



IVAS Program Overview

October 2024

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Controlled by: PM IVAS
CUI Category: OPSEC
Limited Dissemination: FEDCON
Distribution Limitation: F
POC: Name, Number



IVAS Overview

IVAS Provides a single platform to CCF Soldiers and Squads in the Army of 2030 to ***Fight, Rehearse, and Train***



IVAS Complements...

Fielded Systems






AN/PVS-7 AN/PVS-14 Enhanced Night Vision Goggles – Binocular Nett Warrior





Enhanced Night Vision Goggle AN/PSQ-20/a/b






- Low Light and Thermal Sensors
- Passive Targeting
- Advanced squad situational awareness
- 3D navigation
- Augmented Reality
- Squad Immersive Training
- Computing on the Edge




IVAS Adds...

Increased Capability




SIVT Simulated Training & AAR



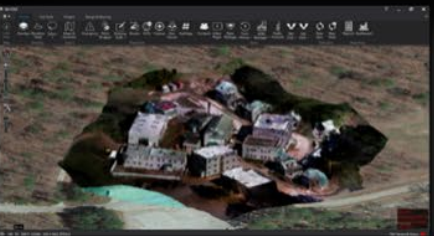
Platform Integration



Advanced Planning and RXL



Tactical Cloud Package & Edge Computing





IVAS Current Status

IVAS 1.0

- ❑ STP5 and Ops Demo (June 2022) Complete with Lessons Learned
- ❑ Achieved Threshold for 13 of 16 Capabilities Assessed (ATEC)
 - ❑ Ops Demo Areas of Success:
 1. Mission Planning
 2. Maneuvering under Thermal
 - ❑ Ops Demo Areas of Improvement:
 1. Reliability
 2. Low Light Sensor Performance
 3. Form Factor
- ❑ SiVT meets threshold Battle Drill 6/AAR
- ❑ System proves out manufacturing and quality assurance processes
- ❑ Improved Software Reliability



After Action Review

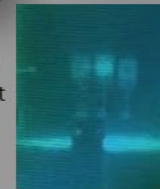


Indoor BD6



Thermal

Current Low Light Sensor



- ❑ Software reliability and Low Light Sensor improvements
- ❑ SiVT meets threshold Indoor training Battle Drill 6/AAR and expanded Indoor training; Demonstrates limited objective Outdoor capabilities



Integrated Mission Planning

(Low-Starlight, 100x darker than 1/4 Moon)



Indoor Battle Drills with avatars



Thermal



Improved Low Light Sensor



IVAS 1.1

- ❑ New Form Factor with Low Light sensor and reliability improvements fully addresses Ops Demo Areas of Improvement
- ❑ Tactical Cloud Package provides edge computing enabling Human Machine Integration
- ❑ SiVT meets threshold Indoor and some objective Outdoor Training
- ❑ Field System by FY26 to FIGHT, REHEARSE, TRAIN and WIN

See-Thru Armor

Improved HUD

Outdoor Training

TCP

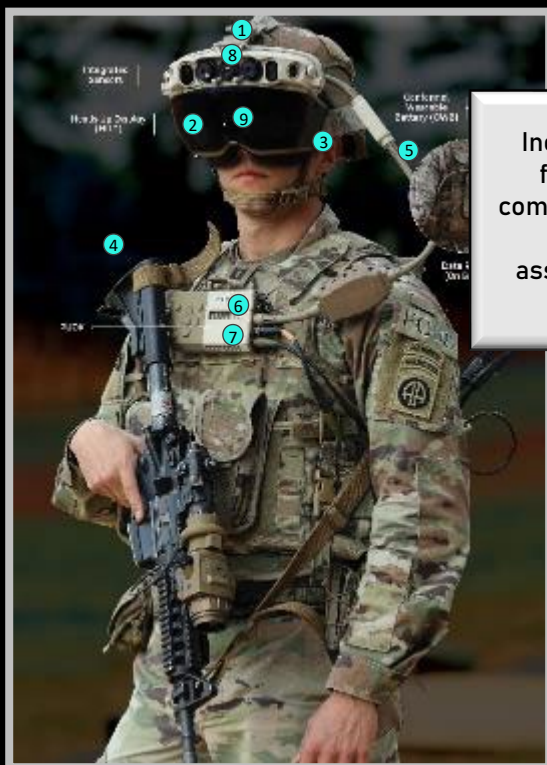
Thermal (reduced power)

