

GEO Tactical SATCOM for Smart Border Fence Sensor Networks

Smart-fence monitoring and control via satellite communications —
where radio, fibre and cellular run out.

Modern smart borders rely on distributed seismic, acoustic, radar, thermal and camera sensors deployed across hundreds of kilometres. Many of these locations lack reliable terrestrial communications, limiting real-time situational awareness.



THE CHALLENGE

Sensors everywhere, connectivity nowhere

- ▶ No resilient communications infrastructure along remote borders.
- ▶ High cost of extending terrestrial communications.
- ▶ Delayed alarm delivery and reduced situational awareness.
- ▶ Unattended infrastructure must be monitored continuously, 24/7.

The HiSKY solution

A compact HiSKY terminal is installed at smart-fence gateways along the border. Each gateway aggregates nearby sensor data and securely relays alarms, telemetry, health-monitoring information and optional images over the HiSKY private satellite network directly to the customer's Network Operations Center (NOC).

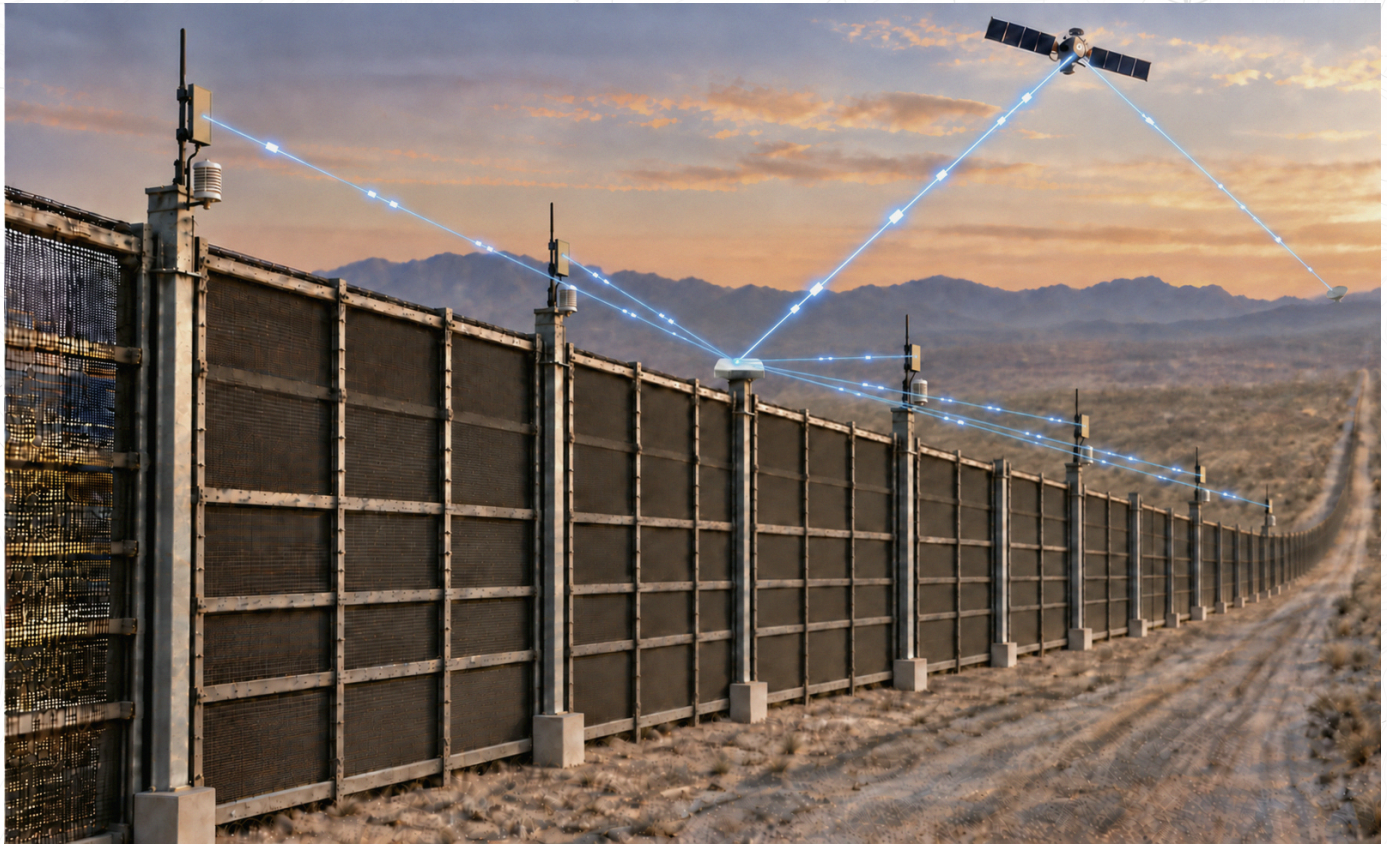
Terminal — Dynamic Ka/Ku 16×16 terminal

Service tier — Ka/Ku-band; Layer-3/2 IP service

Deployment — Fixed mounted — fence or pole gateway

Sensor gateways on the fence, one private link to the NOC

117° 06' W



How it works — a compact Dynamic Ka/Ku 16×16 terminal sits at each smart-fence gateway and aggregates the nearby seismic, acoustic, radar, thermal and camera sensors. Alarms, telemetry, health data and optional images travel over the GEO satellite to the HiSKY HUB and straight into the customer's Network Operations Center — every gateway monitored through Space Control (NMS).

WHY HiSKY

A private network built for sensor traffic

► Private, sovereign satellite communications

Alarms and telemetry travel over the customer's own private network — not a shared commercial service.

► Rapid deployment, no terrestrial infrastructure

Fence- or pole-mounted gateways go live without fibre, microwave or cellular build-out.

► Low-SWaP terminal at every gateway

A compact terminal that fits a fence post — built for remote autonomous operation.

