

By Cindy Ramirez

Dormant in their hangars, the Shadow, Hunter and Gray Eagle unmanned aircraft systems appear unassuming, quietly waiting for a remote pilot to guide them into combat.



In theater, these UAS — known as the “eyes of the Army” — are powerful tools that provide Soldiers unprecedented intelligence, surveillance and reconnaissance capabilities, particularly when it comes to the Global War on Terrorism.

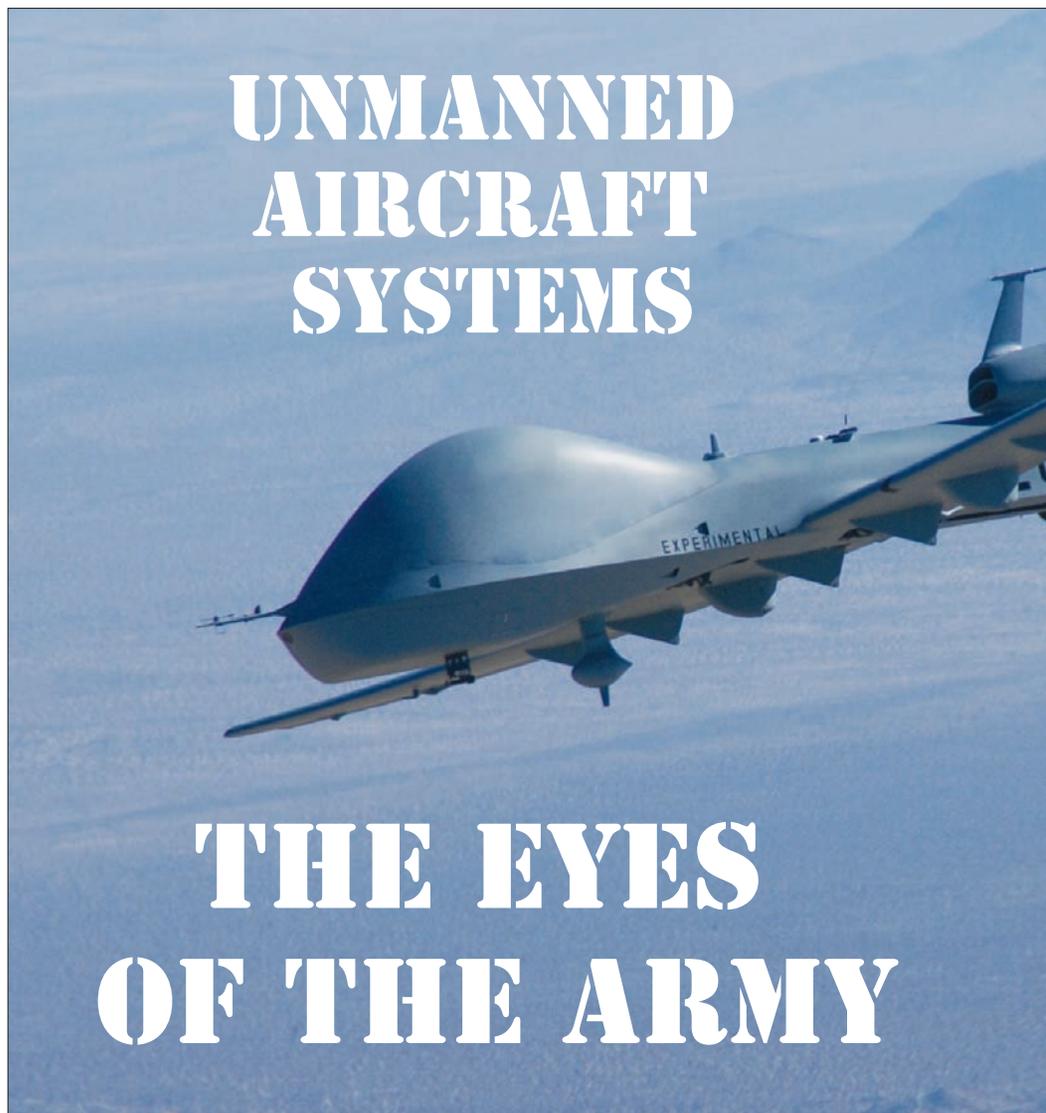


Perhaps more importantly, Army leaders say, UAS are saving lives on the battlefield through their ability to spot ambushes, identify enemy operatives and defeat targets remotely.

One of the fastest-growing fields in the Army, UAS are in high demand across all echelons as they’re increasingly called upon to assist on the battlefield.

In fact, more than 300 Army UAS are currently in theater; they recorded their 1 millionth hour of flight in Iraq and Afghanistan this May.

