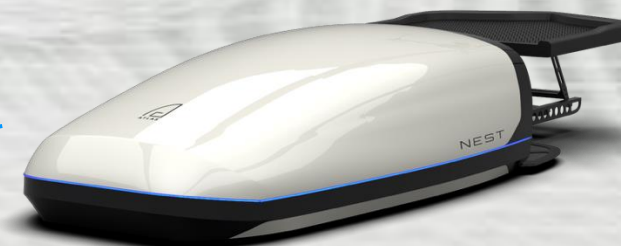




# ONE DRONE - MULTIPLE MODE



reddot design award  
winner 2018

# Manufacturing

Atlas is using Lean and Agile Manufacture Strategy with Pre-assembly and Sub-assembly Kitting Processes.

Our Product Final Assembly is selected with an exact configuration that customer needs in the shortest time possible.

Our tracking system helps to store all supply chain information with test results history and prove of conformity.

Every single product is tested individually and as a part of the customer kit to guarantee 100% reliability and quality.

**Atlas is capable to produce up to 200 UAV's a month!**



**1** UAV production



**2** Clean room for payload production



**3** AtlasNEST production





# CUSTOMERS



**LATVIAN MOD:  
AIR FORCE**



**LATVIAN MOD:  
AIR FORCE**



**LATVIAN MOD:  
MILITARY POLICE**



**LATVIAN MOD:  
MARINES**



**NORWAY:  
COASTGUARD**



**NORWAY:  
NPAID**



**DUTCH MOD:  
NAVY**



**DUTCH MOD:  
ARMY**



**DUTCH MOD:  
AIR FORCE**



**LUXEMBOURG MOD:  
ARMY**



**SINGAPORE MOD:  
AIR FORCE**



**SINGAPORE MOD:  
ARMY**



**UKRAINE MOD:  
ARMY**



**UKRAINE MOD:  
THE DEFENCE  
INTELLIGENCE OF  
UKRAINE**



**UKRAINE MOD:  
UKRAINE SPECIAL  
OPERATION FORCE**



**UKRAINE MOD:  
BORDER GUARD  
SERVICE**



**LATVIA:  
BEZVESTS.LV**



**UK:  
BRITISH ARMED  
FORCES  
ITDU**

# AtlasPRO Drone Overview

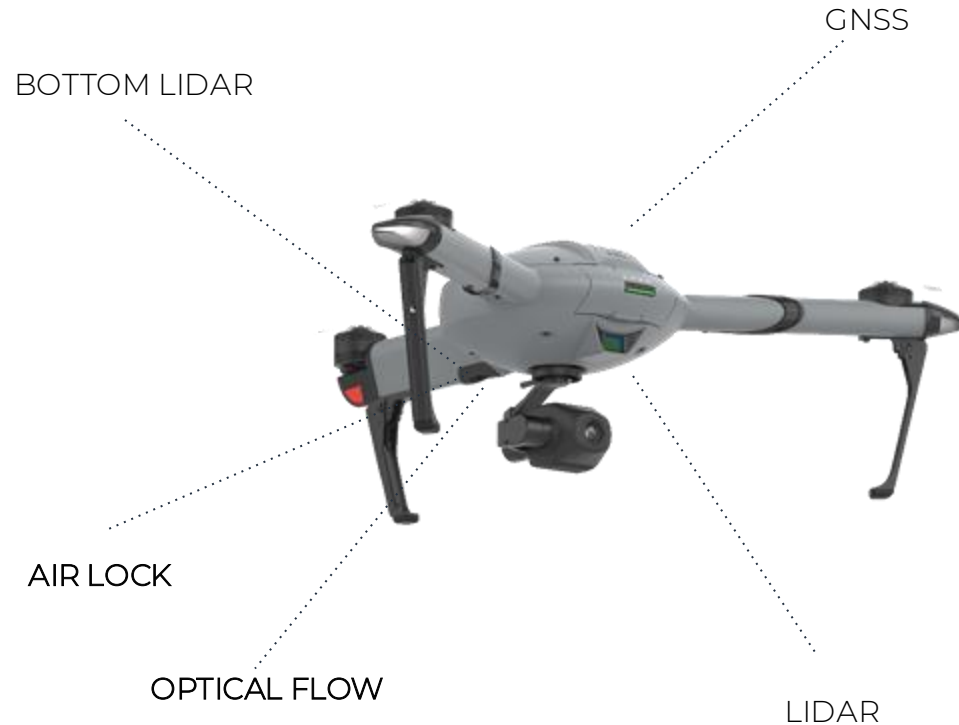
## AtlasPRO Drone

- VTOL takeoff / landing
- Full carbon fibre air-frame
- Ready to use in under 1 minute from pack to “ready to fly” mode
- Small, light-weight, Portable in “carry-on”
- Up to 10km range, streaming 1080p/720p
- Speed up to 56km/h
- Weather resistance IP44
- Max altitude ASL 18000 feet (6km)
- Steady wind resistance up to 52km/h
- Mesh capabilities with data encryption
- STANAG 4609 Compliant
- BVLOS
- Flight time ~ 30min - 35min



# AtlasPRO Drone Overview

A lightweight, man-packable UAV designed for ISTAR (Intelligence, Surveillance, Target Acquisition, and Reconnaissance) BVLOS missions (Beyond Visual Line of Sight) and can be equipped with various payloads.



FREQUENCY HOPPING\*



OPTICAL FLOW

- Prevent drifting when hovering in GPS-Denied Condition
- Allows take-off in No-GPS condition take off



UP TO 35 min\*\* (with new 8000mAH battery)

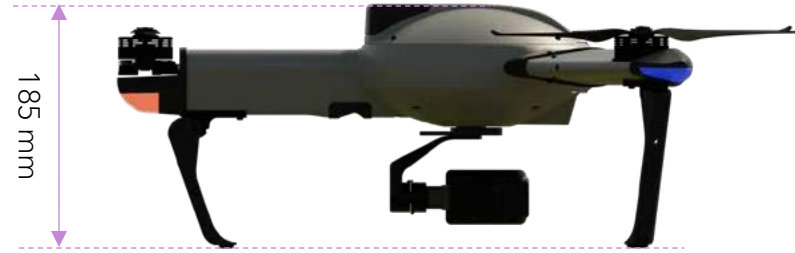


PARACHUTE  
SUPPORTED

\* Adaptive Frequency Hopping will be added soon

\*\* Time may varies depending on area and usages

# AtlasPRO Drone Dimension

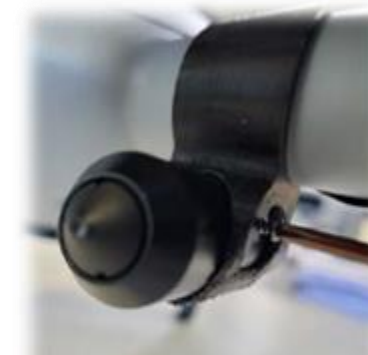


# Optional FPV & Parachute

Optional Parachute or FPV Camera \*\* can also be fitted to the AtlasPRO Drone for added safety while flying in urban area



