Reveal

Actionable Intelligence at the Tactical Edge

In the next generation of warfare, the U.S. and our allies will need to establish strongholds in contested, communication-degraded environments.

The warfighter needs capabilities that allow them to be **agile**, **lean**, and **decisive** to keep up with the pace of the battlefield.

Reveal delivers decision dominance, situational awareness and autonomy at the tactical edge.

Farsight

A receive-only software solution that provides users with actionable intelligence in network-constrained environments.

- Processes sensor-collected imagery to create maneuver-quality 3D models in near real-time.

- Sensor and operating system agile to integrate seamlessly into DoD legacy, current, and future systems.

- Modeling is processed at the edge with minimal processing power.

- Ability to mesh AI analytics for additional situational awareness.
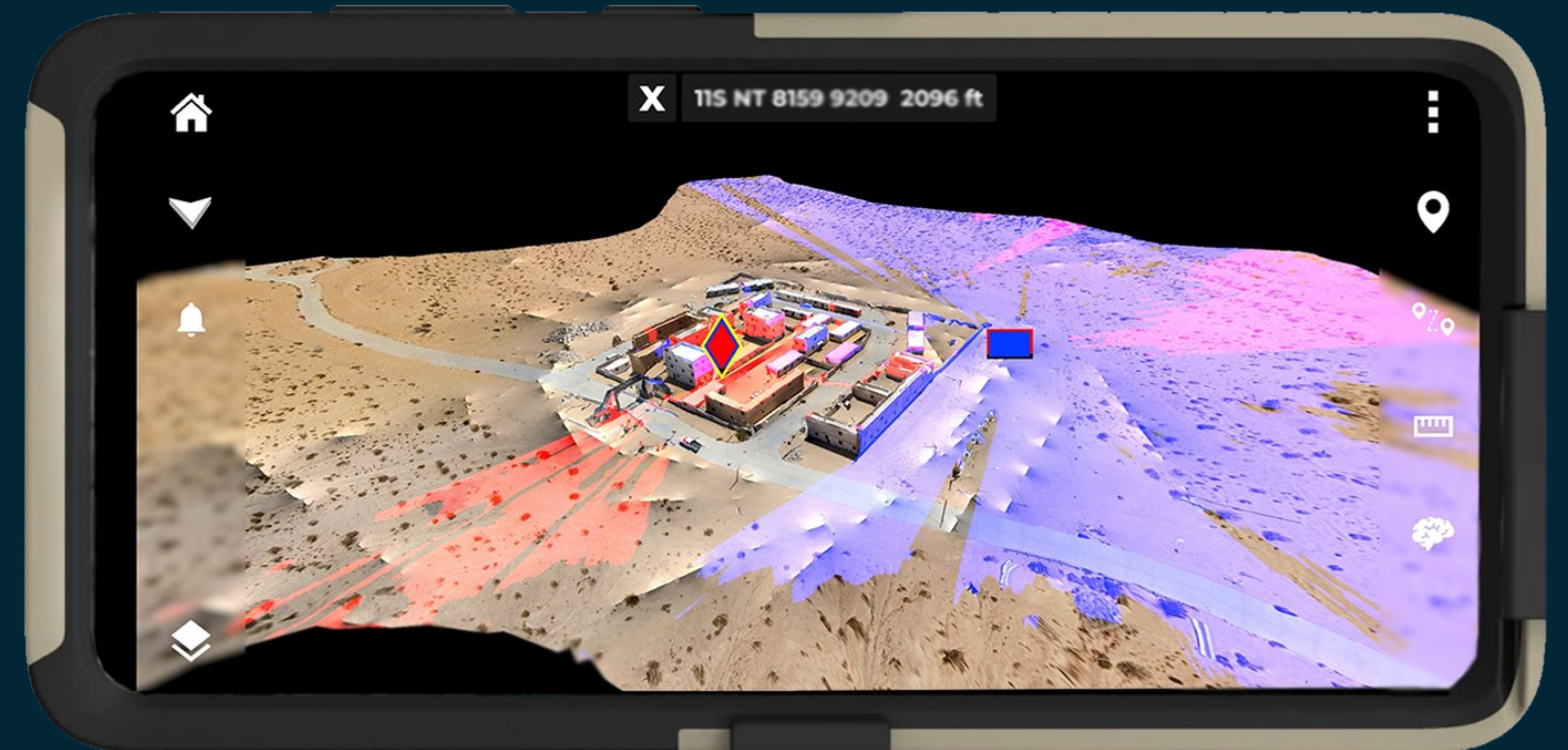
1 **Platform Agile**
Farsight is platform agile and interoperable with legacy, current, and future systems.
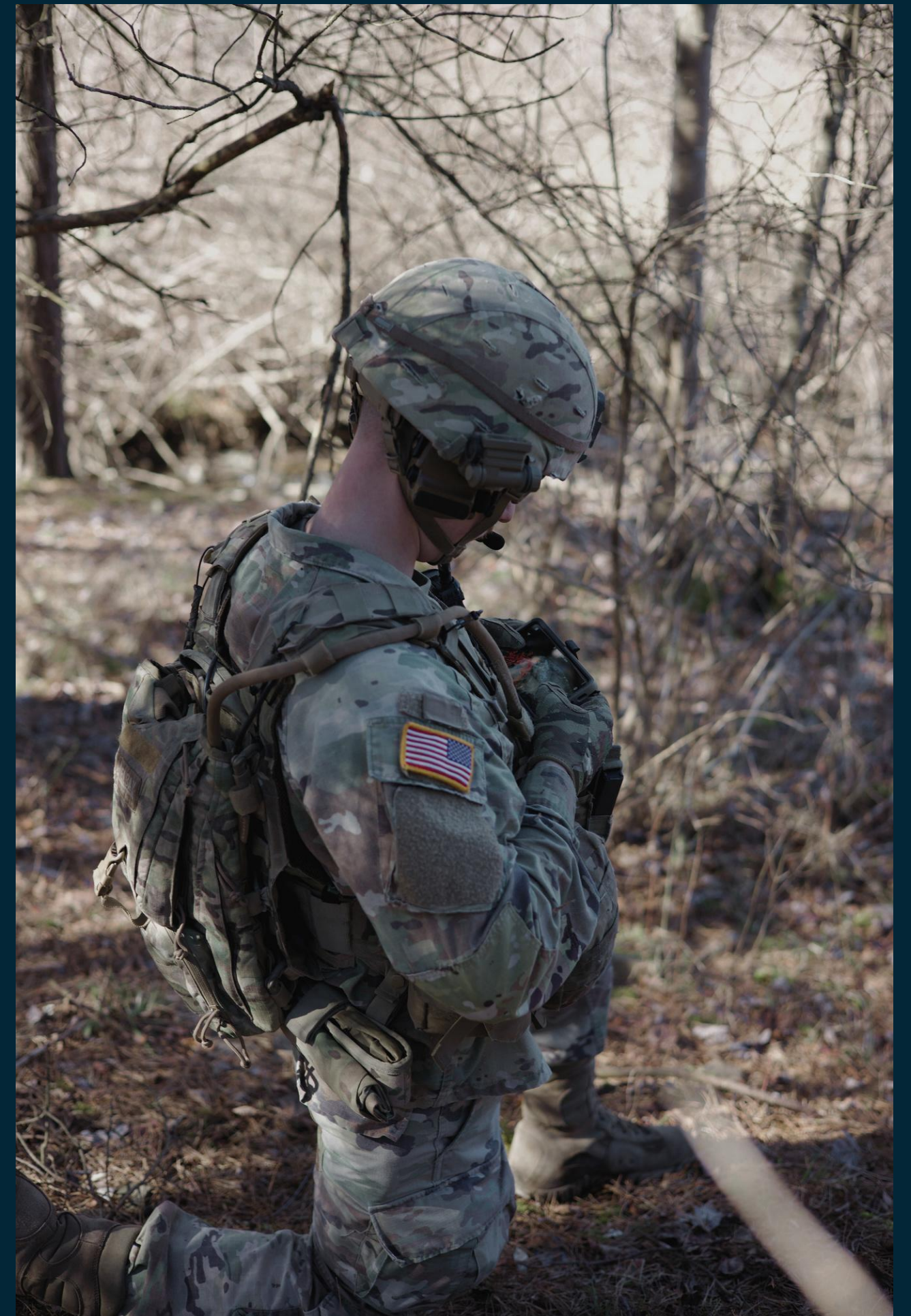
2 **Processed at the Edge**
Farsight operates on EUDs already carried by the DoD and does not require network connection.

