

The background image shows a military operation in a wooded area. In the foreground, a soldier in full combat gear, including a helmet with a night vision device and a rifle, is seen from the side. In the middle ground, a dark-colored vehicle is parked on a dirt path, with another soldier standing nearby. Two drones are flying in the sky; one is a larger, more complex drone with multiple rotors and sensors, while the other is a smaller, simpler quadcopter. The scene is set in a forest with green trees and foliage.

*elsight*

ADDING EXTENSIVE SITUATIONAL AWARENESS WITH

**SECURE AND RELIABLE CONNECTIVITY  
FOR UNMANNED AERIAL & GROUND SYSTEMS**

**In Homeland Security, Military and Defense Applications**

For more information, **contact [info@elsight.com](mailto:info@elsight.com) or visit [www.elsight.com](http://www.elsight.com)**

# Empower Unmanned Aerial Vehicles (UAVs) and Unmanned Ground Vehicles (UGV) to transform HLS, military and defense operations

Elsight's Halo connectivity platform provides secure, reliable, and continuous communications to ensure uninterrupted operations of unmanned missions in Non-Line of Sight (NLOS) conditions. By aggregating all available cellular, SatCom, and proprietary RF communications links into a securely bonded pipe, the Halo ensures high bandwidth, low latency data transmission for unmanned missions beyond the visual line of sight.

The lightweight, small footprint and low power platform is highly portable and quick to set up under battle conditions. Field troops can rapidly deploy a drone or other unmanned systems to benefit from extended situational awareness, visibility and safer missions in difficult terrain. Additionally, one operator in a remote command center can control fleets of drones or other systems from the other side of the globe.

## Navigating field operations with BVLOS/NLOS Communications

Staying on the move in field operations in a dispersed manner sounds logical but maintaining continuous communications among the team and with the command center is challenging. When UAVs and UGVs stay fully operational over long distances, they extend military forces' operational effectiveness while minimizing risk to human lives, feeding real-time intelligence and persistent monitoring across diverse terrains. The Halo guarantees that unmanned systems stay fully operational over long distances way beyond the line of sight for extensive situational awareness.



## Elsight's Halo maximizes the strategic advantage of unmanned military assets with:



**Extensive and accurate situational awareness in NLOS conditions**



**Risk-free visual monitoring**



**Avoid communications jamming**



**High bandwidth, redundancy, low latency, low power usage**



**Prioritized data transmission (video, C2, telemetry data)**



**Portable and rapid deployment**



**On-the-fly surveillance capabilities**



**No single-point-of-failure**

## Fortifying UAV and UGV Connectivity in HLS, Military and Defense Applications

Elsight's Halo is an AI-powered connectivity platform for UAVs/UGVs that aggregates multiple communication links (LTE, 5G, Private Cell, SatCom, and proprietary RF) into a secure and robust pipeline, ensuring unparalleled connection reliability for BVLOS / NLOS operations.

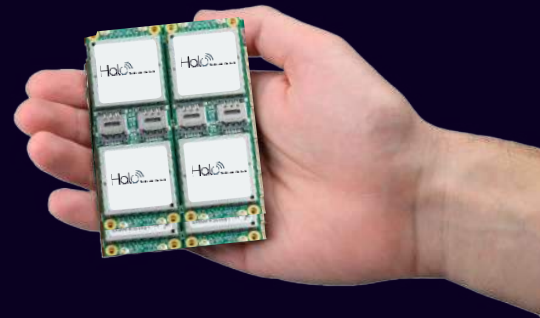
Halo employs advanced encryption and data splitting to protect sensitive information from cyber threats and maintain the integrity of military and defense communications. The cybersecure solution splits all data forms—video, telemetry, and sensor data—into AES-256-CBC encrypted packets. Secure VPN tunneling delivers the encrypted data stream via all available links to the Allsight management platform (cloud-based or on-prem), where it is decrypted and recombined.



### The Boxed Halo

The Boxed Halo is perfect for a situation requiring quick deployment of ground sensors or ground units, for example, for mounting cameras on a pole to stream video to a command center. Or when using a tethered drone as the streaming device, the Halo can be on the ground in the boxed format. Similarly, manned or unmanned ground vehicles requiring reliable communications would use the Boxed Halo.

Elsight's Halo offers extended visibility and insights for better-informed tactical decisions in scenarios such as:



#### Intelligence, Surveillance, And Reconnaissance (ISR)

Deployed in hostile territories or rugged terrains, unmanned systems deliver vital real-time surveillance data for strategic planning and decision-making pivotal for mission success and keeping troops safe.



#### Logistics And Resupply

Unmanned systems significantly reduce risks to human life and ensure troops have adequate supplies by delivering supplies to front-line units in hard-to-access locations.



#### Ensure Communication Relay In Areas Of Little Infrastructure

Even if one part of a communication infrastructure is compromised, the UAVs maintain connectivity with the Halo.



#### Air Space Or Electronic Warfare Jamming

Avoid typical communications jamming of point-to-point RF frequencies like 2.4 GHz and 5.8GHz by using public or private cellular communications to keep your operations going.



#### Search And Rescue

Wide reaching, centralized information assists in search and rescue operations to locate captured, lost or injured individuals.



#### Deploy Instant Surveillance Towers Using Tethered Drones

Halo's quick set-up for a high-flying tethered drones provides instant communications to a command center. Use the boxed Halo for backhaul, as the video data is transferred through the cable to the ground unit.



#### Landmine Or Other Potential Traps Inspection

Conduct aerial inspections remotely and safely to assess and denote land mines or other booby traps.

# Halo Features

## Multi-link communication

LTE/5G, RF, SATcom

## Enhanced security

Packet splitting mechanism  
AES-256-CBC encryption

## AI-powered

Real-time network prediction

## Enables BVLOS solution certification

## Small form factor

Less than 100g



## AllSight cloud or on-prem management

At-a-glance information on status, location, network status, VPN status and more:

3D reception coverage mapping for efficient flight planning

Remote configuration (link prioritization, redundancy, etc.)

Secure Over-The-Air (OTA) updates

## Easy integration

## Built-in Remote ID network and broadcast

FAA and EASA compliant

### Ethernet

2 Ports of 1 GB

### USB

1 x USB 2.0  
1 x MICRO USB for debug (internal)

### WiFi & Bluetooth\*

Dual Band WiFi (2.4/5 GHz)  
802.11 a/b/g/n/ac  
BT 2.1 +EDR, BT3.0, BT 4.2 (BLE)

\*option to remove

### Cellular

Embedded 5G/4G LTE/3G bands depending on the region

### Serial

2 x RS232/422/485  
1 x CAN BUS  
1 X UART

### Positioning Systems Supported

GPS | GLONASS | Galileo | BeiDou

### Data Security

Data Security Packet splitting mechanism  
Encryption up to AES-256-CBC

### Advanced Communication

AI - Based  
VPN: OpenVPN L2/3

### Environmental Conditions

Operating: -10°C to 75 °C

### Power Input

DC 9V – 30V

### Power Consumption

6.5W (Avg.), 10W (Max)

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