

US Army developing strategy to reduce logistics, sustainment demand

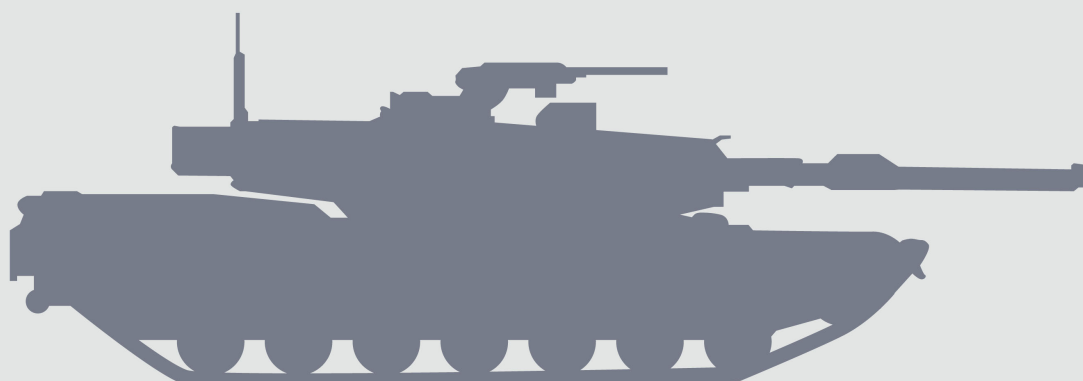
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The US Army Capabilities Integration Center (ARCIC) conducted a 'Demand Reduction Summit' in April to explore means for easing logistics burdens so units can operate for longer periods in a more dispersed manner. Those burdens include fuel, water, and other supplies.

US Army ground combat systems



M1A2 Abrams main battle tank

General Dynamics Land Systems

Combat weight 139,080 lb (63,086 kg)

Top speed 42.0 mph (67.6 km/h)

Range 264.7 miles (426 km)

Armament: 1 turret-mounted 120 mm M256 smoothbore gun; 1 coaxial-mounted 7.62 mm M240 machine gun; 1 roof-mounted .50 cal machine gun; 1 roof-mounted 7.62 mm M240 machine gun; 12 turret-mounted smoke grenade launchers

Source: IHS

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The M1A2 Abrams main battle tank. (IHS Markit)

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"The main goal for the summit was to get the word out about demand reduction and get everybody's buy-in" so more than just logistics and sustainment experts are working on solutions, Colonel Stephanie Gradford, chief of ARCIC's Sustainment Division, told reporters on 2 May.

Officials used the summit to get a common understanding about the main drivers of that demand - specifically fuel, water, ammunition, and energy.

The army expects to have a complete strategy "towards the end of the year" that would be similar to the service's Robotics and Autonomous Systems (RAS) framework that outlines near-, mid-, and far-term priorities.

For example, in the near term the army may pursue a fuel automated management system to "allow us to understand how much fuel we have, where it is, and then be more precise in understanding how far our operations can extend" and to re-programme supply units as necessary, according to Colonel Mark Simerly, chief of the Combined Arms Support Command's Capability Development and Integration.

Other near-term solutions could include improved tactical power generation or microgrid technologies for on-the-move and halted units, or some additive manufacturing to produce combat spares, he said.

In the mid- or long term the army is exploring alternative energy such as hybrid electric engines for combat vehicles, as well as autonomous re-supply and delivery by air and ground.

Autonomous aerial distribution could have several tiers: delivering 1,500-2,000 lbs of supplies out to 100-150 km; a medium capability to resupply infantry squads with 300-500 lbs fuel, ammunition, and water; and a light capability such a smaller unmanned aerial vehicle to deliver 20-50 lbs from forward supply base to a point of need (such as during a medical emergency), Col Simerly said.

For ground supply the army is continuing the work its long done towards autonomous convoy operations, and exploring ground cargo vehicles that would deliver cargo in various formations. Col Simerly said the service is developing different formations for experimentations to determine how to integrate them in a manned or unmanned platoon, but he noted that sensors and artificial intelligence technology are tough for off-road operations.

COMMENT
Networked systems such as the fuel automated management system or even unmanned convoy technology could increase the risk to sustainment operations because network-based or autonomous systems could be vulnerable to an adversary's hacking. It would be significantly advantageous, for example, for an enemy to delay or divert fuel meant to resupply an armour unit. In the longer term Col Simerly said the army would seek to add redundancies and risk mitigation tools to something like the fuel automated management system. Officials declined to say what those might be.