Parachute



FPV Camera



\*\* - not applicable for AtlasNEST



# ATLAS GROUND STATION OVERVIEW



## AtlasStation PRO



UP TO 10KM  
RANGE



WEATHER  
RESISTANT



STANAG 4609  
COMPLIANT



TRANSMITTED  
ENCRYPTION



ONBOARD  
ENCRYPTION



MESHING  
CAPABILITIES



ADJUSTABLE  
FREQUENCY



JAMMING  
COUNTERMEASURES



BUILT-IN HEATING  
& COOLING



HALL-EFFECT  
JOYSTICKS



BUILT-IN HEATING  
& COOLING



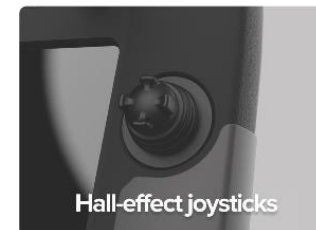
USB3.0  
ETH  
HDMI

FREQ. RANGE (GHZ)  
**2.2 - 2.7**

BATTERY UP TO  
**5 h**

RANGE UP TO  
**10 km**

WEATHER RESISTANCE  
**IP 44**



Hall-effect joysticks



Built-in Heating And Cooling



USB 3.0, Eth, HDMI



# ATLAS PAYLOAD



## Visor FF

### LWIP Thermal Camera

The Visor FF camera is a new payload created specifically for the AtlasPRO drone, with a **high-quality F/1.0 lens** and a thermal sensor with exceptional sensitivity. Visor FF is an **ITAR-free technology** since it is produced in the European Union. Features a **compact and lightweight design**, a unique **LWIR sensor with 60 Mk sensitivity**, and a **640x480 | 30fps** resolution for accurate temperature measurements.



## Argus M20

### Full HD 20x Hybrid Zoom

Small aerial camera with **optical zoom** up to **10x** and **hybrid zoom** up to **20x**. The Argus M20 offers unparalleled image data capture with an ultra high-quality sensor, **1920x1080** resolution **30fps** and **11Mbps**.



## Kalos 120

### High Definition 4K Camera

Ultra high-definition 4K camera with **12.7MP 1/2 3" CMOS sensor 3X Optical Zoom** and **12X Hybrid Zoom**. Record videos and take stills with more detail and sharpness even with low light.



# Dual Payload

## New camera for AtlasPRO

Introducing a new cutting-edge imaging payload for industrial and military use.



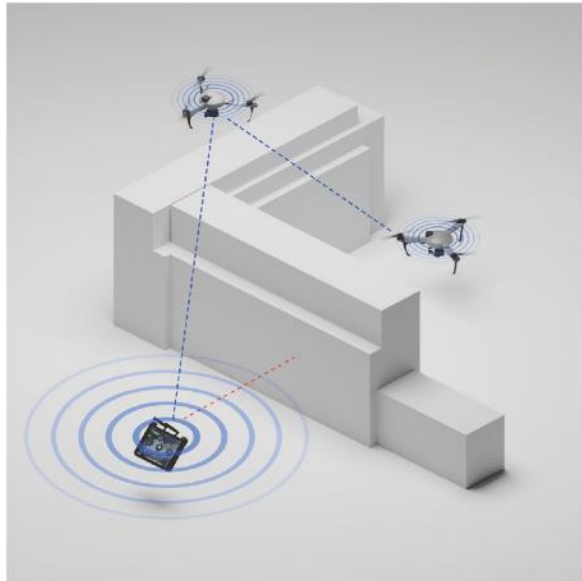
### Key features

- **Daylight camera 4K @ 60fps** (and 8K @ 15fps) with X40 optical zoom
- **Nightvision Thermal Camera 640p @ 50 fps**
- **Combined image overlay** for increased thermal camera sharpness
- **StarLight sensor** for superior low-light color image quality
- **Laser rangefinder** (precision  $\pm 1$  meter at 2km)



# MESHING

AtlasMESH is a networking system that allows a single operator to operate numerous drones at the same time. Deploy, operate, and use many UAVs using a single control station without the need for extra hardware.



Relay signal through secondary UAV to fly behind problematic obstacles where signal usually is lost

**BVLOS**



In constant monitoring situations hot swap depleted UAV with fully charged one, without interrupting video stream

**In-Flight Hot Swap**



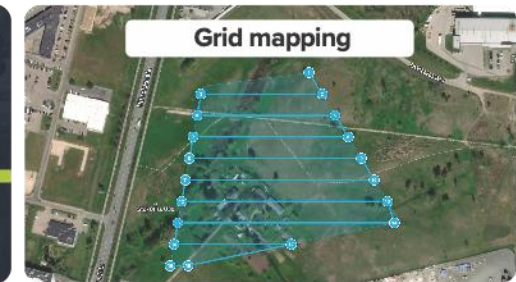
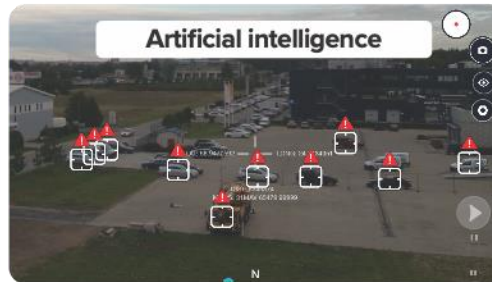
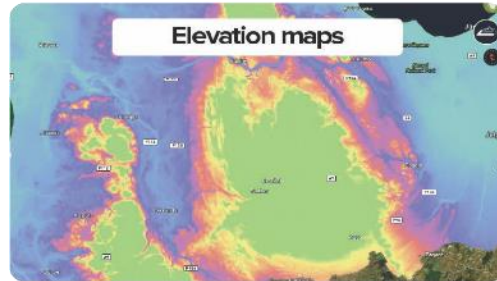
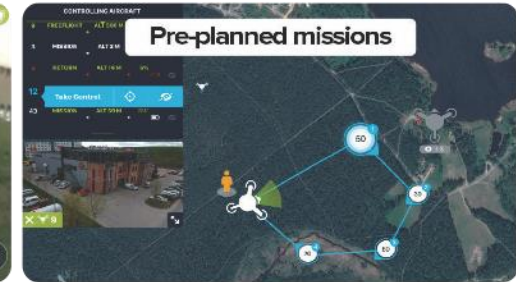
Control multiple drones