3 **Minimal Processing Power**
Farsight can process large amounts of data without the reliance on backhaul capabilities.

4 **Easy to Learn & Integrate**
Farsight's straightforward UI is user-friendly and requires only basic training.

Why Enable Disconnected Decisions?

Our soldiers operate in rapidly changing environments where comms/GPS is often denied and reliance of perfect networks is uncertain. The efficiency of rapid decision-making with real-time data allows for accuracy and increased situational awareness.

Reveal's product toolkit enables large amounts of data to be ingested at the edge with AI-generated recommendations & intelligent insights available in a matter of minutes.

Achieve Decision Dominance with Reveal

Modernization through Technical AI

These process improvements overcome a perpetual issue for tactical squad's bandwidth. In future near-peer warfare, the United States' traditional information battlespace dominance will not be a given. Embedded ISR solutions that can utilize sparse visual data but still generate actionable intelligence are prerequisites for battlefield success. The ability to be distributed, yet capable, will be a deciding factor in future unit success.

Farsight relies on cutting-edge patented edge computing techniques, enabling ISR resources to be seamlessly integrated into tactical users' handheld devices rather than being centralized in a server stack located in a distant timezone. This pivotal advancement empowers Farsight squads, rendering them more lethal, highly maneuverable, and significantly less susceptible to SIGINT exploitation.

Airmen, Marines, Sailors, and Soldiers operating at the tactical edge face unique challenges. Their missions often lead them far from headquarters, where their access to intelligence support is limited. Despite ever-increasing data available to decision-makers back at base, forward operators must often wait for slow-moving intelligence analysis that doesn't match their fast-paced tactical environment.

Reveal Technology delivers intuitive, rapid intelligence at the tactical edge, blending state-of-the-art computer vision, artificial intelligence, and edge computing technologies. Both modeling and analytics are processed at the edge with minimal processing power making it unlike any other commercial-off-the-shelf or government-off-the-shelf solution on the market.

Featured Analytics:

Line-of-sight analysis

AI route planning

Helicopter landing zone surveying

Terrain analysis & measurement tools

Intelligent Reduction of Data

Using AI, Farsight reduces the amount of data processed at the end-user device (EUD) or onboard the UAS. First, Farsight intelligently down-selects available data to achieve time and quality-optimal results regardless of the volume. Once all input data is computed on the Farsight platform, the resulting model will be a fraction of the size of the original input data.

When processing data, Farsight initially displays a real-time 2D map of the area for situational awareness and initial tactical planning. Users can then select areas for further analysis.
From here, multiple regions of interest (AOIs) can be selected to produce 3D models that support line of sight and the full suite of Farsight capabilities.

By providing the end-user control over AOI selection, operators do not have to make any committed trade-offs between capture area and system time and performance. Data can be collected over a wide area without impacting the user's ability to get focused results. Subsequent areas can quickly get upgraded analysis without requiring costly and redundant data acquisition.

Platform Agile

Our Farsight software overcomes the barriers of interoperability by operating with a wide range of past, current and future DoD approved devices.

Farsight seamlessly integrates with unmanned platforms supporting nonproprietary metadata to ensure adaptability to the end-user's needs.

