



The Airboxer - Unmanned Helicopter System

DEFENSE & SECURITY

Persistent airborne ISR from a compact VTOL platform



4+ Hours
Endurance, standard configuration

7.0 kg Payload
Across multiple positions

VTOL
No runway, launch rail or net

300 W
Continuous payload power

Operational Applications

- ✓ Tactical intelligence, surveillance and reconnaissance
- ✓ Border and coastal surveillance
- ✓ Force and base protection
- ✓ Critical-site and perimeter security
- ✓ Target detection, tracking and identification
- ✓ Counter-smuggling and law-enforcement support
- ✓ Search and incident-response operations
- ✓ Shipborne surveillance and reconnaissance

Mission Profiles

TACTICAL ISR & RECONNAISSANCE

FORCE & BASE PROTECTION

BORDER & COASTAL SURVEILLANCE

Description

The Airboxer is a long-endurance unmanned helicopter developed for intelligence, surveillance and reconnaissance missions requiring persistent coverage, vertical deployment and a limited logistical footprint.

The platform combines vertical take-off and landing, stable hover, controlled low-speed flight and multi-hour endurance. It can be deployed from temporary operating locations, confined areas, vehicles and configured vessels without runway or launch infrastructure.

High Eye works with armed forces, government agencies and system integrators to define the configuration required for the intended mission.

Define the operational configuration

The final system configuration is defined by the mission profile, required sensor effect, operating range, frequency allocation, environmental conditions and applicable operational approval.

Request a Defense & Security Operational Briefing.

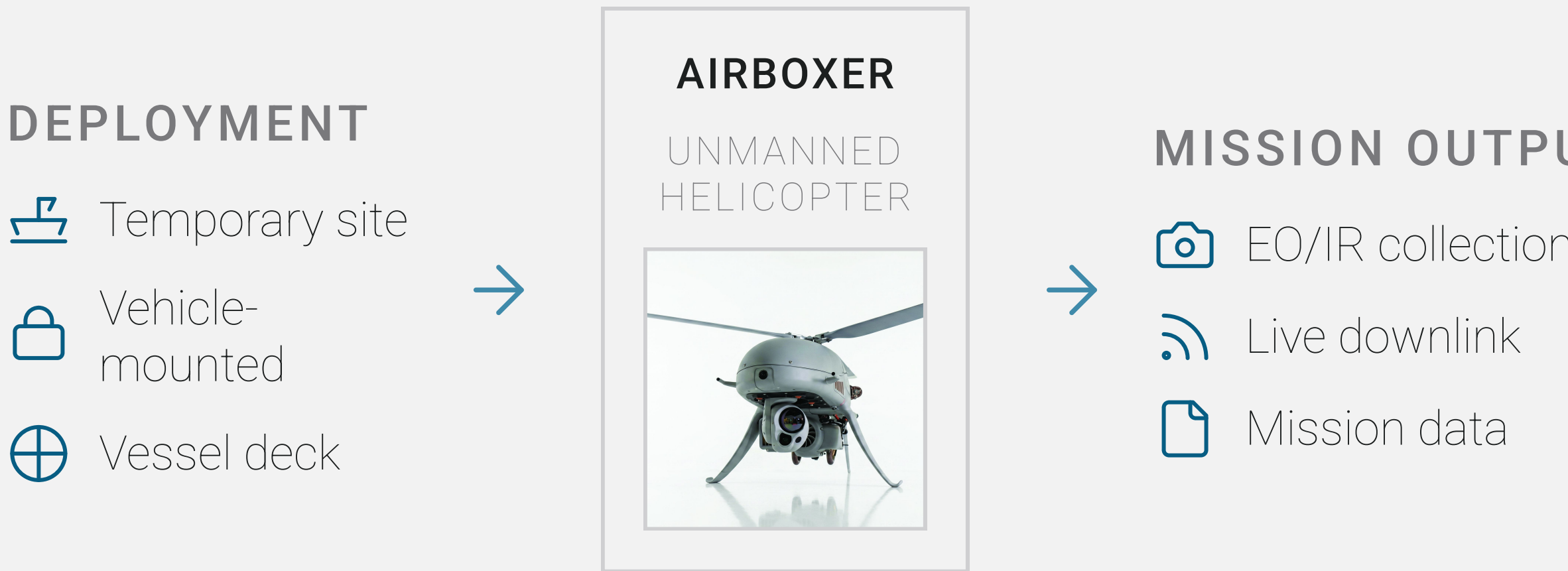
OPERATIONAL CAPABILITIES

- ✓ Persistent ISR coverage - 4+ hours, 5+ with ER tanks
- ✓ Vertical deployment without runway or launch rail
- ✓ Day and night stabilized EO/IR sensor operation
- ✓ MIMO MANET, line-of-sight, LTE/5G and SATCOM links

Core Specifications - General

GENERAL	VALUE
Maximum take-off weight	34.2 kg
Powerplant	80 cc two-stroke engine, dual injection, FADEC
Standard fuel capacity	8.86 L
Fuel capacity, ER tanks	11.86 L
Onboard electrical generation	28 V / 700 W alternator