**Multi-Control**



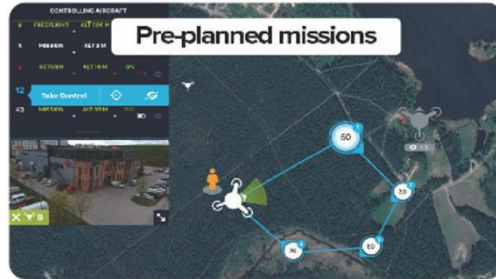
# ATLAS APP

Create complex missions in minutes or launch missions that have already been planned, utilize elevation maps to avoid unnecessary mishaps, and much more.





# ATLAS APP FEATURES



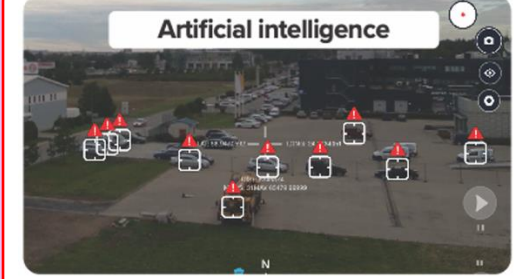
Create fully autonomous flight missions before operation using pre-loaded map. Operator can plan mission profile; flight attitude; and flight zone. Offline map can be downloaded prior to operation using the build-in global map, or Operator can also upload own detail map (including terrain info) for mission planning.



Hot Swap feature enable the Operator to command a launch of 2<sup>nd</sup> Drone to replace the 1<sup>st</sup> Drone by activating the "Hot-Swap" function which allows continues target monitoring and investigation without any interruption.

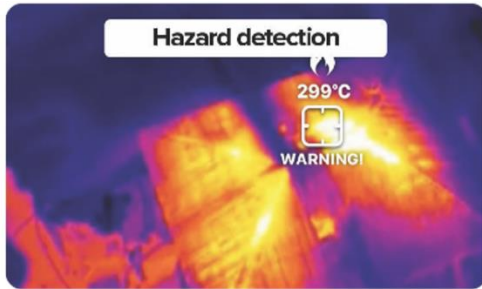


Geofence feature allows operator to define the restricted area of operation using either Polygram or Circular mode. The Polygram geofence can accept up to 120 points. Geofence will prevent the drone to operate outside the defined zone. For geofence to be active, GPS signal must be available.



Both Argus M20 and Kalos 120 have build-in automatic vehicle and human detection and identification capability. The drone have the capability to track and follow the target of interest while in flight. Optional First-Person-View (FPV) camera can also be installed for additional forward view.

# ATLAS APP FEATURES



The Visor FF thermal payload can provide the followings:

- automatic fire alert,
- hazard detection.
- thermal inspection



AtlasPRO system have build-in Frequency Hopping (FH) feature that can prevent any jamming of flight control and to minimize the efforts of unintentional interference. This provided the drone with added protection when carrying out operation in urban or "noisy" environment.



Atlas APP provided a default World Map, which can be downloaded and saved internally. Operator have also the ability to upload their proprietary detail map (eg. including terrain info) onto the GCS for planning purpose.



The drone automatically changes to NO-GPS mode when the GPS signal is jammed or spoofed. In NO-GPS mode, all pre-planned mission flight will be halted, however the Operator can still have control of the drone and continue its mission in free flight mode.

# ATLAS APP FEATURES

## Obstacle Avoidance



Build-in active forward-looking LiDAR sensor provide obstacle detection against the risk of in-flight collision. Warning will be displayed on the GCS flight screen to inform the Operator that the drone is flying too close to the obstacle. The drone will be prohibited to continue its forward flight path upon detection of any obstacles.

## Mesh



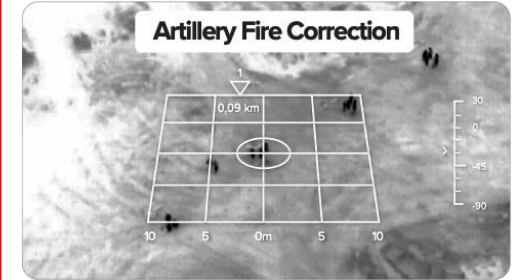
AtlasPRO system can operate as a single unit or as a complex solution connected in a MESH network. Provide command and control of multiple drones at once over longer range. This allows the Atlas system to continue its mission beyond visual line of sight (BVLOS) and provide extended connectivity and streaming of its video.

## 24/7 Perimeter Security



AtlasNEST with its automatic battery changing features, allows the AtlasPRO Drone to conduct 24/7 perimeter surveillance remotely. By integrating to any existing ground surveillance system, the AtlasNEST system will help to further prevent unexpected intrusions and hazards in some remote area.

## Artillery Fire Correction



Artillery Fire Correction feature provides the Operator the means to assess its firing accuracy. The application will then provide information and guide the Operator to correct its firing point based on the last firing result.



# Atlas**RELAY**

## UAV Relay Radio Module

FOR N-VLOS OPERATIONS

The AtlasRELAY radio module has several functionalities that increase capabilities of AtlasPRO. AtlasRELAY has become a must-have for long-distance missions, because to its long-lasting battery, small size, light weight, and low cost.