► Optimised for low and mid-rate sensor traffic

The service tier matches the profile of seismic, acoustic, radar and camera gateways instead of over-provisioning broadband.

► Remotely managed

Commercially available, and every gateway is configured, monitored and maintained through Space Control (NMS).

► Selected over fibre, microwave, cellular and MSS

An affordable private satellite network optimised for distributed sensor connectivity, low-SWaP terminals and remote autonomous operation.

RESULTS & VALUE DELIVERED

Before and after HiSKY

CATEGORY	BEFORE HISKY	AFTER HISKY
Connectivity	Limited or unreliable terrestrial connectivity	Continuous satellite connectivity
Bandwidth efficiency	Multiple link types, separate infrastructure — costly infrastructure expansion	Rapid deployment with minimal infrastructure
Business outcome	Delayed alarm reporting	Real-time alarm delivery to the NOC; centralised monitoring of distributed border assets

WHY HISKY — COMPETITIVE CONTEXT

Selection criteria

Compared with fibre, microwave, cellular and traditional MSS solutions, HiSKY provides an affordable private satellite network optimised for distributed sensor connectivity, low-SWaP terminals and remote autonomous operation.

CRITERION	WEIGHTING	HISKY SCORE
Terminal size & speed of installation	High	★★★★★
Coverage across the operating sector	High	★★★★★
Integration capabilities	Medium	★★★★★
Managed service & vendor support	Medium	★★★★★

DEPLOYMENT SNAPSHOT

What is fielded

SITES / TERMINALS

Dynamic 16×16 Ka/Ku; fence mounted

CONNECTIVITY

GEO satellite

INSTALLATION

Fence-mounted or pole-mounted gateway

APPLICATIONS

Smart-fence sensor aggregation

MANAGEMENT

Space Control (NMS)

REFERENCE STATUS

Restricted

REPLICATION POTENTIAL

Addressable prospect profile

Applicable to national borders, military bases, critical infrastructure, pipelines, railways, airports, ports and remote industrial facilities requiring persistent sensor connectivity.

HISKY PRODUCTS IN THIS USE CASE

One sovereign system

TERMINAL

Dynamic Ka/Ku 16×16 COTM



HUB SYSTEM

HISKY HUB modem + packet processor



NMS

Space Control Standard / Premium



Full network sovereignty and mission-grade redundancy.