Cross-platform compatibility extends its functionality across multiple operating systems (OS). Eliminate future training costs and reduce complexity by operating Farsight with your preferred platform of choice.
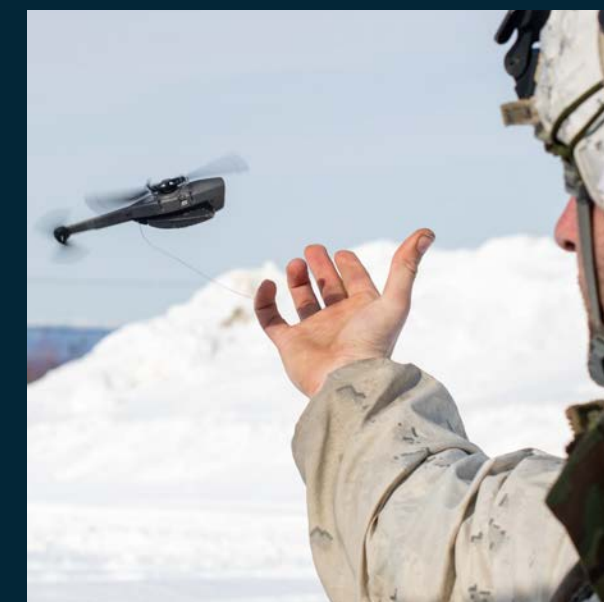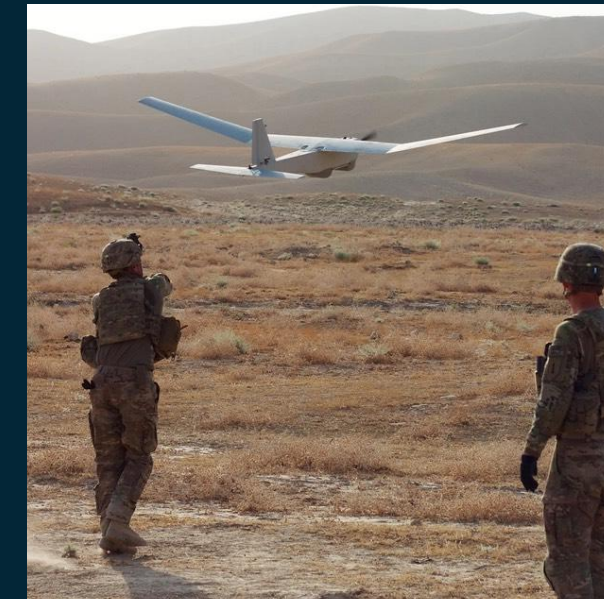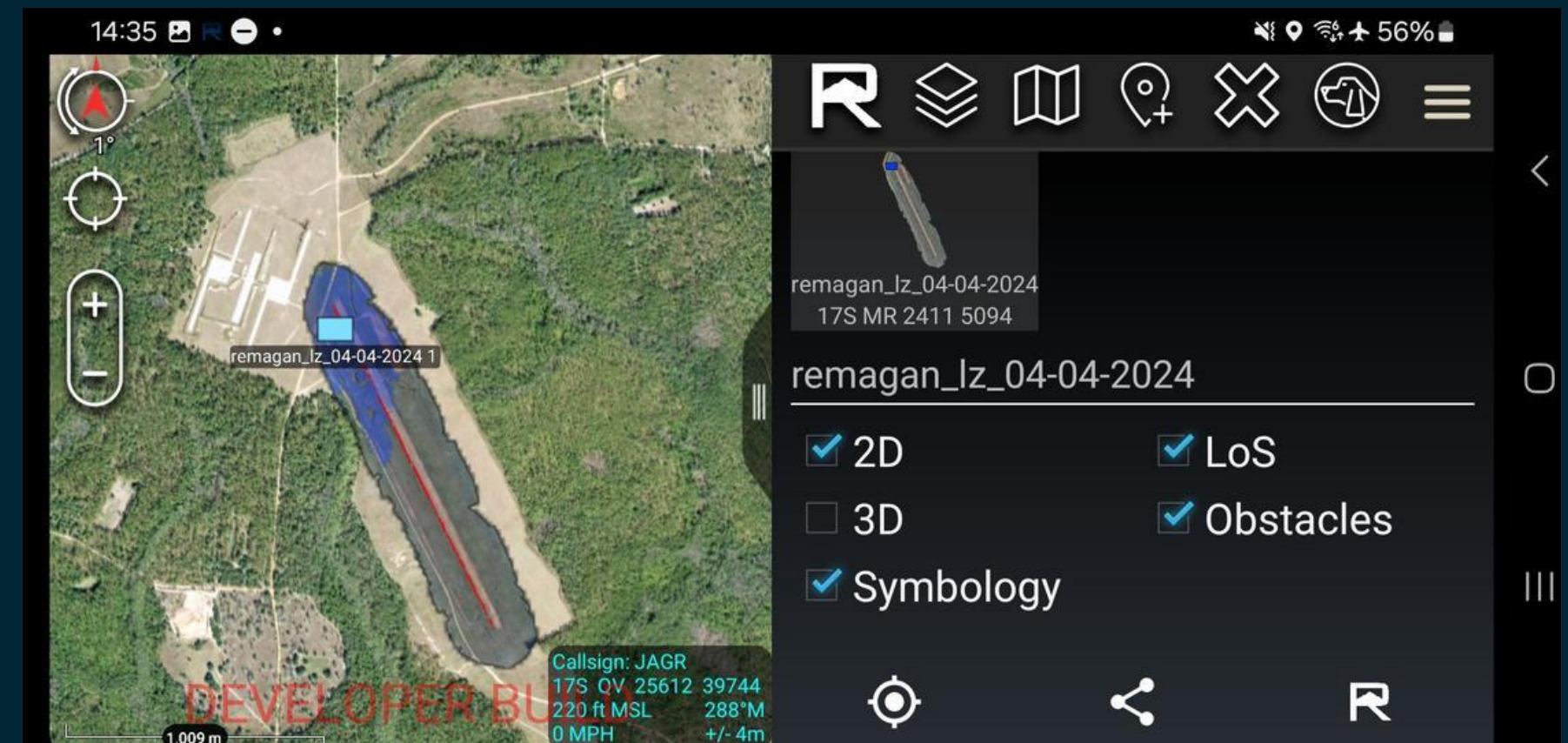
Capabilities

Real-time 2D Mapping

Operators on the tactical edge, in signal-denied environments, often use sUAS for operational ISR. With Farsight, operators equipped with sUAS and a mobile device can launch and immediately access on-demand intelligence with as much range as the UAS allows. This eliminates dependencies on larger ISR platforms and increased situational awareness.