IVAS 1.2



Soldier Centered Design

IVAS 1.0



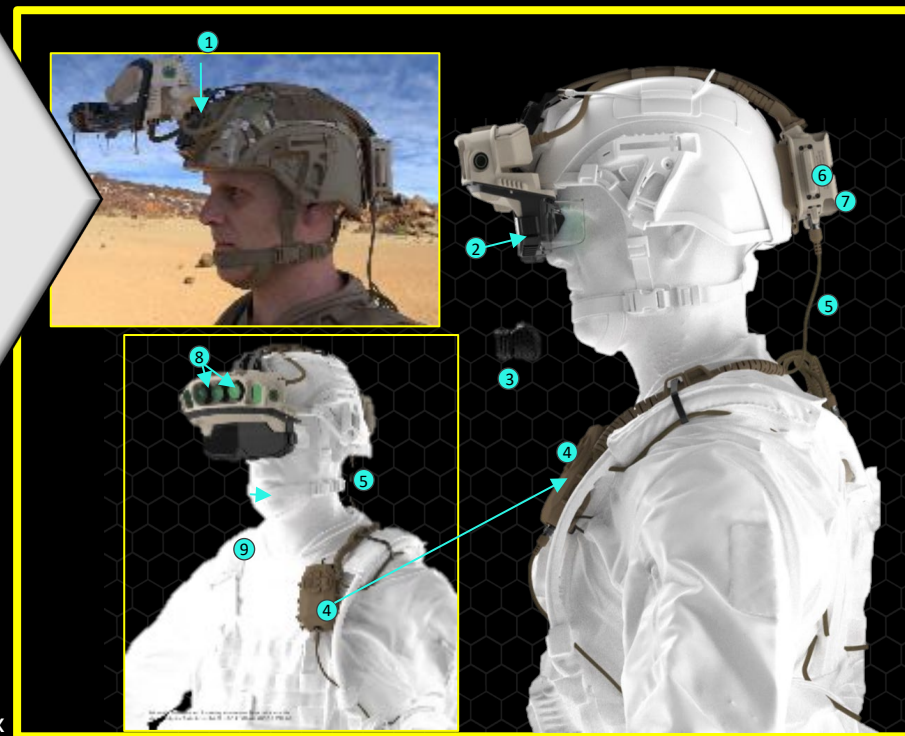
Incorporating Soldier feedback from thousands of hours of component and system level tests, operational demos, user assessments, and Soldier touch points.

IVAS 1.1



- Software Upgrade
- LL Sensor (SPAD) Upgrade
- Significantly Improved NxFx

IVAS 1.2



1. Helmet hinge mechanism supports peripheral vision while enabling device transition
2. Improved Heads-Up Display enables eye relief for weapons compatibility
3. Light security baffle
4. One-handed user interface with Soldier preference positioning (ambidextrous)
5. Decreased cable size with improved routing management
6. Helmet mounted compute puck counter-weight for improved center of gravity
7. Updated software improves reliability and Human Factors
8. Improved sensors enable limited visibility maneuver
9. Improved display increases clarity and Human Factors



IVAS 1.2



Puck (Back of Helmet)



Heads Up Display & Puck End User Device for multi-domain fight and On body computer **1 / Soldier**



Input Device Central cable hub and user input device **1 / Soldier**



Tactical Cloud Package & Mission Planning Computer Cloud services and enterprise-like compute at the edge **1 / Company**



Conformal Wearable Battery IVAS power source that integrates into body armor **3 / Soldier**



Re-charge Capability Portable charging unit to power and re-charge IVAS units in the field **1 / 30 Soldier**



Squad Data Radio Secure, single channel, two-way, data radio for Company architecture **1 / Soldier**

v1.2



Fight

Sensors

Low Light (x2)

- SPAD upgrade improves performance from 1.0 to 1.1
- Pathway to SPAD Gen 2 in IVAS 1.2
- Color Selection

