Integrated Visual Augmentation System (IVAS)



In FY24, the Army produced the Integrated Visual Augmentation System (IVAS) 1.1 variant. In FY25, the Army intends to issue the variant using a limited safety release to select units to support its campaign of learning. There is no future operational testing planned for the IVAS 1.0 and 1.1 variants. The Program Management Office (PMO) led several internal test events to assess technical improvements made to the IVAS 1.2 variant and solicit soldier feedback. The Army intends to conduct an operational assessment (OA) of the IVAS 1.2 variant in 3QFY25 to inform a production decision and support transition from the Middle Tier of Acquisition – Rapid Prototyping (MTA-RP) pathway to a new acquisition pathway in 4QFY25 and begin fielding the IVAS 1.2 variant in 1QFY26.

SYSTEM DESCRIPTION

The Army intends IVAS to function as a soldier-worn system to increase soldier lethality in all environments and battlefield conditions at the battalion-level and below. The IVAS includes a heads-up display (HUD), a body-worn computer known as a puck, a networked data radio, and three conformal batteries for each soldier. The IVAS HUD provides a see-through display and augmented reality capability with integrated thermal and lowlight imaging sensors, a built-in compass for navigation, and Tactical Assault Kit situational awareness software. The Intra-Soldier Wireless ultra-wide-band network enables passive targeting capabilities, connecting the Family of Weapon Sights - Individual mounted on a soldier's weapon to the sight picture in the HUD. The IVAS radio enables IVAS-equipped soldiers to transmit data within the company.

Squad Immersive Virtual Trainer to provide a high fidelity, live and mixed reality environment that enables the rapid conduct and repetition of select platoon-level battle drills and the immediate conduct of after-action reviews.

PROGRAM

In FY24, the Army produced the IVAS 1.1 variant. In FY25, the Army intends to issue the variant using a limited safety release to select units to support its campaign of learning.

In December 2022, the IVAS 1.2 variant was approved to use the MTA-RP pathway, and the technological insertion was awarded to Microsoft under the existing IVAS production Other Transaction Authority. The Army plans to conduct an OA in 3QFY25 to inform a production decision and support the transition from the MTA-RP pathway to a new acquisition pathway in 4QFY25 and to begin fielding IVAS 1.2 variant in 1QFY26. The PMO is updating and plans to submit the IVAS 1.2 variant TES to DOT&E for approval.

In July 2024, Army senior leaders directed the program manager (PM) to conduct a user assessment (UA) at Joint Base Lewis-McChord, Washington, in August 2024 using two squads of infantry soldiers. The purpose of the UA was to determine if the IVAS 1.2 form factor improves compatibility with current weapons systems, measure the effectiveness of low light and thermal sensors to determine if threshold and objective requirements have been met, and demonstrate the ability for the network architecture to support select robotic autonomous systems. The PM used the data collected to support its recommendations on program progression. DOT&E personnel observed portions of the UA.

MISSION

The Army intends for close combat forces to employ IVAS in all environments and battlefield conditions to increase individual soldiers' situational awareness and ability to detect, identify, and engage the enemy with direct fires. IVAS is intended to enhance collective lethality through the combination of improved communication, mobility, mission command, and marksmanship. Squads will train with IVAS in the



Soldier participation in IVAS 1.2 UA, Picatinny, New Jersey, January 2024

» MAJOR CONTRACTOR

 Microsoft Corporation – Redmond, Washington

TEST ADEQUACY

The Army did not conduct operational testing of the IVAS 1.2 variant in FY24. The PMO led several internal events using IVAS 1.2 system prototypes and soldiers, to inform programmatic decisions and assess changes made to the IVAS 1.2 variant based on results from the previous IVAS 1.0 variant operational testing conducted in May 2022. The events focused on design, network, and unit integration concepts transitioned forward from IVAS 1.0 to IVAS 1.2 variants. As these events were not operational tests, the evaluation plans did not require DOT&E approval, but DOT&E did observe the testing.

The Army plans to conduct a cooperative vulnerability and penetration assessment of the IVAS 1.2 variant in 1QFY25. DOT&E approved the test plan in October 2024.

The Army intends to conduct an OA of the IVAS 1.2 productionrepresentative variant in 3QFY25 to inform a production decision and support transition from the MTA-RP pathway to a new acquisition pathway in 4QFY25 and begin fielding the IVAS 1.2 variant in 1QFY26. The Army will submit an OA test plan to DOT&E for approval in 2QFY25.

PERFORMANCE

» EFFECTIVENESS, SUITABILITY, AND SURVIVABILITY

In FY24, PMO-led events of the IVAS 1.2 variant prototype system were not intended to occur in an operationally representative environment. The PMO used the results from these internal events to assess technical improvements made to the IVAS 1.2 variant and to solicit soldier feedback to help inform programmatic decisions. DOT&E personnel observed the events. DOT&E will assess operational effectiveness, suitability, and survivability using data from the OA and will publish an OA report in 3QFY25 to inform a production decision and support transition to a new acquisition pathway in 4QFY25.

RECOMMENDATIONS

The Army should:

- As recommended in the FY23 Annual Report, submit to DOT&E for approval an updated TES for the IVAS 1.2 variant.
- 2. Continue to plan and resource an OA in an operationally realistic and stressing environment to inform an assessment of operational effectiveness, suitability, and survivability of the IVAS 1.2 variant.