Near real-time 3D Mapping

Farsight gives operators near real-time 3D (NRT3D) mapping capabilities in the palm of their hands. Models are available to the users in as little as 2 minutes. Accurate 3D mapping helps to streamline mission planning.
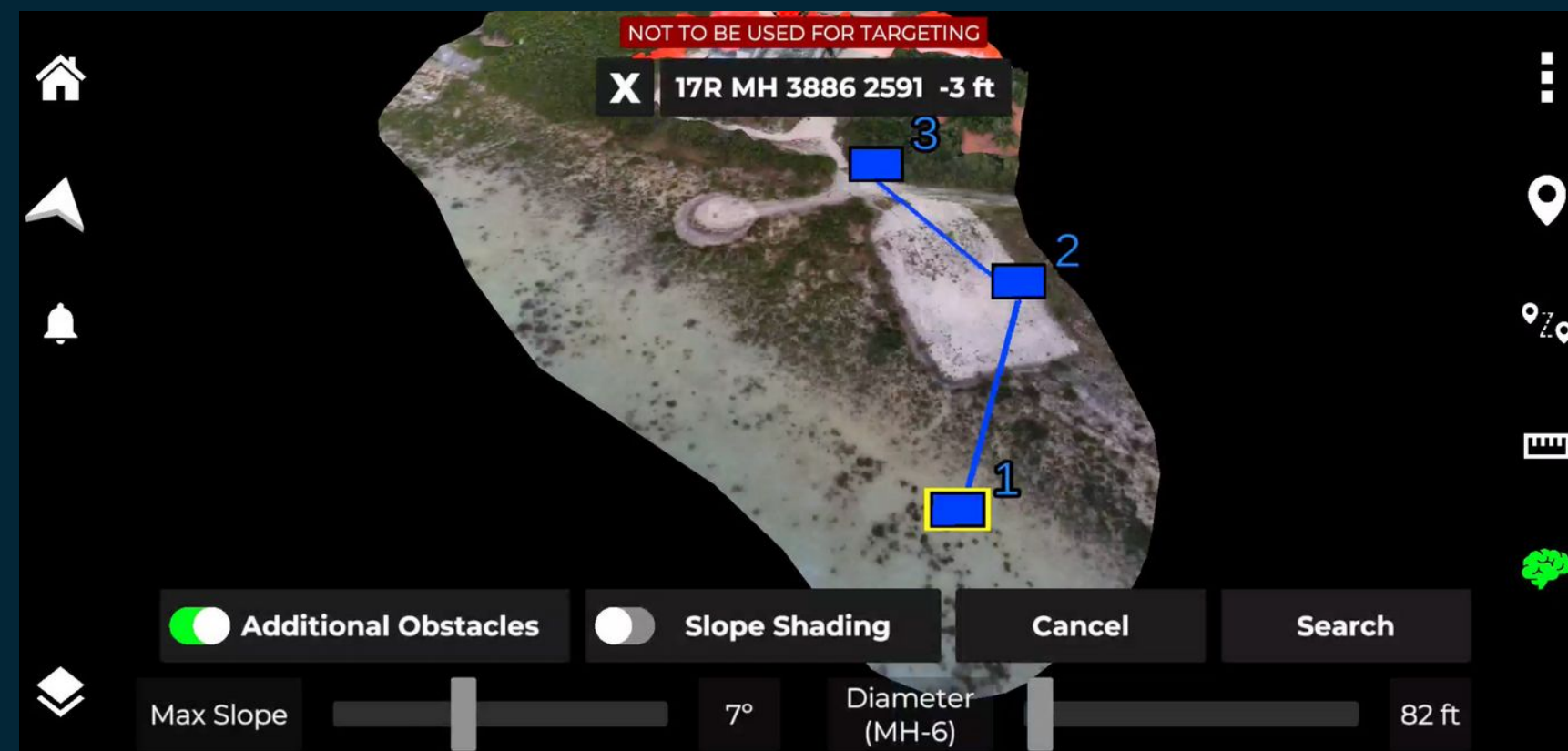
Line of Sight Analysis

Once 3D Modeling of an AOI is achieved, users can utilize Farsight's line of sight (LOS) tool to quickly understand vantage points. Whether using LOS to avoid detection on a reconnaissance mission or to specifically plan a diversion, Farsight allows the tactical teams to be more creative on the battlefield.

Route Planning

Once 3D model has been processed, users can drop routes, phase lines, and other maneuver mechanics right into the model. Operators can assess and then push planned routes into ATAK. With LOS analysis, the route will be evaluated for enemy awareness, giving team leads the information necessary to move covertly through the battlefield.