Can be used for  
**BVLOS**  
flights

  
Increase range  
and capacity

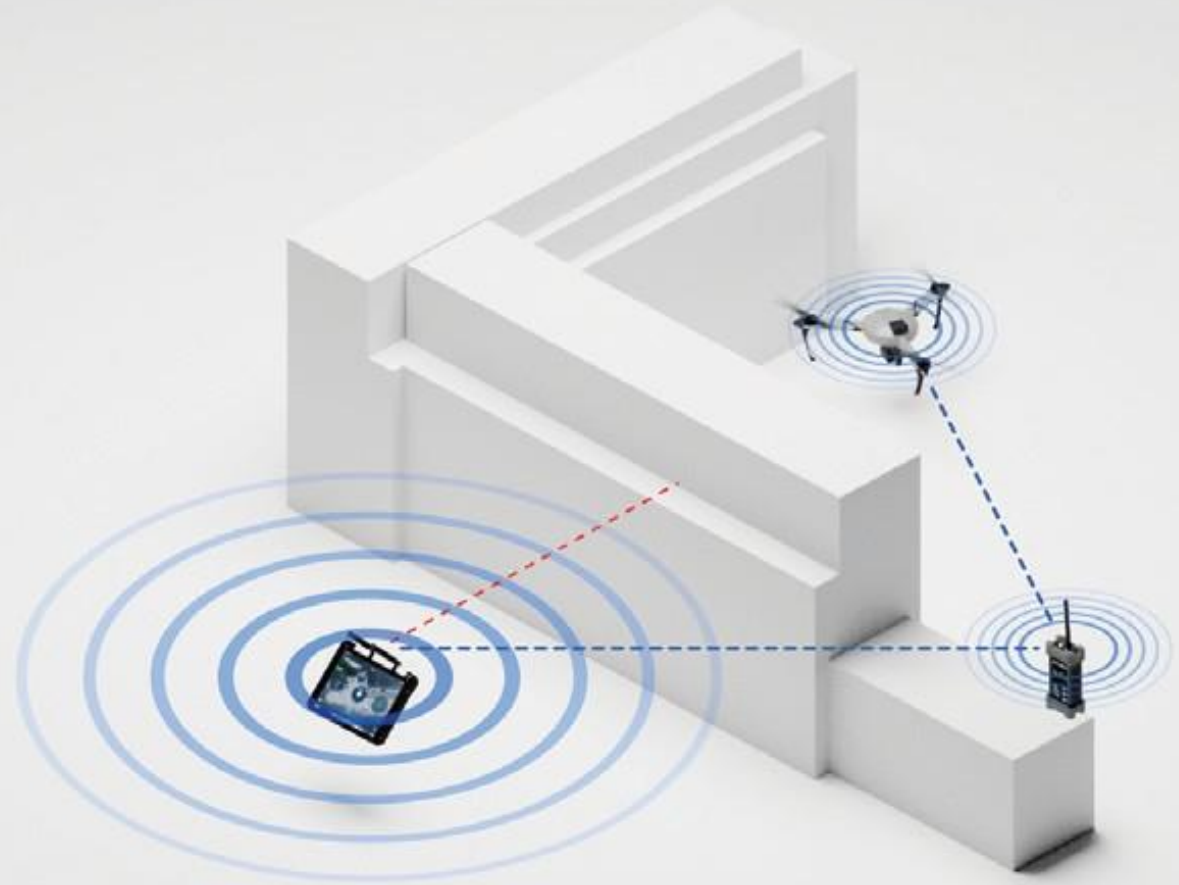
Share footage  
to multiple  
devices

Encryption/  
Frequency hopping/  
MESH



# Multi-path propagation

AtlasRELAY provides uninterrupted radio link around obstacles and line-of-sight.



# Range extender

AtlasRELAY extends the default 10km range of the AtlasSTATION remote controllers.



# Mesh network

AtlasRELAY serves as a central point to deploy a multi-operator ATLAS mesh network.



# AtlasNEST System Overview

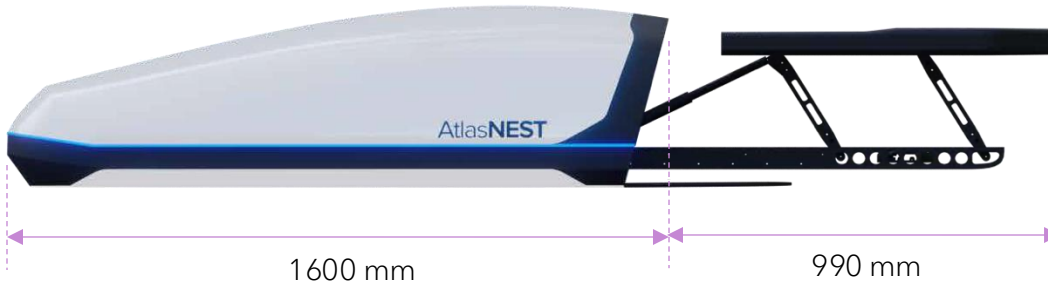
## AtlasNEST

- System Dimensions : 250 x 110 x 52 cm (fully extended deployment)
- Weight : <90kg
- Automatics Takeoff : < 70sec
- Automatics Battery Swapping and Charging : 3 + 1 Battery
- Ready to relaunch : < 3 mins
- Continuous Operation : 24/7 (with direct AC/DC)
- AtlasPRO C2 range : ~ 8km (LOS)
- Mesh network
- Precision Landing System
- Option connectivity : LTE
- Encryption : 128/256 bit AES
- Ops Temperature : -40 - + 55
- IP rating : IP53
- Power source : 120V – 230V / 50-60Hz