“It’s limitless. There’s no ceiling here,” said Sgt. Michael Arons, a Sky



UNMANNED AIRCRAFT SYSTEMS

THE EYES OF THE ARMY

Warrior Alpha aircraft instructor at Fort Huachuca, Ariz., who has flown the UAS during his tours in Iraq and Afghanistan. “Everybody sees this as the future, so you get in on the ground floor and there’s no place to go but up.”

In April, the Army released *The Eyes of the Army: U.S. Army Roadmap for Unmanned Aircraft Systems, 2010-2035*, a first-of-its-kind document aimed to “provide a broad vision for how the Army will develop, organize and employ UAS across the full spectrum of operations.”

“Our capabilities are limited only by the imagination,” said Command Sgt. Major Danny C. Thurecht of the Unmanned Aircraft Systems Training Battalion at Fort Huachuca, which conducts initial entry and military occupational specialty training for UAS operators, maintainers and leaders. The battalion executes 20 programs of instruction, and additionally

trains a number of Marine Corps and Navy personnel.

“Military intelligence and combat operations continue to evolve, to improve, as these types of programs play an increasingly important role in the way the Army and its Soldiers operate,” Thurecht said. “We’re at the heart of it all.”

Fort Huachuca served as the Army’s testing and fielding installation in the 1950s for what were then known as remotely piloted vehicles.

Later called unmanned aerial vehicles, the aircraft gained notoriety in the early 1990s when the Pioneer UAV flew more than 300 combat missions during Operations Desert Shield and Desert Storm.

Once considered primarily an intelligence asset, the UAS made their home at the U.S. Army Intelligence Center of Excellence at Fort Huachuca until 2003 when authority over them was transferred



Photo courtesy U.S. Army

Left: The Army's newest and most advanced unmanned aircraft system is the extended range/multi-purpose aircraft known as the Gray Eagle.

Photos by Cindy Ramirez

Below: The Hunter unmanned aircraft system sits in a hangar at the Black Tower UAS Training Center at Fort Huachuca, Ariz.

Right: Staff Sgt. Bryan McGoan of the UAS Training Battalion at Fort Huachuca demonstrates a ground data terminal at the installation's Libby Army Airfield.



to the U.S. Army Unmanned Aircraft Systems Center of Excellence at Fort Rucker, Ala., a subordinate organization of the installation's U.S. Army Aviation Center of Excellence.

In 2001, 54 Hunter and Shadow unmanned aircraft began combat operations in Iraq. Today, the Army has more than 4,000 unmanned aircraft systems in use, with more planned for the near future, the *Roadmap* states.

Similarly, Fort Huachuca's training capabilities have grown exponentially, Thurecht said.

The post trained just 64 operators a year a decade ago, compared with 1,400 in fiscal year 2008. In fact, the *Roadmap* indicates this number will rise to more than 2,100 UAS operators, maintainers and leaders in fiscal year 2012.

The UAS field is growing so quickly that new MOS and skill identifiers in UAS

maintenance are expected to be established this summer.

The UAS growth extends to other areas, as well. For example, the U.S. Army Aviation Center of Excellence NCO Academy at Fort Rucker is preparing to meet the needs of an influx of Soldiers with UAS MOSs who will be taking the Advanced Leader Course, the Senior Leader Course and the UAS Operator Supervisor Course, among others.

"I anticipate our footprint will grow quickly in the coming years as we continue to graduate NCOs whose skills are increasingly needed in today's and tomorrow's Army," said Command Sgt. Maj. Marlin J. Smith, the NCO Academy commandant. "UAS is an emerging capability and everyone wants a piece of it. We'll continue to play a key role in training our NCOs to become leaders in the field in an array of MOSs."

More Than a Video Game

Remotely piloted, the unmanned aerial vehicles carry cameras, sensors, communications equipment and other payloads, and have evolved in prestige and capabilities over the years. The unmanned aircraft systems comprise the aerial vehicle, its payload and the human operator at the control station, as well as the Soldiers or other manned vehicles being supported during specific training, intelligence or combat missions.

The Shadow and Hunter systems have been part of the Army's UAS arsenal for more than a decade, providing reconnaissance, surveillance, target acquisition and battle damage assessment. New and improved capabilities with these systems, coupled with new aircraft being tested and fielded have helped the UAS emerge as the equipment of choice for Soldiers and leaders across all echelons.

The demand for UAS has directly translated into an increased need for personnel, so much so that this month will mark the official start of a new MOS — 15E, UAS Repairer. All 15E personnel will be qualified to maintain the Shadow, and Soldiers with an additional skill identifier of U3 will be qualified to maintain the Hunter.

A new maintainer course for the extended range/multi-purpose aircraft known as the Gray Eagle will be established in June with an additional skill identifier of U5. It's scheduled for its first fielding in July 2011 as part of the initial authorizations for UAS in combat aviation brigades.

Soldiers at Fort Huachuca have already been training on the Gray Eagle, the Army's newest and most technologically advanced division-level aerial system.