AI Route Planning

Farsight's AI Route Planning tool intelligently suggests the most advantageous path from Point A to Point B. Routes are suggested based on maximum concealment (avoiding the LOS of an enemy) and terrain.
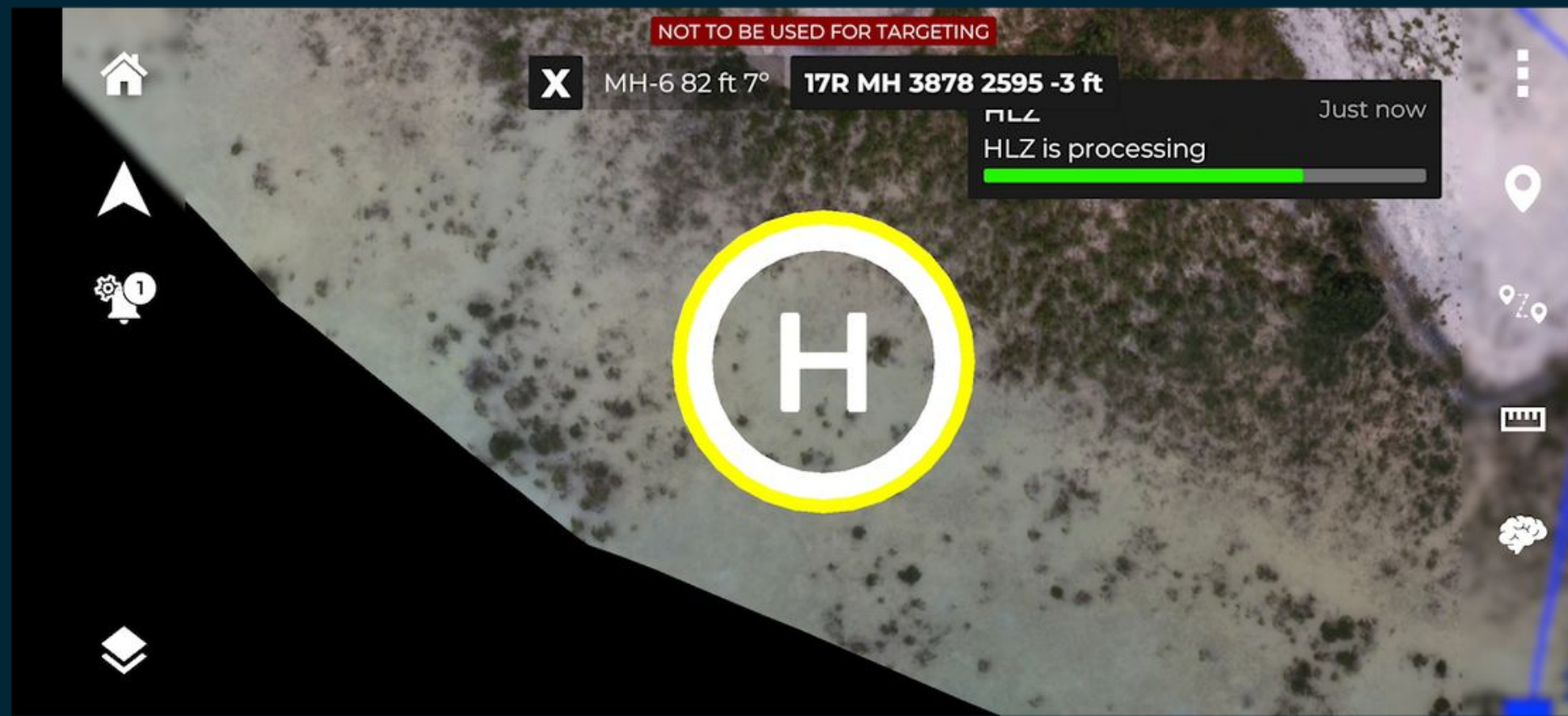

Route Terrain & Analysis Graphing

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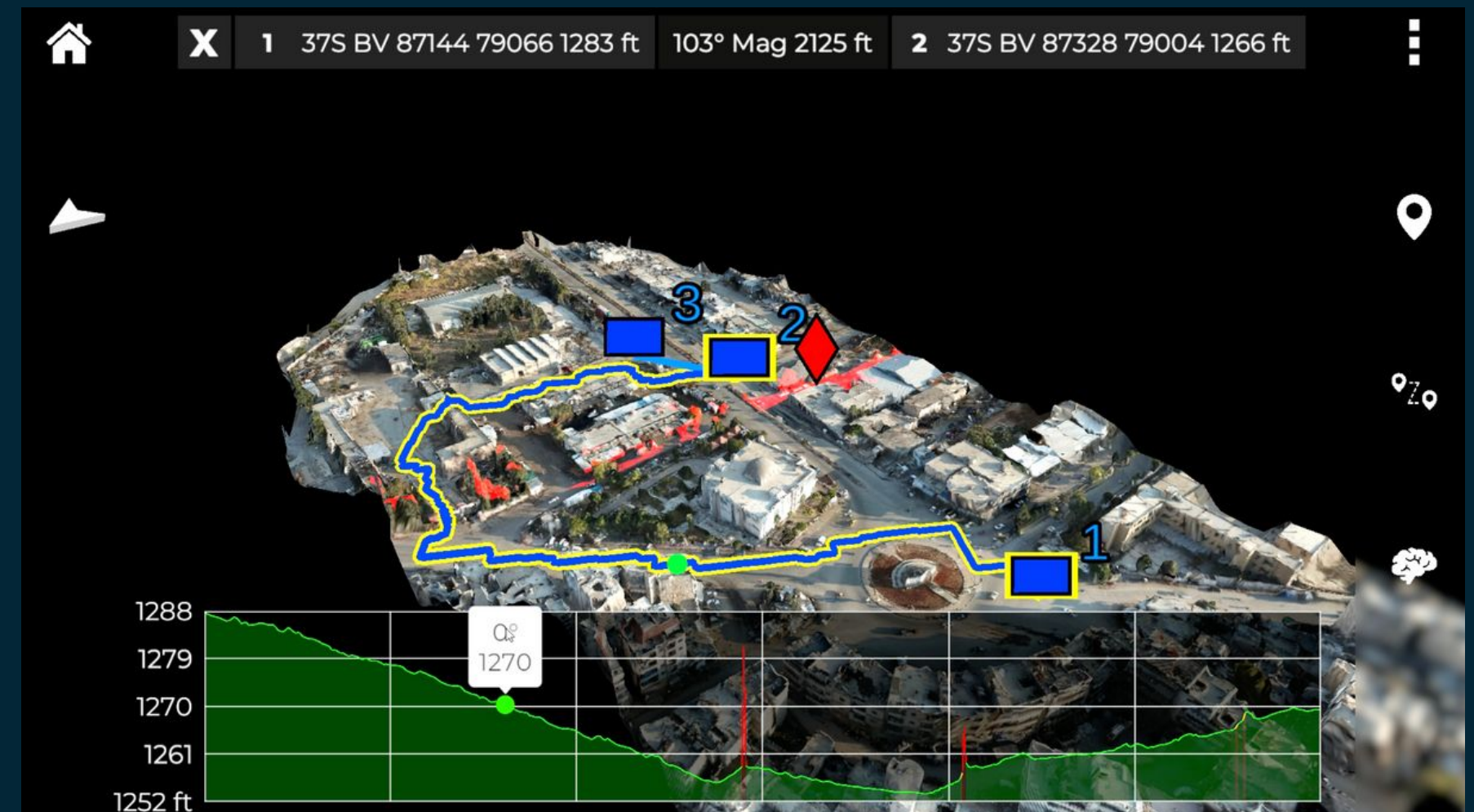
HLZ Surveying

