



Critical Technology Areas and Prototyping Focus Areas

Where the Department is going in the future

R&E Critical Technology Areas

APPLIED ARTIFICIAL INTELLIGENCE		
AAI	AI is the cornerstone of the DoW's strategy to achieve decision superiority. By embedding AI into command-and-control systems, the Department will enable intelligent workflows.	
BIOMANUFACTURING		
BIO	Harnessing living systems to produce critical materials at scale, BIO enhances operational resilience and reduces logistical vulnerabilities in unfavorable environments.	
CONTESTED LOGISTICS TECHNOLOGIES		
LOG	LOG reimagines military sustainment in disrupted or denied environments, ensuring warfighters have access to critical resources.	
QUANTUM AND BATTLEFIELD INFORMATION DOMINANCE		
Q-BID	Q-BID ensures operational effectiveness in contested electromagnetic environments by modernizing communication and sensing technologies	
SCALED DIRECTED ENERGY		
SCADE	SCADE focuses on scaling high-energy lasers and microwave technologies to provide low-cost, high-impact solutions against emerging threats.	
SCALED HYPERSONICS		
SHY	SHY will deliver Mach 5+ hypersonic weapons at scale, providing unmatched speed, precision, and survivability.	

P&E Prototyping Focus Areas

Enhancing ISR

Intelligence Surveillance Reconnaissance (ISR) system innovation improves situational awareness, enabling proactive actions based on real-time information.

Counter-C5ISR

Counter-Command, Control, Communications, Computers, Cyber, Intelligence, Surveillance, Reconnaissance, and Targeting (C5ISR) capabilities shape the environment and defend in depth by degrading the adversary's critical systems, rendering network-enabled weapons and communications ineffective.

Affordable Long-Range Fires

Capabilities attack in multiple dimensions by taking advantage of time-sensitive windows of opportunity in which adversary defenses have been degraded to deliver cost-imposing, high-impact and hard-kill kinetic effects.

Enhancing Lethality

Novel capabilities, such as electronic warfare and low-cost short range air defense systems, can deliver effects to protect forward forces against a wide variety of threats.

Resilient Communications

Capabilities will ensure multi-domain communications from the seabed to space by providing multiple diverse pathways, encryption, and resilience.

Multi-Domain Collaborative Autonomy

Autonomous unmanned systems from the seabed to the stratosphere that coordinate across domains and the capabilities that enable them, including networks and C2.

Contested Logistics/Other

Capabilities to deploy, sustain, and regenerate materiel in the contested battlespace to offset adversary advantage.