The 28-foot long aircraft — a modern version of the Predator and the Sky Warrior Alpha systems currently deployed in combat in Iraq — has a wingspan of 56 feet, a flight endurance of 30 hours and includes a payload of four Hellfire missiles.

"I don't look at it as a video game," said Staff Sgt. Raymond T. Ballance, a Sky Warrior Alpha operator who flew the UAV during his tour in Iraq and the Shadow during a tour in Korea. He is now training on the Gray Eagle.

"It's not just flying the airplane looking through a camera," Ballance said. "Having had experience in the field, I understand what those guys on the ground are going through because I've been there. "It helps me keep focused and impart what I know on my younger Joes to keep them focused when we're down rage."

THE ROADMAP

The Eyes of the Army: U.S. Army Roadmap for Unmanned Aircraft Systems, 2010-2035, can be downloaded in PDF at:

<http://www.rucker.army.mil/usaace/uas/>

Roadmap to the Future

Although the *Roadmap* document was not intended as a directive, it will be reviewed every two years to remain "relevant to operational needs, lessons learned and emerging capabilities," it states. The *Roadmap* aims to answer what UAS capabilities the Army will need in the future.

The document outlines its priority missions as security; reconnaissance and surveillance (chemical, biological, nuclear and high-yield explosives and counter-explosive hazards); and attack (close combat, interdiction attack and strike).

The *Roadmap* covers three periods:

- **Near-term** (2010-2015): Continued rapid integration of UAS into tactical organizations that meet the warfighter's current combat requirements, with intelligence, surveillance and reconnaissance being the dominant capability requirement;
- **Mid-term** (2016-2025): Full integration of UAS, whose technological advances will increase autonomy and support of rapid and fluid operations; and optionally piloted vehicles and lighter-than-air vehicles will emerge to bridge the gap between manned and unmanned capabilities;
- **Far-term** (2026-2035): Drastic improvements to the commonalities and capabilities of both manned and unmanned systems.

The document also outlines the future role of UAS in full spectrum combat aviation brigades, which will "combine robotics, sensors, manned/unmanned vehicles and dismounted Soldiers."

'Nothing Unmanned'

Col. Christopher B. Carlile, director of Fort Rucker's UAS Center of Excellence, said although "unmanned" is the buzzword, "there's nothing 'unmanned' about these systems," adding that Soldiers, mostly noncommissioned officers, operate and maintain Army aircraft systems.



Photo by Cindy Ramirez

The extended range/multi-purpose unmanned aircraft system known as the Gray Eagle — a modern version of the Predator and Sky Warrior Alpha systems currently deployed in combat in Iraq — sits in a training hangar at the Libby Army Airfield, Fort Huachuca, Ariz.

One of the most notable aspects of the *Roadmap*, Carlile said, is that “it never waivers away from the focus on the Soldier.”

“It focuses on the efforts on our NCOs, who are the backbone of the Army and will continue to be in this UAS field. This is no longer a function strictly for warrant officers. We’ve found that our NCOs are proficient and have been properly trained, and serve a key function as we look into the future of the UAS,” Carlile said.

NCOs couldn’t agree more, and say their experiences on the ground and with the UAS give them great confidence in using the systems to accomplish a mission.

“On my first deployment, I was on the ground as a tanker, so we had some good experience with the UAV working directly for us and exponentially increasing our combat awareness,” said Staff Sgt. Eric Wheeler, a Sky Warrior Alpha instructor at Fort Huachuca who’s served two tours of duty in Iraq.

“I found it interesting and thought I could have the same impact for other guys on the field,” Wheeler said. “Working together, we accomplish the mission most effectively and with less loss of life.”

Force Multiplier

The “force multiplier” effect — a combination of techniques that make the combat force more effective than it would be without it — is paramount to the UAS *Roadmap*’s goals.

“The UAS are a proven combat multiplier because they increase situational awareness, reduce workloads and minimize the risk to the forward-deployed Soldier,” the document states.

“The Army is doing a really good job in improving the systems in a very short period of time so that with every change, every improvement, we’re doing things better and helping our Soldiers down-range,” said Staff Sgt. Bryan McGoon, who flew the Shadow in Afghanistan and is now training on the Gray Eagle at Fort Huachuca. “It’s really impressive to be part of that.” 

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Photos by Cindy Ramirez

Top: Staff Sgt. Raymond T. Ballance, a Gray Eagle operator, demonstrates the ground control station used by unmanned aircraft system operators.

Center: UAS Training Battalion Soldiers conduct a preventative maintenance inspection of a Shadow aircraft under the watchful eye of a civilian instructor.

Bottom: Staff Sgt. Brian Morton discusses the features of a Hunter in a hangar at the Black Tower UAS training site at Fort Huachuca.