Forward operators are often tasked with conducting HLZ surveys in advance of an operation. Rather than sending an element forward just for an HLZ survey, Farsight allows users to conduct HLZ surveys, record grid information, and transfer to air assets via ATAK in real time. Farsight considers doctrinal limits and airframe capabilities to suggest HLZ locations. Users can input the size of the landing zone required and the maximum allowable slope to find a Farsight-suggested HLZ on appropriate clearings or rooftops
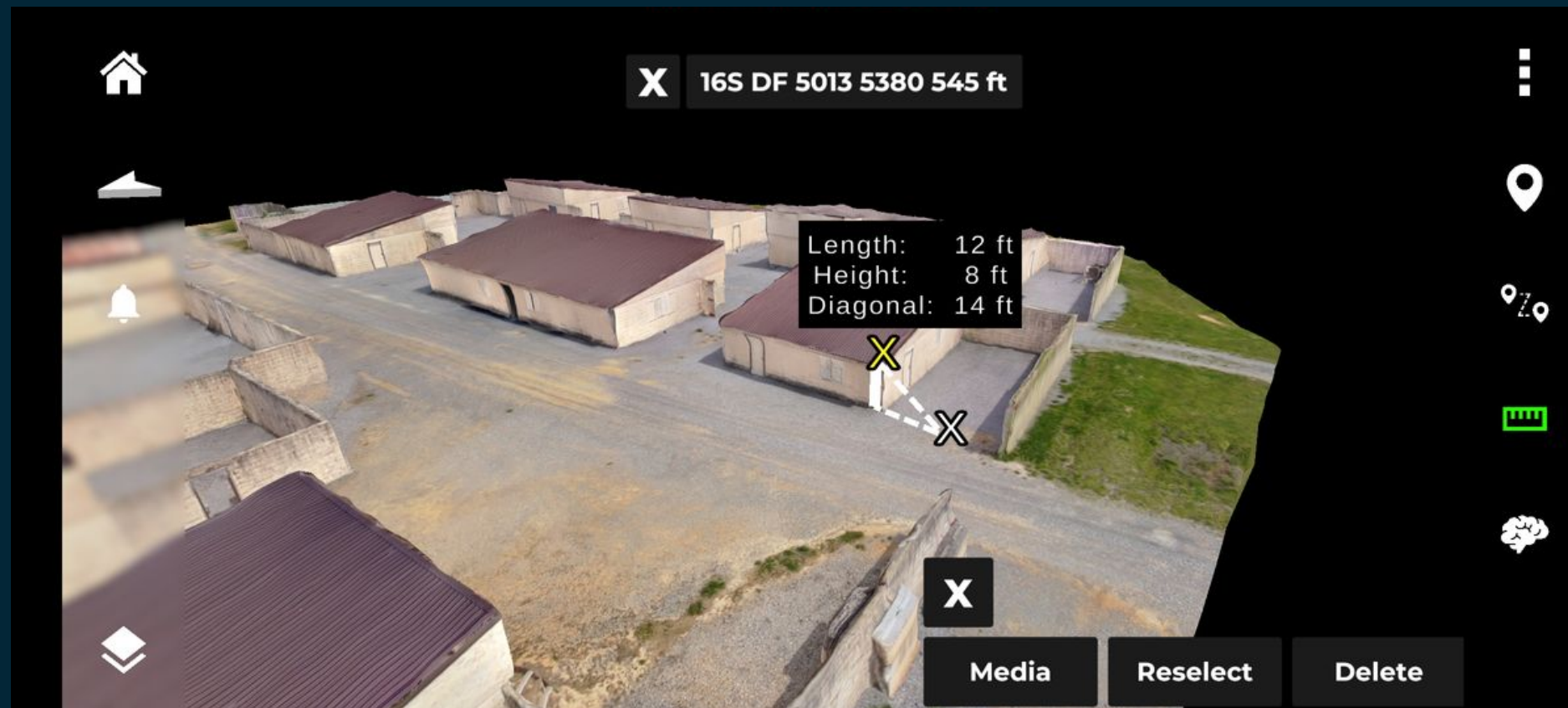
AI Measurement Tool

Using the AI Measurement Tool, operators can rapidly mission plan knowing the barriers in their environment. When analyzing 3D models, users can easily measure building heights, angle of inclination, length of roads, and more.

ATAK Streaming UAS Workflows

Farsight is built to keep operators in the fight instead of heads down. Farsight integrates with various ATAK streaming UAS workflows to stream, record, and process data generated by a massive variety of UAS, ground controllers, and software integrations.