# AtlasNEST System Dimension



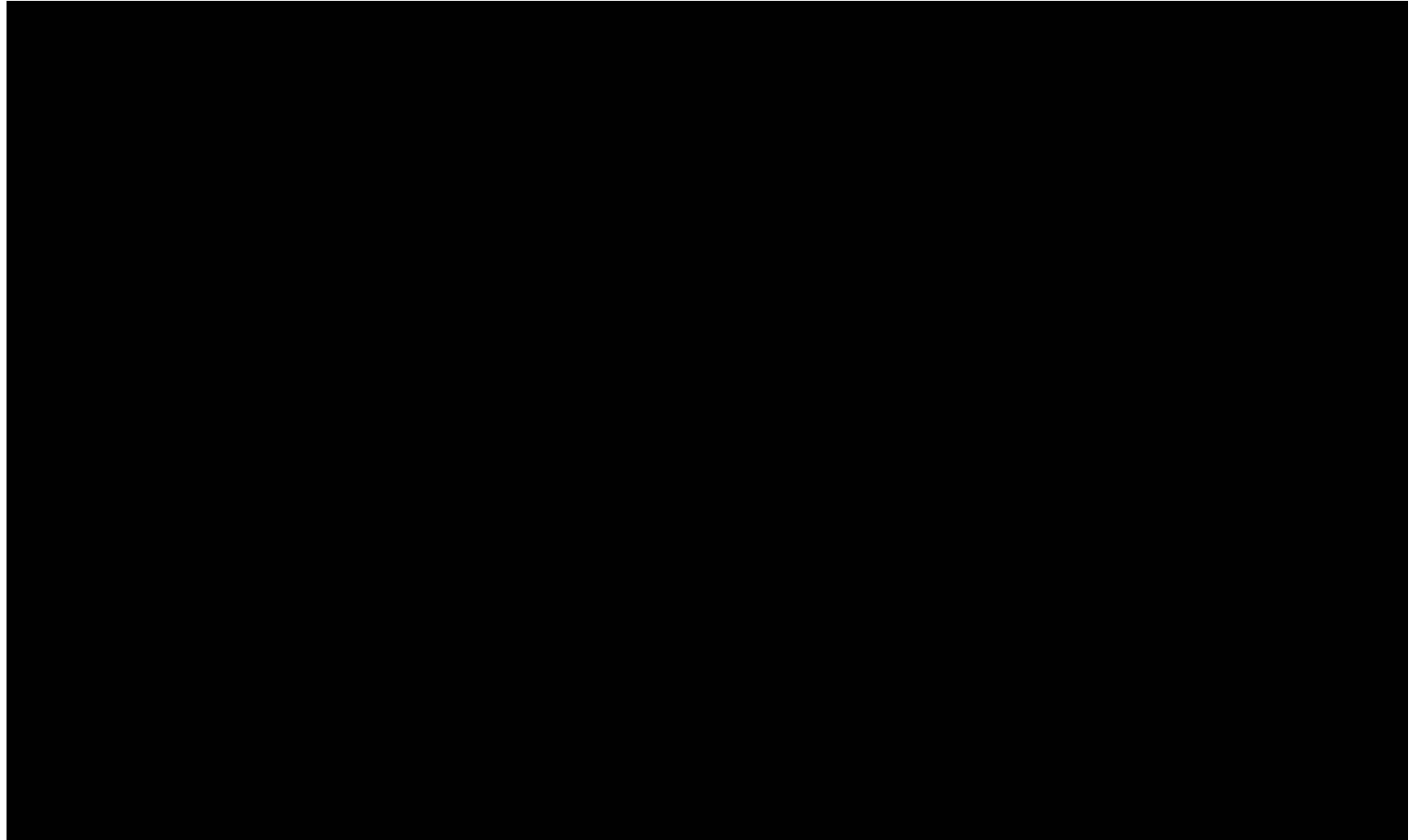
# AtlasNEST Deployment



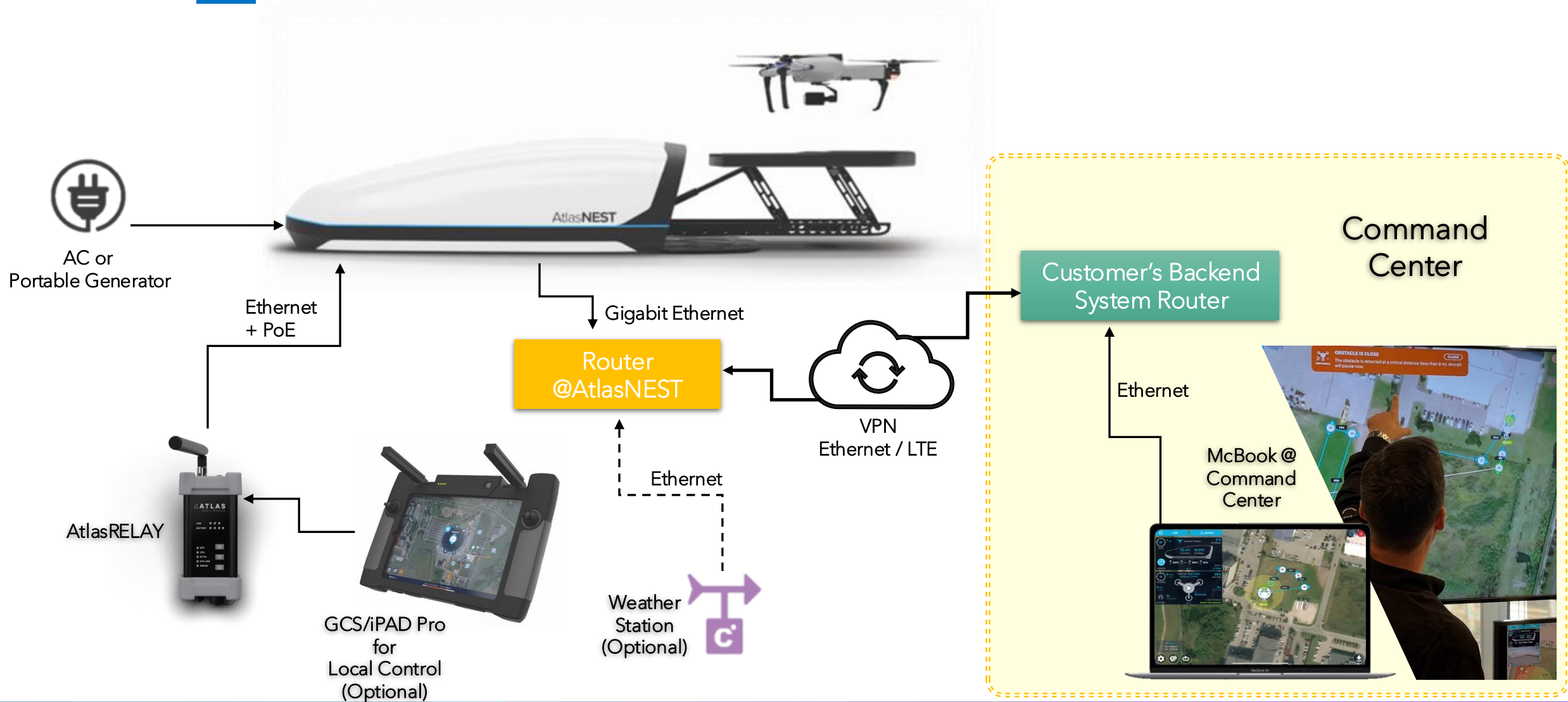
Roof Top or Fixed Location

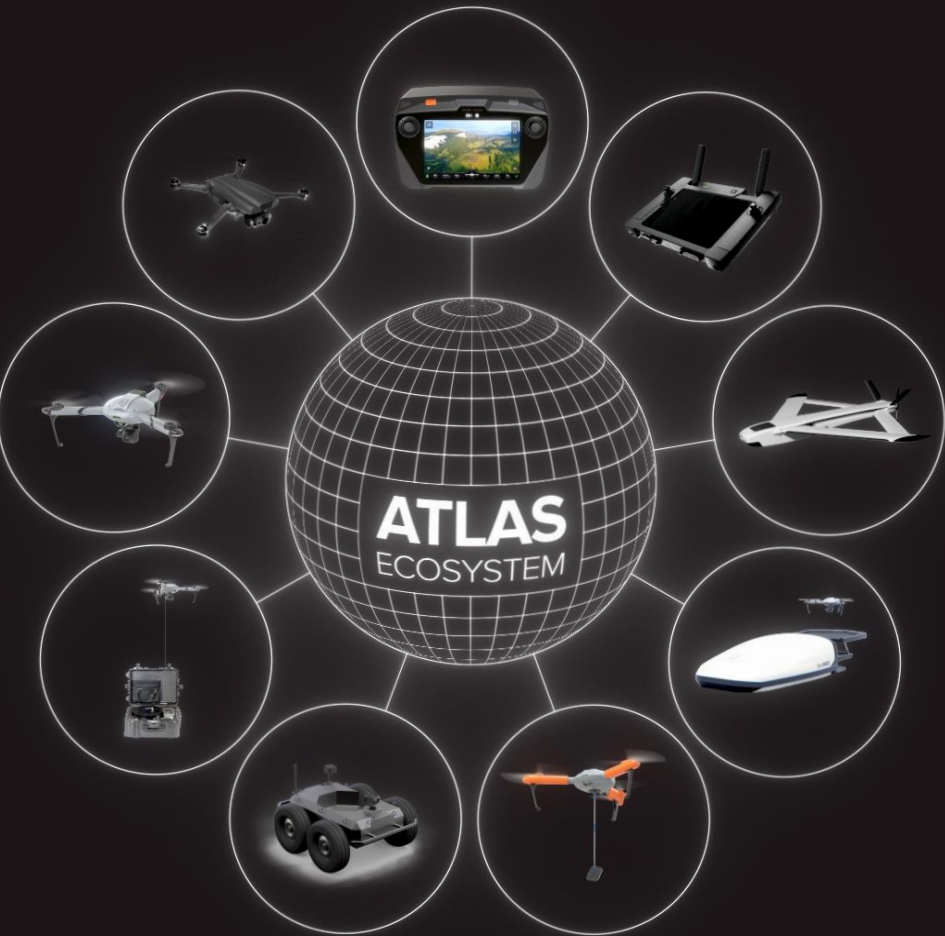
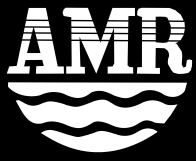


Vehicle Mounted



# AtlasNEST System Setup





2021-01-01 00:05:36 95%

ORANGESEAGULL FREE DRIVE

MISSION: FREE FLIGHT

0 KM/H → SPD

HEADING SW

0.0 M/S ↓ SPD

0 M DISTANCE

RETURN

ARGUS M10

171 NORTHMERLIN READY FOR MI

**MISSION: FREE FLIGHT**

You are about to start a manual controlled mission

Take Off Altitude: 60.0 m  
RTL Altitude: 60.0 m  
Max Altitude: 200.0 m  
Min Altitude: 3.0 m

Metadata is turned off

