

Satellite-Enabled Situational Awareness in a Contested Environment

Persistent beyond-line-of-sight situational awareness for dismounted forces — using secure Ka-band SATCOM and intelligent Edge AI.

Modern military operations increasingly take place in contested environments where terrestrial communications are unavailable or compromised. Dismounted operators require continuous situational awareness, secure messaging, position reporting and emergency alerting — while minimising RF exposure, battery consumption and carried weight.



THE CHALLENGE

Legacy radios and satellite terminals stop short of the individual soldier

- ▶ Loss of communications beyond radio line-of-sight.
- ▶ Limited visibility of personnel location and operational status.
- ▶ Need to reduce RF signature in contested environments.
- ▶ Strict size, weight and power (SWaP) constraints.
- ▶ High bandwidth consumption for continuous data exchange.

The HiSKY solution

HiSKY provides a compact body-worn Ka-band satellite communications node that enables persistent beyond-line-of-sight connectivity for individual operators. Embedded Edge AI processes sensor data, voice and mission information locally, transmitting only mission-critical information over HiSKY's private GEO satellite network. The solution supports blue-force tracking, messaging, alerts, position reporting and situational awareness while reducing bandwidth, power consumption and RF emissions — keeping commanders connected to every operator even in GPS-challenged and communication-denied environments.

Terminal — Body-Worn Ka Terminal + Edge AI

Service tier — Private GEO SATCOM

Deployment — Individual soldier

WHY HISKY

One wearable node, six capabilities

► Body-worn, low-SWaP SATCOM

Satellite connectivity at the individual operator level — carried, not mounted.

► LPI/LPD burst transmissions

Directional, burst-based transmissions keep the RF signature low in contested environments.

► Optimised bandwidth and battery

AI-filtered mission data cuts bandwidth and power consumption.

► Private and secure GEO network

Every transmission stays on HiSKY's private satellite network.

► Embedded Edge AI

Intelligent data prioritisation — only mission-critical information leaves the operator.

► True on-the-move operation

Built for contested, GPS-challenged and communication-denied environments.

RESULTS & VALUE DELIVERED

Before and after HiSKY

CATEGORY	BEFORE HISKY	AFTER HISKY
Connectivity	RF LOS limitations	Persistent BLOS SATCOM
Situational awareness	Intermittent updates	Continuous operational awareness
Bandwidth	Raw data transmission	AI-filtered mission data
Operator burden	Multiple disconnected systems	Integrated body-worn solution
Mission outcome	Reduced command visibility	Improved decision-making and force protection

WHY HISKY — COMPETITIVE CONTEXT

Selection criteria

The customer evaluated tactical radios, legacy L-band terminals and cellular-based solutions. HiSKY was selected because it uniquely combines low SWaP, private Ka-band satellite communications, embedded Edge AI, LPI/LPD operation and efficient bandwidth utilisation in a single wearable platform.

CRITERION	WEIGHTING	HISKY SCORE
Low SWaP	High	★★★★★
BLOS connectivity	High	★★★★★
LPI/LPD	High	★★★★★
Bandwidth efficiency	High	★★★★★
Operational awareness	High	★★★★★

DEPLOYMENT SNAPSHOT

What is fielded

SITES / TERMINALS

Individual soldiers, SOF teams, reconnaissance units

DEPLOYMENT TIMELINE

Rapid field deployment

INTEGRATION

Android EUD, tactical radios, sensors, headsets

MANAGEMENT

Space Control (NMS)

REFERENCE STATUS

Restricted

PRODUCTS

HiSKY minimised Body-Worn Ka Terminal, HiSKY GEO network, Space Control (NMS), embedded Edge AI

REPLICATION POTENTIAL

Addressable prospect profile

Ideal for special operations forces, border-security units, forward observers, reconnaissance teams, first responders and public-safety organisations requiring persistent situational awareness beyond terrestrial communications.

HISKY PRODUCTS IN THIS USE CASE

One sovereign system

TERMINAL

Body-Worn Ka Terminal + Edge AI

Minimised body-worn Ka-band SATCOM node with embedded Edge AI — LPI/LPD burst transmissions, blue-force tracking, messaging, alerts and position reporting.

NETWORK

HiSKY GEO network private



Private, secure GEO satellite network with HiSKY teleport and HUB.

NMS

Space Control Standard / Premium



Full network sovereignty and mission-grade redundancy.