Digital Elevation Mapping

In addition to modeling capabilities, Farsight can export high-resolution digital elevation maps (DEMs). DEMs are useful in both the planning and execution phases of operations. DEMs can allow operators surveying a valley to locate advantageous micro terrain prior to an assault. Slight elevations can be used to establish sniper positions, identify useful cover, and plan phase lines and fields of fire. DEMs can also be used to assess the viability of ridge ascents or other terrain features during an operation.
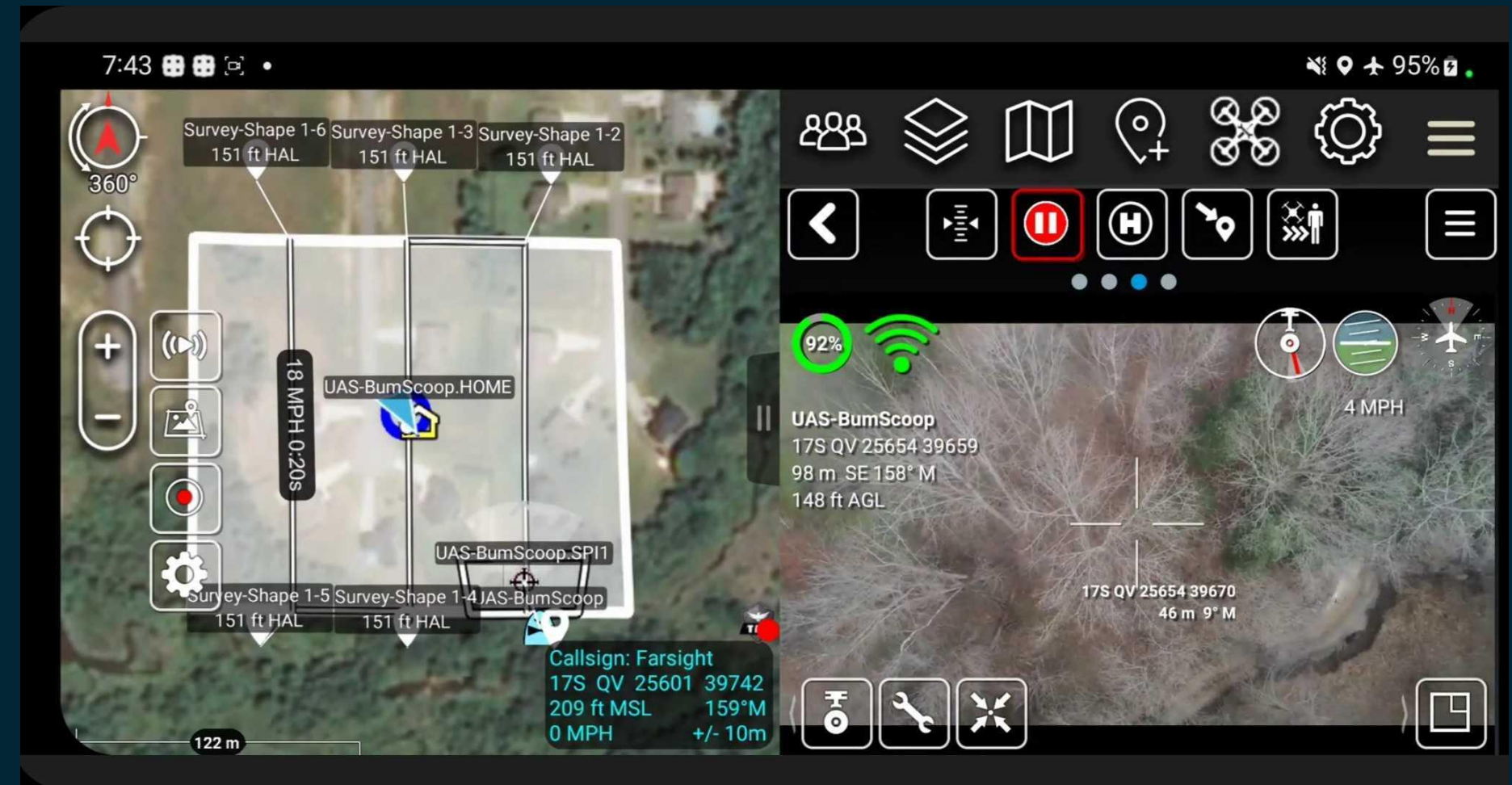
HLZ/DZ

You can select your desired point of impact by either choosing two points on the dataset or manually entering the prescribed dimensions of the designated impact zone.

Key Terrain

Our contour lines feature allow you to draw an outline at the borders of key terrain. Adjust the sliders to modify the map's elevation. The revised map will include an outline of the primary terrain to provide a clearer representation of the key features.

3D Symbology Overlay on Raw Media

Farsight users can overlay symbology on top of media, and exporting that media with the overlays. Supported symbology includes points, routes, LoS, HLZ, and vertical obstacles/obstructions.

First person view (FPV) on 3D Model

Farsight users can select a route or position and walk around with the first person view (FPV) tool.

2D/3D Model Exporting to Standardized Formats

Effortlessly export models to industry-standard 2D/3D formats for universal compatibility.

Thin Structure Detection

Our thin structure detection capability allows Farsight users to detect structures that can't be constructed in the 3D mesh.

Farsight Configurations

All Farsight configurations are compatible with industry-standard sensor metadata and are hardware and OS-agnostic. Whether it's Mobile, Node, or our Accelerator, the following capabilities are included:

- High-Fidelity Data Processing

- Real-Time 2D Mapping

- No Network Connection Required

- Tactical AI Tool Kit

- Near Real-Time 3D Modeling

- Compatible with EO & IR

Farsight Mobile

- ✓ Processed locally on end-user devices
- ✓ Squad-embedded ISR capability
- ✓ Drastically reduces SIGINT signature

Farsight Node

- ✓ TOC based enterprise level compute
- ✓ Rapid mission planning capability
- ✓ Wide area, high volume mapping

Farsight Accelerator

- ✓ Optimized for NVIDIA Jetson devices
- ✓ Deployed on a body-worn processor for additional processing capabilities
- ✓ Large-volume processing on condensed timelines

Operational Impact

Enriched CJADC2

Streamline operational effectiveness and convergence of effects by providing real-time intelligence to decision-makers at every level.

Enhanced Situational Awareness

Construct force plans and strategies using real-time intelligence of contested theaters to reduce risk and support agile operations.

Increased Agility

Understand the viability of contingency locations through the use of artificial intelligence to modernize the maneuver of forces.

Modernized Operational Planning

Easily create 3D models of contingency locations to effectively tailor force posture and access forward operating sites.

Operational Vignette

INDOPACOM AOR, undisclosed location. 23,000 feet, South China Sea

SFC Evans and his four-man sniper team prepare their kits for a HAHO jump. The two, two-man teams are tasked with verifying pre-mission planning for tomorrow's assault on a key red force military leadership compound. Each jumper packs a small, backpack portable Farsight-enabled sUAS.