**START** **METADATA** **CANCEL**

NORTHMERLIN SK

X: 5546815  
Y: 6375745

SAT: 19 Noise: 101  
HDOP: 0.62 JAM: 66  
VDOP: 0.88 SPF: 0

RSSI: [Bar Chart] -51  
Noise: [Bar Chart] -119



# Streaming options



**Wi-Fi**



**HDMI**

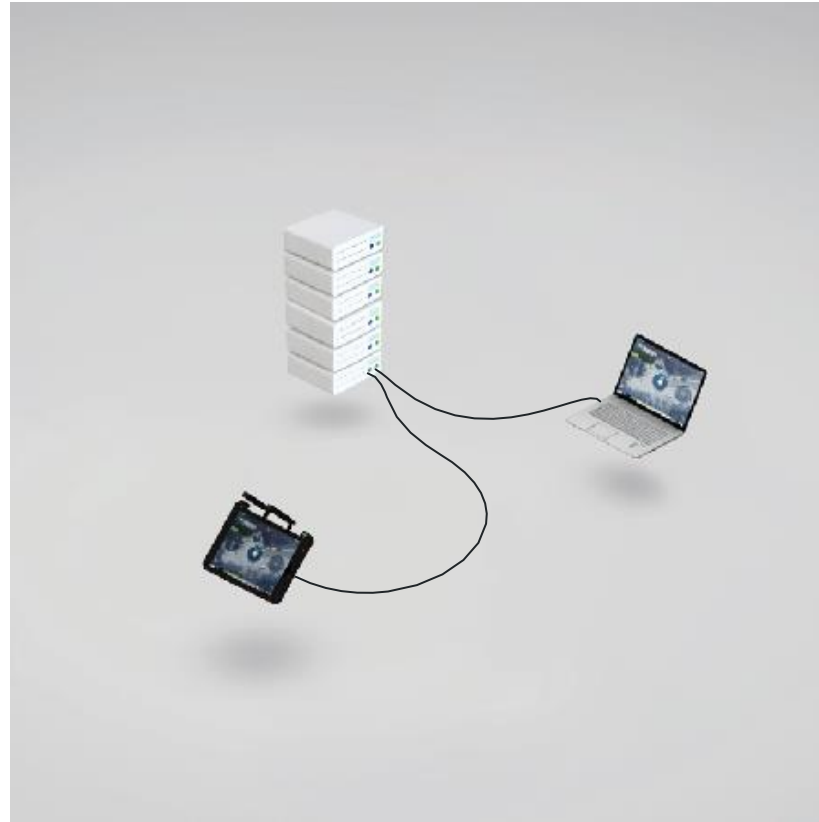


**4G/LTE**

# Connectivity options



**Radio bridge**



**Ethernet**



**Relay**

# AtlasTETHER System



**AtlasTETHER** is designed for missions requiring continuous object or area monitoring at a wide range up to 70m high. Thanks to optical flow technology, AtlasTETHER **doesn't require GPS**. It is stable and hover indefinitely with external power. STANAG 4609 Compliant.

