battlefield.

“Our adversaries are moving fast, but we will move faster,” said Emil Michael, undersecretary of war for research and engineering. “The warfighter is not asking for results tomorrow; they need them today. These six critical technology areas are not just priorities; they are imperatives. The American warfighter will wield the most advanced technology to maximize lethality.”

Among those technology areas are applied AI, biomanufacturing, contested logistics technology, quantum battlefield information dominance, scaled directed energy, and scaled hypersonics.

President Donald J. Trump’s Winning the Race: America’s AI Action Plan, released July 23, 2025, directs the War Department to aggressively adopt AI to maintain global military preeminence, and to ensure the use of AI is both secure and reliable.

“When adopted rapidly, AI will fundamentally transform the department from the enterprise level to intelligence synthesis and to warfighting,” Michael said.

Biomanufacturing uses specially designed genetically modified living organisms, such as bacteria, to manufacture needed materials.

” harnesses living systems to produce capabilities at scale,” Michael said. ” will accelerate the development and deployment of biomanufacturing solutions to support critical missions of the department.”

With biomanufacturing, he said, the department can expect development of bio-based alternatives for critical chemicals, minerals and energetics for use in warfighting systems.

With a focus on directed energy, Michael said, the department will enable the rapid scaling of high-energy lasers and high-

power microwave systems with widely accessible, low-cost-per-shot response options. And with scaled hypersonics, the department will focus on scaling production, lowering costs and widely fielding hypersonic weapons to the force.

Secretary of War Pete Hegseth said the new, more narrowly defined technology focus areas will give America and its warfighters a battlefield advantage and secure the future of American technological dominance.

“Our nation’s military has always been the tip of the spear,” Hegseth said. “Undersecretary Emil Michael’s six critical technology areas will ensure that our warriors never enter a fair fight and have the best systems in their hands for maximum lethality. The War Department is committed to remaining the most deadly fighting force on planet Earth.”