On the ground and within 10 minutes of launching their sUAS, both teams have high-quality 2D mapping of the battlespace, 3D models of the surrounding area, and have used digital elevation maps to set up advantageous sniper positions. This has been accomplished without an ISR stack and a backhaul connection to CONUS. Satisfied with the updated mapping, the sniper teams begin to use the sUAS to locate possible enemy locations. Once located, the possible targets are updated in ATAK, marked on the soldiers' Augmented Reality visor, and transmitted to the Air Force.

The team then maps out the beach landing zone and uses Farsight's AI Route Planning Tool to highlight the most advantageous routes from the shore to the objectives. That information is also loaded into ATAK and shared with the units on the ships moving toward the island.

Thanks to the intel provided by the advance sniper teams, all assault force elements are able to decisively verify all pre-mission requirements to launch. They've made significant changes to the EAP, INFIL and EXFIL routes, and have a better understanding of enemy force disposition, greatly reducing the risk to the force and increasing the efficiency and effectiveness of the assault force.

Sole Source Eligible

Reveal Technology, Inc. is an awardee of a SBIR Phase II with the United States Air Force. Under SBIR/STTR Policy Directive, Reveal is now eligible to receive sole-sourced awards from any US Government Agency. Eligibility under this policy directive allows government customers with a mission need for Farsight to bypass competition requirements.

This drastically reduces procurement timelines to enable Farsight to get into the hands of the warfighter faster. There are no restrictions on the contract vehicle type (firm-fixed-price, IDIQ, cost, etc.), so our team can work to develop a scope that meets strategic needs with reduced contracting documentation.
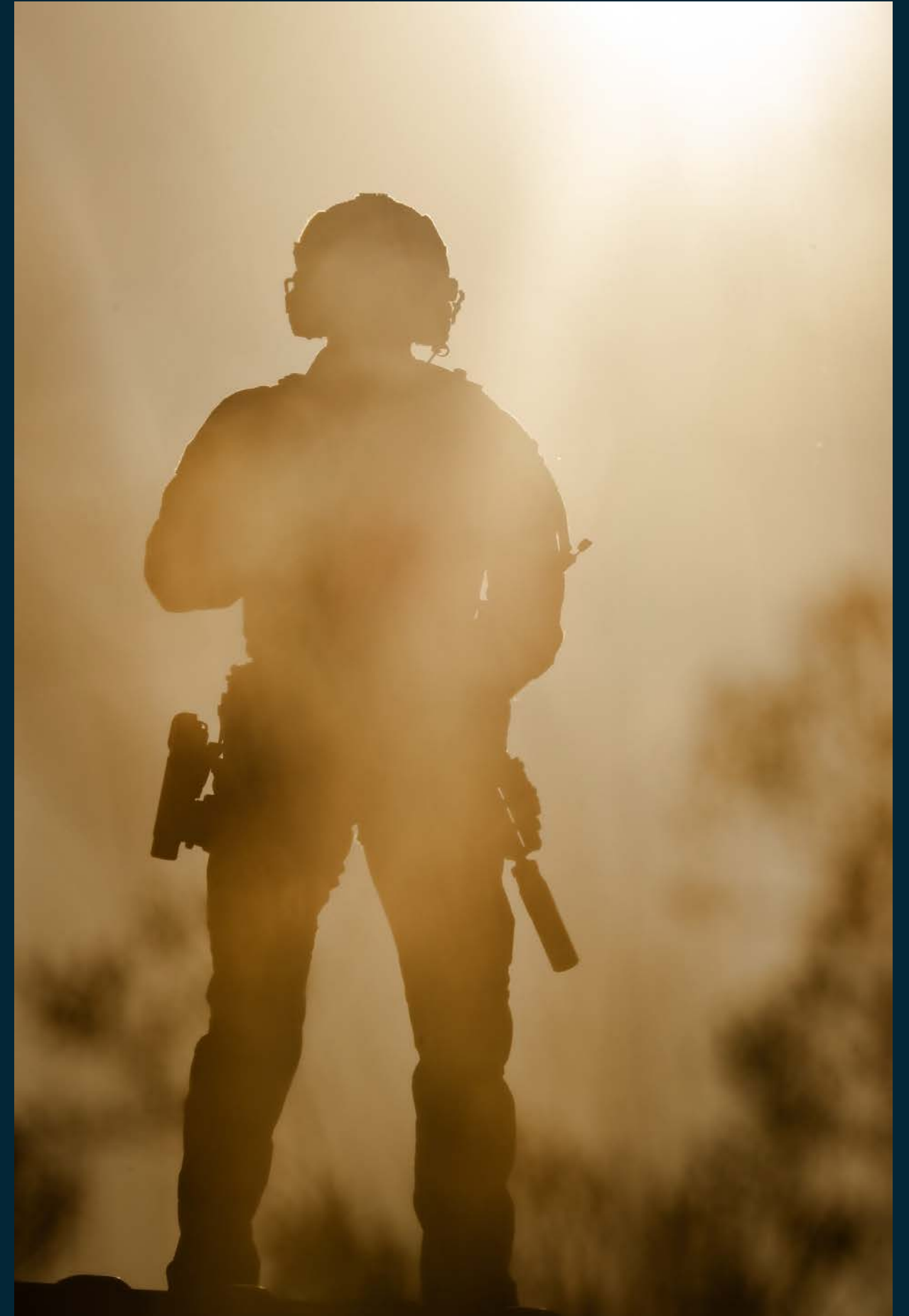
Future Capabilities

LZ Slope Analysis

LZ Surface Distress & DZ Vertical Obstacle Detection

Water Detection

Farsight Accelerator

LZ & DZ Assessment

Current Operational Use

Joint Special Operations Command - Fort Liberty/Global

Ukrainian Defense Forces - EUCOM

10th Special Forces Group - EUCOM

NSW: INDOPACOM

7th Special Forces Group - SOUTHCOM

11th Marine Expeditionary Unit INDOPACOM

British Special Air Service: AFRICOM EUCOM

Israeli Air Force - Shaldag Unit 5101 (Tier 1)

MARSOC: AFRICOM INDOPACOM

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