# AtlasSTAG

The UAV system for unlimited observing and control in field conditions



CONTINUOUS  
MISSIONS



SECURE DATA  
TRANSMISSION



WORKS FROM  
BATTERY



WORKS FROM  
SOCKET



RELAY



VARIABLE  
PAYLOADS



EASY PORTABLE



FAST SET UP





# AtlasSTAG Technical Data

## PHYSICAL CHARACTERISTICS

Dimensions, folded (w x d x h)	104 x 73 x 236 mm
Dimensions, unfolded (w x d x h)	104 x 224 x 217 mm
Dimensions, with RELAY attached	104 x 224 x 281 mm
Weight (w/o battery)	495 grams
Weight (incl. battery and payload)	1250 grams
Enclosure	Impact resistant PC-ABS, UL94V-0
Ingress protection	IP44, weather resistant

## COMMUNICATIONS (VIA RELAY)

Primary radio	Atlas ATR-200 @ 1W
AtlasMESH Compatible	Yes
Standard (civilian) freq. range	2.4 - 2.4835 Ghz
Full extended freq. range	2.2 - 2.7 Ghz
Frequency hopping	Yes, including smart scan
Onboard antenna	3dB
Radio range	>8.5 km
Certification	CE, FCC

## BATTERY AND POWER

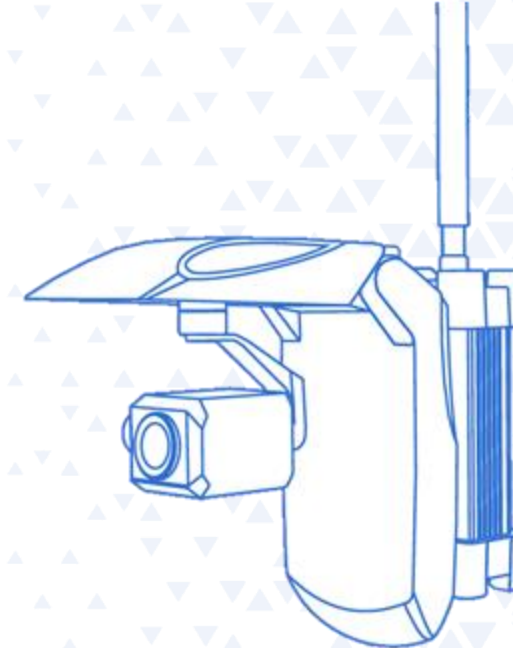
Battery bay	Atlas Smart Battery compatible
Runtime with internal battery	Up to 9 hours
Runtime with external power source	Unlimited
Battery management system	Yes, Smart battery
Charging	USB-C PD compatible, 90W
Charge time	65min

## MAINBOARD AND STORAGE

Embedded flight controller	Atlas SCM
Onboard video transcoding	Yes, hardware accelerated
Onboard object tracking	Yes, AI image co-processor
Supported codecs	H.264 / H.265
Onboard storage	MicroSDXC up to 2TB
Secure storage	Yes, AES256 encryption

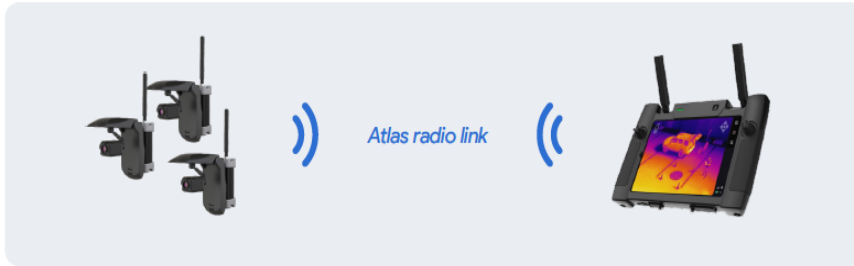
## PAYLOAD SUPPORT

Visor FF	Thermal VGA (640 x 480) at 30fps
Kalos 120	3x zoom, 4K (3840 x 2160) at 30fps
Argus M20	20x zoom, FHD (1920 x 1080) at 30fps



# Mode of Operations

## Scenario 1



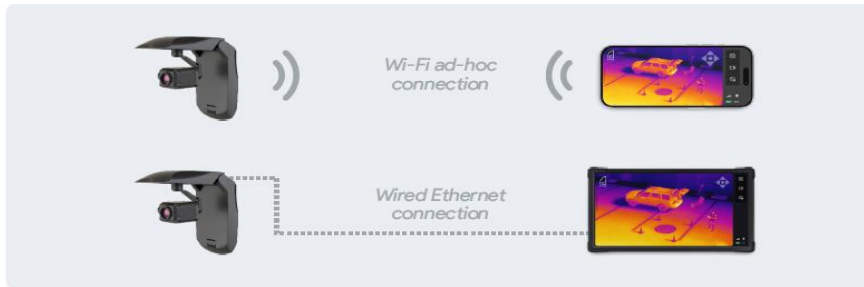
Single or multiple STAGs to a single or multiple AtlasSTATION operator consoles, via the Atlas mesh radio.

## Scenario 2



Single or multiple STAGs to a single or multiple generic operator devices (phones, tablets or PCs), via the Atlas mesh radio, using the AtlasRELAY as a gateway.

## Scenario 3



Single STAG to a single generic operator device (phone, tablet or PC), using the Wi-Fi or wired connection.

## Scenario 4



One or multiple STAGs to a single or multiple operator devices, using the Wi-Fi connection via wireless access point.