Fused

- Auto
- 25/75/25
- 50/50

Thermal

- FLIR VGA Thermal
- Pathway to HD Thermal
- B/W Hot
- Color Selection
- Night and Day



Plan and Rehearse

- Mission Planning
- Mission Briefing
- Conduct Rehearsals

Multiple Planning Packages saved at once and pushed to friendly elements



Briefing and Rehearsals conducted virtually in-person or dispersed



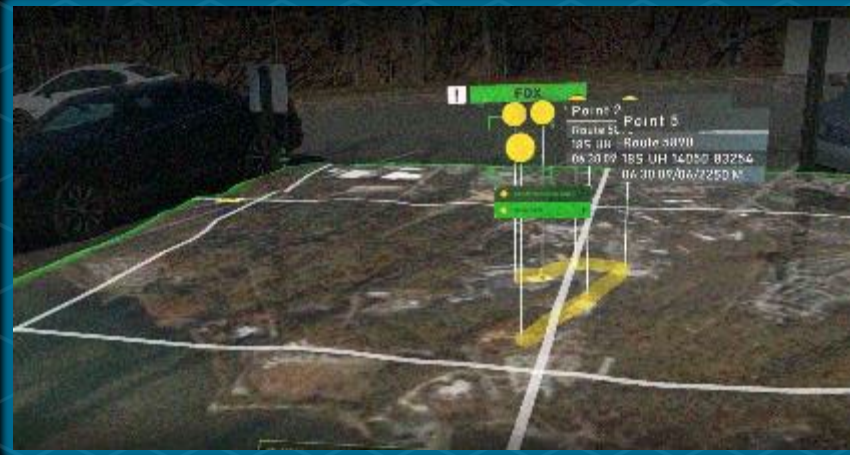


Fight

Mapping and Navigation



On the move real-time covert map checks



On the move re-route planning and communication



Real-time route distance and direction / Navigation



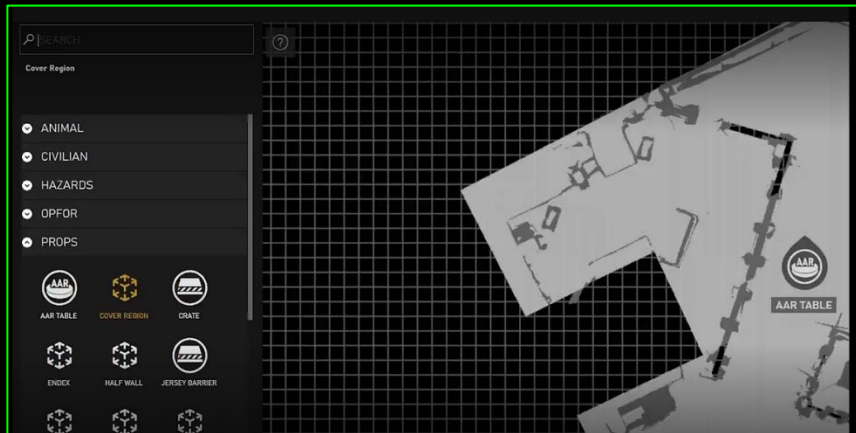
Compass Ring Available for reference with icons



Train

Squad Immersive Virtual Trainer (SiVT)

Build Your Scenario



- Scan the area
- Select Enemy Capabilities
- Build Engagement Schemes
- Scheme of Maneuver

Brief the Mission



- Minimal resources required to conduct realistic training (land and ammo)
- Use any building available to conduct indoor training
- Outdoor capabilities increasing with each iteration

Future: Scanned Actual Objective Rehearsal with avatars programmed to look and fight like the enemy



