

Adding SHORAD: US Army rebuilds its short-range air defences

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The US Army is working in earnest to reconstitute a short-range air-defence capability that has atrophied during 18 years of counterinsurgency operations. *Daniel Wasserbly and Andrew White report*

Short-range air-defence (SHORAD) units were typically division-level assets for the US Army. However, during operations in Iraq and Afghanistan in the early 2000s the service shifted to a brigade-based concept in order to meet demanding deployment rotations, and cut those units from the structure to gain manpower and save money, assuming that air superiority was a given in counterinsurgency operations. The service had 26 SHORAD battalions in 2004.

“The short-range [air defence artillery] ADA force post-2005 was reduced to two battalions of active component Avenger and counter-rocket, artillery, and mortar [C-RAM] batteries, and seven National Guard Avenger battalions – none of which are organic divisional elements,” Brigadier General Randall McIntire, then the Army Air Defense Artillery School commandant and air defence artillery chief, wrote late last year in *Fires*, an official army publication. “Defense against air threats in maneuver forces is currently limited to that provided by organic weapons and maneuver personnel.”



Soldiers with 4th Squadron, 2nd Cavalry Regiment, prepare to shoot live Stinger missiles on the last day of Exercise 'Artemis Strike' in Crete in late 2017. The US Army is ramping up training across units for SHORAD weapons. (US Army/Captain Judith Marlowe)

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The AN/TWQ-1 Avenger, on which those remaining battalions are based, was developed in the 1980s. The system consists of a HMMWV with a turret that mounts eight Stinger missiles, connects to an air-defence network, and uses an optical sight or a forward-looking infrared (FLIR) targeting system.

Since 2005 potential threats to manoeuvre forces have proliferated rapidly. Unmanned aircraft systems (UASs) in particular have become a source of concern, as the US Army watched Russian-backed forces use UASs to effectively target Ukrainian formations during fighting in the Donbass that began in 2014.

In 2015, a National Commission on the Future of the Army highlighted shortfalls in SHORAD (and aviation and other areas), and suggested building up capabilities for contingencies in Europe or on the Korean peninsula.

“SHORAD is a capability that we’re working towards defining,” rather than just a weapon system, Brig Gen McIntire, now head of the army’s Air and Missile Defense Cross-Functional Team (CFT), told *Jane’s* in October. “Our adversaries have invested in this area while we divested,” he said.

First among the army’s efforts to reconstitute its depleted SHORAD capability is training infantry and armour soldiers to defend themselves with the FIM-92 Stinger man-portable air-defence system (MANPADS). There have been training events in the United States – at Fort Riley, Fort Hood, and Fort Bragg – as well as in Europe with the 2nd Cavalry Regiment and 173rd Airborne Brigade. The 2nd Infantry Division in South Korea is to next train on the Stingers. “That’s all about having something in our quiver and buying time,” Brig Gen McIntire said.

IM-SHORAD

The idea of enhancing manoeuvre formations with a new material SHORAD solution became official in March 2017. The army did live-fire demonstrations within 7–8 months, took that data back to the Air and Missile Defense CFT, and got a directed requirement drafted and signed within weeks, Brigadier General Robert Rasch, the Program Executive Officer for Missiles and Space, told *Jane’s*

The solution is called Interim Maneuver SHORAD (IM-SHORAD), and marries a General Dynamics Land Systems Stryker wheeled combat vehicle with a radar and weapons package from Leonardo DRS. Announced in June 2018, the package includes Moog’s Reconfigurable Integrated-weapons Platform (RIWP) with two Hellfire missiles capable of hitting air or ground targets, four Stinger missiles for lighter-armoured air targets, an XM914 30 mm Bushmaster Chain Gun, a 7.62 mm machine gun, an electronic warfare (EW) package, L3 Wescam’s MX-GCS sighting system, and Israel’s Rada’s Multi-mission Hemispheric Radar (MHR) capable of tracking air and ground targets.

Moog estimated the RIWP has a combat weight of 2,200 lb when fitted with “a high-end sight, multiple missiles, and two guns”. The electromechanical, two-axis stabilised turret can turn 360° and elevate from -20° to 60°, the company said.

The cannon is supplied by Northrop Grumman (formerly Orbital ATK), which is also providing the Forward Area Air Defense Command and Control (FAAD C2) system, command post platforms, communications, and more, the company said in a statement.

IM-SHORAD’s less than two-year turnaround from concept to contract, which is exceptionally quick for US military procurement, was due to the army using an Other Transaction Authority (OTA) structure – outside the normal federal acquisition regulations – and using new rapid prototyping

regulations authorised by Congress; it also helped that IM-SHORAD does not require significant new development but rather new integration, Brig Gen Rasch said.

The army's mid-term plan is to create four battalions' worth of IM-SHORAD, based on the M1126A1-model Stryker with a protected double-v hull. It is scheduled to deploy the first two battalions by 2021, and the second two by 2022.

The concept for IM-SHORAD was to get existing capabilities integrated and then deployed, but to ensure there was growth potential in case the army wants to do more with that 'initial' capability, Brig Gen McIntire told *Jane's*. He said the service liked the Stryker's new A1 configuration for its protected hull and growth potential for size, weight, and power. The first prototype was on the assembly line as of October, he said, and he expects to receive initial prototypes in mid-2019.

Brig Gen McIntire said the service is likely to use a similar OTA acquisition process when it begins full-rate production (FRP), which is slated to start in about one year. Prior to entering FRP, the army could decide to change aspects of the system based on test results, or change how many platforms it buys (another four battalions – for a total of eight – is a possibility, *Jane's* understands, but for now the army is planning to buy 144 systems for four battalions).

Three of the four units getting IM-SHORAD have been approved, Brig Gen McIntire said, adding that he expected to grow one per year and all in the army's heavier divisions. He envisages one SHORAD battalion in every division ultimately, but that would first require gaining an understanding of what a lighter version might look like.

For now, units getting the new equipment are to be ones the army thinks might have to address a peer competitor. "We're definitely building it to do large scale operations against a near-peer ... and definitely fixing Europe first," Brig Gen McIntire said.

[Continued in full version...]

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