

Soldier Lethality Team Delivers First Big Futures Deliverable with ENVG-B

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Historically, it has taken three to five years for the Army to acquire the approvals necessary to pursue new technology or weaponry. The modernization initiative that gave us the U.S. Army Futures Command (AFC) and upended traditional methodologies in favor of need, speed, and efficiency has reduced that time to three to five months. Years to months.

The AFC's Soldier Lethality Cross Functional Team (SL CFT) at Fort Benning delivered the first notable success for the AFC with the initial fielding of the Enhanced Night Vision Goggle - Binocular (ENVG-B), which will provide visibility in situations and conditions that would have previously rendered goggles fairly useless, including low-light and no-light subterranean environments. Additionally, ENVG-B's thermal imaging, rapid target acquisition, and augmented reality capabilities made it particularly attractive to the first U.S. Army unit to receive the ENVG-Bs — the 2nd Armored Brigade Combat Team, 1st Infantry Division, which was preparing for a rotation to Korea.

The SL CFT is one of eight cross functional teams across the force tasked to address Army modernization priorities, which include Long-Range Precision Fire (LRPF); Next Generation Combat Vehicles (NGCV); Future Vertical Lift (FVL); Network; Air and Missile Defense (AMD); Assured Positioning, Navigation, and Timing (APNT); Synthetic Training Environment; and Soldier Lethality.

The concept of enhancing Soldier lethality necessitates a strategic focus on the needs and fundamental functions of the 21st century Soldier in respect to shooting, movement and mobility, communications, and protection. The SL CFT's approach is unique in that it treats both the Soldier and the squad as an integrated combat platform and addresses these requirements in development of Next Generation Squad Weapons (NGSW), the Integrated Visual Augmentation System (IVAS), and that first deliverable, the ENVG-B.

It's About Time

The process of developing and fielding new weapons and technology has historically taken at least 10 years. When the ENVG-Bs were fielded in September 2019, less than two years had elapsed between the time the need was



**Soldiers from the 2nd Armored Brigade Combat Team, 1st Infantry Division were the first to receive the Enhanced Night Vision Goggle - Binocular and the Family of Weapon Sights - Individual.
(Photo by SFC Chris Bridson)**

identified to initial fielding. The ENVG-B requirement was written and approved in 30 days, and though no one is ready to declare it a benchmark, it certainly bodes well for the success of the expeditious modernization model.

The goal of the AFC and the eight CFTs is to work with private industry partners, academia, and PEO Soldier to harness emerging technologies that can be delivered to warfighters faster than ever to achieve this thing called “overmatch,” an Army of warfighters trained and equipped to be stronger, faster, better armed, and more skillful than any opponent they might face today, tomorrow, or 10 years down the road. Plain and simple, overmatch means achieving military superiority and keeping it.

To achieve overmatch, we must field faster. To field faster, we employ a process of research and development that centers on an accelerated fail early, fail cheap iterative assessment concept that puts weaponry and technology like the ENVG-B in the hands of Soldiers in a series of limited user events (LUEs), often referred to as Soldier Touch Points, designed to identify problems early in development, fix them, and give them back to the Soldier to try again. Wash, rinse, repeat. The ENVG-B went through 10 iterations of this process.

This teamwork and ownership are essential to the SL CFT’s Developmental Operations Methodology. It’s cost effective and time efficient; it’s systematic and strategic, and it is a radical departure from the tedious and time consuming processes that for too long resulted in the fielding of technologies already outdated and outpaced on the consumer markets and, more and more, military markets abroad.

Achieving overmatch against potential enemy combatants serves a number of purposes, and chief among them is the need to decisively win the wars of today and tomorrow. But overmatch also serves as a mighty powerful deterrent to war and ultimately saves human capital.

Lethality and Survivability

What does lethality look like to the more than 100,000 close combat forces in the active Army, National Guard, and Reserves? It has to start with survivability. Historically, 90 percent of combat fatalities have been members of the close combat force.

The Soldier Lethality CFT balances the need to protect the Soldiers who engage with the enemy while reducing the capabilities gaps that have emerged after two decades of insurgency warfare, a necessary preoccupation that has allowed our peer adversaries, like Russia and China, to narrow what was once our overmatch gulf to a mere gap.

If we were wargaming today, any engagement with our near-peers would be considered a fair fight, and we never want to fight fair. We want our Soldiers better equipped, better trained, and better prepared than any enemy we might face this year, next year, or 20 years from now.

Toward that end, the SL CFT is developing technologies like the ENVG-B that allows Soldiers to shoot from the hip, literally. The dual-tubed binoculars make for much better depth perception than anything previously available. Thermal capabilities are better by leaps and bounds, allowing the user to see through smoke or dust or inclement weather. Soldiers say the best thing about the ENVG-B is its wireless connection to the Family of Weapons Sights – Individual, which gives it that shoot-from-the-hip rapid target acquisition capability. This feature significantly reduces the Soldier’s exposure to enemy fire. No doubt, the ENVG-B increases lethality and survivability.

Down Range

But the SL CFT wastes no time celebrating its success with the ENVG-B, what with rapid prototyping and testing of the IVAS program underway.

The IVAS is fight-rehearse-train integrated headgear with a heads-up display and a digital sensor system that will assimilate with synthetic training environments at the squad level and make a seamless transition to the battlefield. It provides a single “train as you fight” platform that provides squad situational awareness in all operating environments under adverse conditions and limited visibility. From the get-go, proponents have heralded the IVAS for allowing Soldiers to fight “25 bloodless battles” before seeing combat. With the IVAS in the early stages of the prototype-to-test process, Soldiers are already giving the feedback necessary to shape the IVAS into a viable, fieldable system during FY20.



The ENVG-B and FWS-I give Soldiers the ability to see through fog, dust, and smoke. The devices increase warfighters' lethality, mobility, and situational awareness. (Photo by CPT Austin Ritzman)

The NGSW program is projected to field in FY22. The NGSW-R, the rifle, is projected to replace legacy systems, such as the M4/M4A1 Carbine, and the NGSW-AR, the automatic rifle, will replace the M249 Squad Automatic Weapon. It will combine the firepower and effective range of a machine gun with the precision and ergonomics of a rifle, yielding capability improvements in accuracy, range, and lethality.

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