Operating concept





Flight Performance

FLIGHT PERFORMANCE	VALUE
Endurance, standard configuration	More than 4 hours
Endurance with Extended Range Fuel Tanks	More than 5 hours
Maximum flight range	More than 200 NM / 360 km
Endurance cruise speed	40 kts IAS
Range cruise speed	45 kts IAS
Maximum flight speed	75 kts IAS
Operational wind limit	25 kts, up to 40 kts including gusts

Payload & Environment

PAYLOAD & ENVIRONMENT	VALUE
Maximum payload capacity	7.0 kg across multiple payload positions
Payload capacity at full standard fuel	3.0 kg
Continuous payload power	300 W / 24 VDC
Payload data interface	IP Ethernet, IEEE 802.3
Operating temperature	−10 °C to +45 °C
Environmental protection	IP56 aircraft enclosure, IP67 avionics
Relative humidity	95% non-condensing
Electromagnetic field tolerance	At least 200 V/m

System Architecture

Flight-control system - the flight-control system manages aircraft attitude, heading, trajectory, airspeed and mission execution throughout the flight. Automated flight functions reduce pilot workload while maintaining operator authority over the mission.

Modular payload integration - multiple payload positions, 24 VDC power and Ethernet connectivity support the integration of EO/IR systems and specialist intelligence, surveillance and reconnaissance sensors.

Operational Capabilities

- ✔ **Persistent ISR coverage** - the Airboxer provides more than four hours of endurance in standard configuration. Extended Range Fuel Tanks increase endurance to more than five hours, reducing aircraft rotations and increasing time on station.
- ✔ **Vertical deployment** - the rotary-wing configuration enables vertical take-off and landing, stable hover and controlled low-speed manoeuvring without a runway, launch rail, arresting system or recovery net.
- ✔ **Day and night sensor operation** - the platform supports stabilized EO/IR payloads and other mission-specific sensors for observation, detection, tracking, identification and evidence collection.
- ✔ **Reduced logistical footprint** - the compact system can be transported and deployed from forward operating locations with limited infrastructure. Ground-control, communication and support equipment can be configured for portable, vehicle-mounted or ship-integrated use.
- ✔ **Predictable system behaviour** - the flight-control and system architecture incorporates redundancy, continuous system monitoring and defined degradation and recovery logic, supporting controlled aircraft behaviour if systems fail or conditions deteriorate.
- ✔ **Configurable communications architecture** - the Airboxer supports MIMO MANET, line-of-sight, LTE/5G and SATCOM options, configured according to mission radius, spectrum availability, network topology and national security requirements.

Reference Mission Configuration

- ✔ Stabilized day and night EO/IR payload
- ✔ Laser rangefinder interface
- ✔ RF, acoustic, LiDAR, magnetometer or other specialist sensors
- ✔ Encrypted 2x2 MIMO MANET data link
- ✔ Short- or medium-range tracking antenna
- ✔ LTE/5G or SATCOM backhaul
- ✔ Portable, vehicle-integrated or ship-integrated Ground Control Station
- ✔ Live video, telemetry and mission-data distribution
- ✔ Interface with external command-and-control systems

A typical Defense & Security configuration may include the items above. The final configuration is defined by the mission profile, required sensor effect, operating range, frequency allocation, environmental conditions and applicable operational approval.

Ground Control Station & Communications

Ground Control Station - the ruggedized Ground Control Station supports mission planning, aircraft control, live payload operation and the distribution of video, telemetry and mission data.

Communications - communication systems are selected according to the operational requirement. Available architectures include encrypted MIMO MANET, directional tracking, maritime C-band, LTE/5G and SATCOM-supported operation.



Regulated Deployment

- ✓ High Eye operates under a European LUC SAIL II authorization
- ✓ Operational and technical documentation aligned with STANAG 4738 principles
- ✓ Aviation-style configuration management and maintenance documentation
- ✓ Defined operational, technical and environmental limitations
- ✓ Structured pilot, operator and maintenance training
- ✓ ITAR-free platform
- ✓ Classified as a dual-use system under European export-control regulations

The Airboxer is developed for operation within professional and regulated aviation environments.

Operational authorization remains dependent on the intended mission, airspace, national regulatory framework and selected system configuration.

Training & Lifecycle Support

- ✓ Operational-requirement and configuration analysis
- ✓ Payload and communication-system integration
- ✓ Pilot and mission-operator training
- ✓ Maintenance training
- ✓ Pilot Operating Handbook and Maintenance Manual
- ✓ Simulator and recurrent training
- ✓ Initial spare-parts and support packages
- ✓ Scheduled and unscheduled maintenance support
- ✓ Factory-level technical support
- ✓ Configuration control and obsolescence management

High Eye provides support throughout system introduction, operational deployment and the complete system lifecycle.

Define the Operational Configuration

High Eye works with the following organizations to define the configuration required for the intended mission:

- ✓ Armed forces
- ✓ Government agencies
- ✓ System integrators
- ✓ Aircraft, payload and communications definition
- ✓ Ground Control Station configuration
- ✓ Training and support configuration

Important notes

Published performance values are configuration-dependent. Actual endurance, range and payload capacity vary with fuel quantity, payload mass, atmospheric conditions, altitude, communication equipment and operating procedures.

Final performance and system specifications are confirmed for the selected configuration and approved operational scenario.

Export and operation remain subject to applicable national and international regulations.