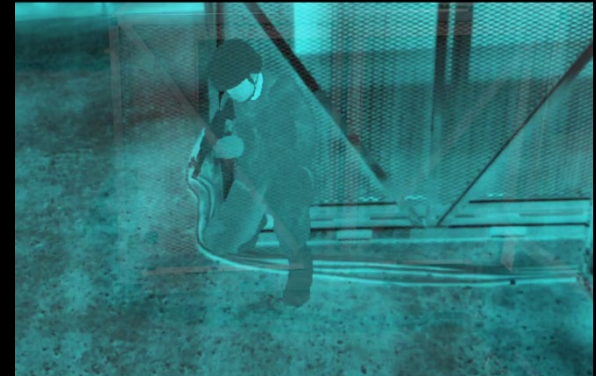
Train

Execute the Training Mission

Enemy Avatar Interaction



Low Light Fighting Capable



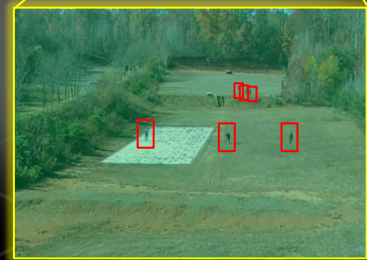
After Action Review





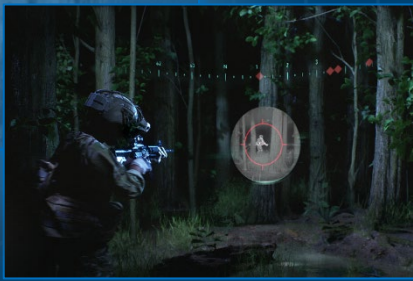
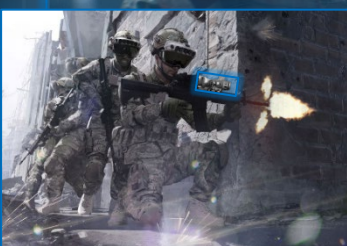
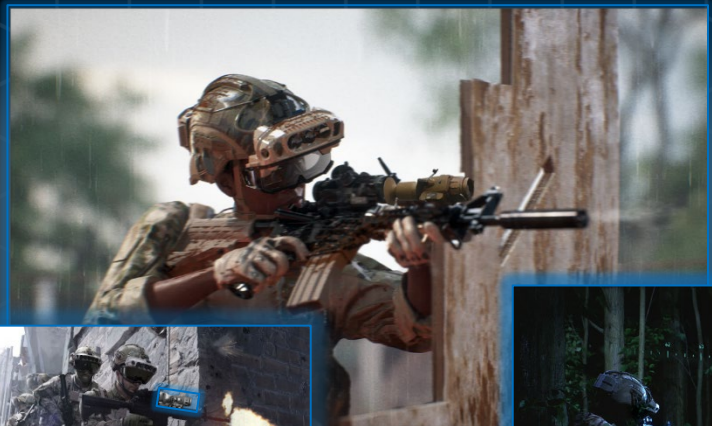
Extensibility & Integration

VEHICLE INTEGRATION



- Loiter
- Scout
- Overwatch
- Follow
- Vanguard
- 3D Model Generation
- Reduce Cognitive Burden*

FAMILY OF WEAPONS SIGHTS



SOLDIER BORNE SENSOR & AIR / GROUND COP





Tactical Cloud Package

TCP TODAY

- Provision IVAS HUD and IVAS Radios
- Hosts Geospatial Data via LTE
- WinTAK & Mission Planning



IVAS Radio



LTE, MUOS,
TACSAT(future)

TCP FUTURE

- Laptop/Tablet Form Factor for improved (dismount capability)
- HQ TCP:
 - Cloud Connected-Maps
 - Mobile Device Management
 - Increase Extensibility
- Edge Computing
- UAS Target recognition
- Battle AI (Pre/In-Mission Planning)
- Photogrammetry
- Gunshot detection
- Electronic Warfare

IVAS Radio



IVAS Radio

Army
Networks

ITN/Leader Radio



IVAS Cloud
(future)

TCP/Local Cloud Compute

- Tactical Services Computing & AI/ML
- Tactical situational awareness
 - Command & Control Console
 - Cognitive Services



IVAS Strategy

- **IVAS Strategy**

- 1.0/1.1 issued to training units
- 1.2 issued to CCF Q1FY26 (LRIP)
- IVAS Next to further improve form factor, and modularity

- **1-year Software Cycles**

- (backwards compatible with previous devices as applicable)

- **5-year Hardware Cycles**

- **Software Development Kit**

- App Development "Marketplace" similar to TAK



Questions?

