

# Army Expeditionary Warrior Experiment Key to Small Unit Modernization

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The Army Expeditionary Warrior Experiment (AEWE) has been in execution for the past 15 years, albeit in the early days by a different name. Since its inception, AEWE has informed Army decisions in materiel development, training, organizations, and how to fight. The AEWE campaign has been the sole sustained and resourced experiment that keeps a finger on the pulse of small unit modernization. Now an Army Futures Command experiment, it is managed by the Maneuver Capabilities Development and Integration Directorate (MCDID) and executed by the Maneuver Battle Lab.

AEWE is a low-cost experimentation venue that partners with industry, the Army labs, Defense Advanced Research Projects Agency (DARPA), and the acquisition community to routinely put capabilities in the hands of Soldiers in a rigorous operational environment to solve Army small unit problems. The Army labs and DARPA hold Army investments and use the AEWE campaign as Soldier touch points for operational evaluation along the continuum of technology maturity. These touch points bring the community together to define and underpin capabilities for potential transition to acquisition programs. Likewise, industry brings innovative capabilities to AEWE to help solve Army problems and continue to evolve small units' lethality and survivability. Ironically, industry brings solution sets to the Army at no cost. By conservative estimates, industry investment is ten-fold the execution cost of an AEWE. The interaction between Soldiers, capability managers, and industry drives collective learning and influences industry internal technology investments.



**Soldiers with the Maneuver Battle Lab's Experimental Force (EXFOR) test innovative technologies, providing critical Soldier feedback during the Army Expeditionary Warrior Experiment. (Photos courtesy of MCDID)**



**EXFOR Soldiers assess the capabilities of small unmanned aerial systems in tactical operations during the Army Expeditionary Warrior Experiment.**

AEWE also brings the international component to interoperability experimentation. The United Kingdom established an AEWE-like experimentation venue called the Army Warfighting Experiment (AWE) under the U.K. Army Futures Command, and the U.K. has a reciprocal agreement for Soldier participation in the respective experiments. The same community that participates in AEWE also has the opportunity to participate in AWE. Less formal agreements have Australian, Canadian, and Dutch forces participating, with other allied forces interested.

The AEWE campaign continues to change as the Army changes. AEWE morphed during the Future Combat Systems era, again during Network Integration Experiments and the follow-on Joint Warfighting Assessments, and is now adjusting to the Army's priority for experimentation — Project Convergence. AEWE supports the Army prioritization efforts and the Big Six modernization programs and is key to maneuver brigade combat team and Soldier modernization.

The AEWE campaign has impacted small unit modernization in a monumental manner. The outcomes to the Army are numerous. For illustrative purposes, the following are but a few:

- The campaign's work in lightweight weapons and ammunition, integrated power, and fire control informed the Small Arms Configuration Study, which in turn was the catalyst to springboard the Soldier Lethality Cross-Functional Team to a new squad weapon with fire control.
- The fielded Soldier Borne Sensors and soon-to-be fielded Rucksack-Portable Unmanned Aerial Systems (RPUAS) had their developmental pathway through AEWE.
- AEWE and the Fires Center of Excellence aggressively developed the Digital Precision Fires system into both a dismounted and mounted Army Fires Program of Record. Portions of the program have spun off to the U.S. Marine Corps and U.S. Air Force systems.
- The AEWE campaign started the discussion that small unmanned aircraft systems (UAS) would become a threat to U.S. forces and that the Air Defense Strategy was ill-equipped to deal with them. Fast forward several years, counter-unmanned aerial systems (CUAS) now has a Joint Counter-Small UAS office.
- Laser warning systems evaluated in AEWE are now fielded on our Abrams fleet. Counter defilade capabilities at the small unit level are a major area of emphasis. AEWE has provided several solution sets including direct fire, aerial fires, and precision munitions. Although the Army has not made a decision in these areas, AEWE does and will continue to provide options and alternatives for decision makers.

AEWE is a laboratory for the Maneuver Center of Excellence (MCoE) capability and requirements combat developers. The experiment provides the opportunity to think about future conflicts and how to equip and train our forces. This venue immerses combat developers, engineers, and Soldiers into a warfighting environment that ultimately will result in better and more realistic capabilities and requirements in the short and mid-term time horizons. Further, it provides a more integrated approach to achieving overmatch. Lastly, promising technologies are provided to opposing forces during the experiment. Not only does the Experimental Force (EXFOR) leverage the advantages that technologies provide, but we must concurrently pit them against like capabilities that are and will be available to threat forces.

As we start the live-fire phase of AEWE 21, we still continue to work the AEWE 20 outcomes. A major finding during AEWE 20 was the maturity of several tactical resupply UASs that can deliver emergency resupply at the point of need on the battlefield. This capability is a partial solution to the continuing problem of Soldier load. It might limit the need to expose expensive manned airframes forward on the battlefield to deliver emergency resupply. The MCDID recommended the Army make these capabilities available to an infantry brigade combat team (IBCT) to further develop the concept. The XVIII Airborne Corps recently agreed and it, the Sustainment Center of Excellence, and the MCoE will work the concept during AEWE 21 to push to an IBCT in the near future.

The question is not why conduct an AEWE campaign, but why would you not? An annual small unit modernization experiment provides the opportunity to make half-time adjustments for showtime with the threat force. Small units make contact with threat forces up close and personal — we need to ensure those are not fair fights.

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**The Maneuver Battle Lab's EXFOR participates in the U.K.'s Army Warfighting Experiment.**