# AtlasSTAG



FORWARD OPERATING BASE PROTECTION



TRENCHES PROTECTION



LIVE DATA TRANSMITTING



NIGHT VISUAL OBSERVING

# AtlasSTATION Ultra (New GCS)



SDK/API



HDMI



256GB



Expandable  
Storage



2000 NITS



BLUETOOTH/  
ETH/WI-FI/4G-5G



3D TOUCH  
JOYSTICK



CUSTOMIZING  
BUTTONS



ROBUST  
DESIGN



WEATHER  
RESISTANT



# AtlasROVER

The ground vehicle (UGV) that operates without an onboard human presence



RANGE  
up to 10 km



VARIABLE PAYLOADS



ON-BOARD  
ENCRYPTION



ROBUST DESIGN



MESH OPERATIONS



SPEED UP TO  
25KM\H

# AtlasROVER



RESCUE MISSIONS



DANGER MISSIONS



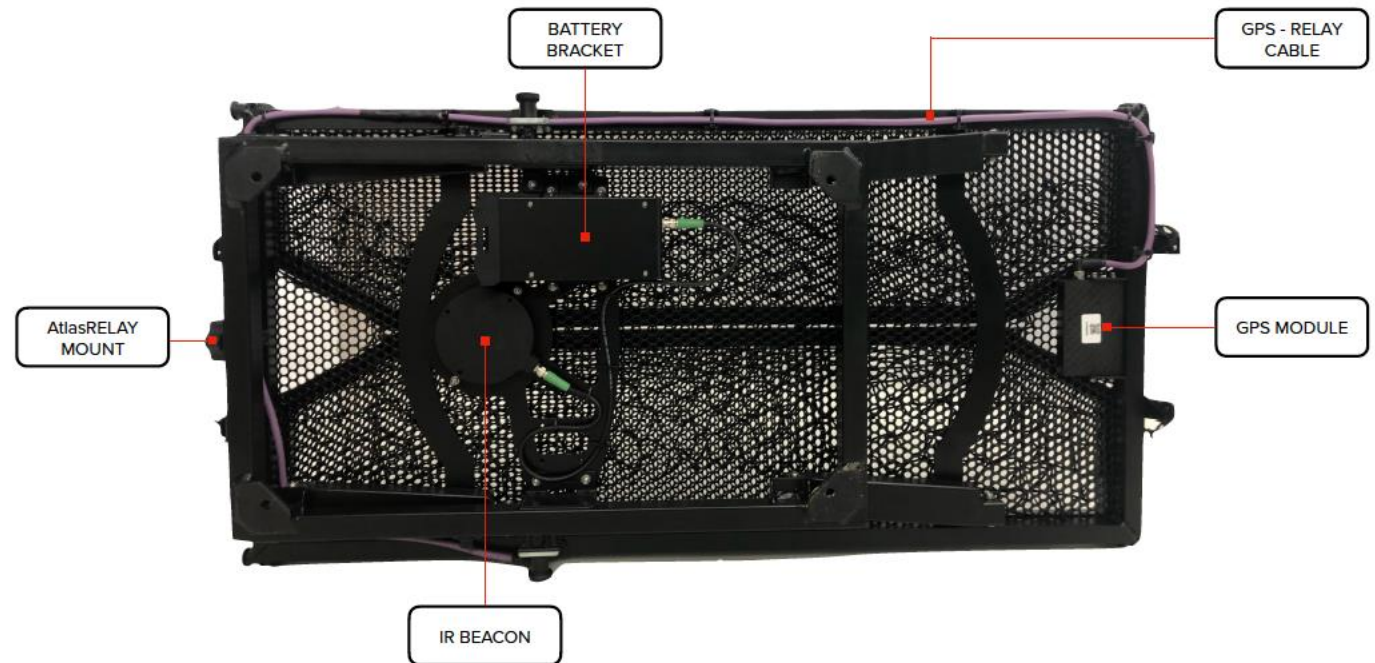
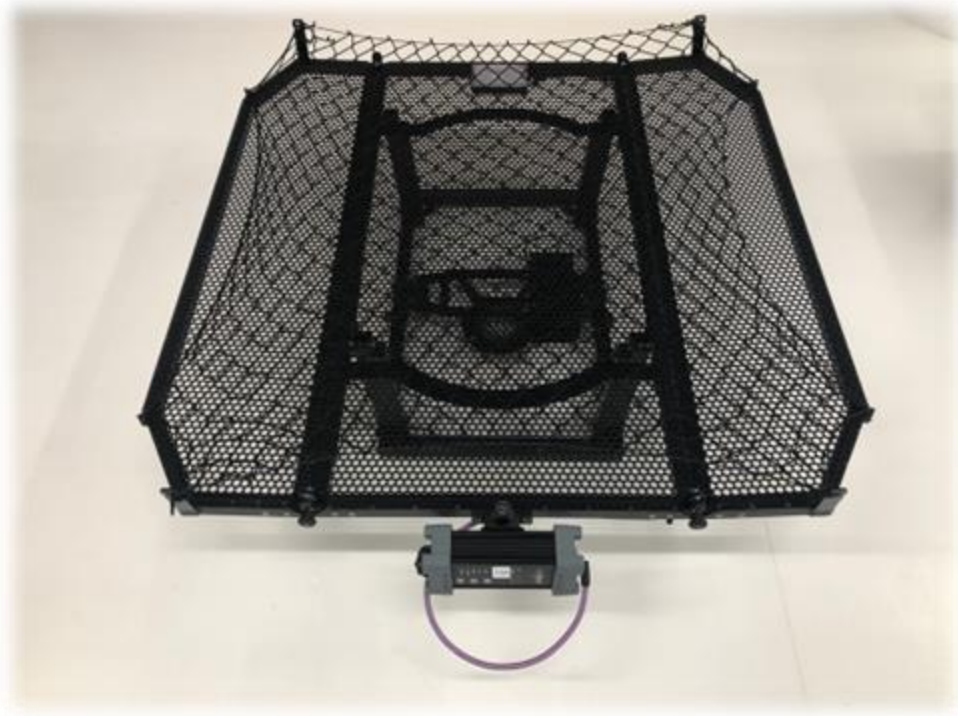
INCONVENIENT MISSIONS



HAZARD MONITORING

# ALPS

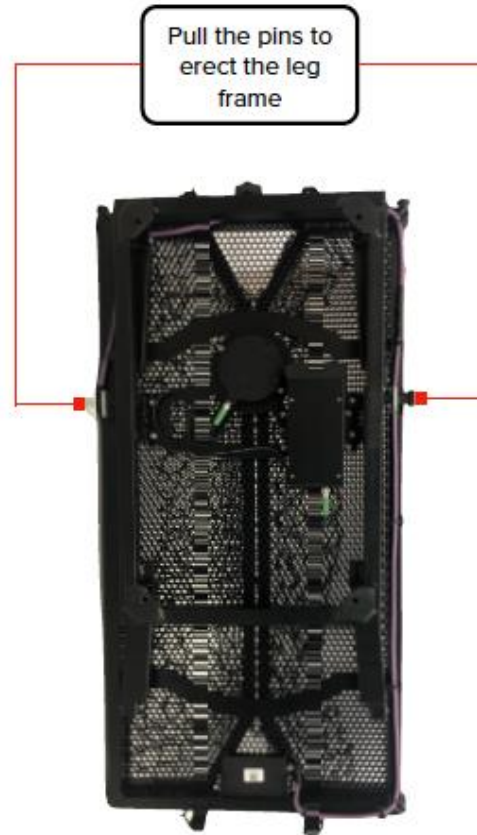
Mobile or fixed light weight foldable robust self-sustained landing platform





# ALPS

## Platform Setup



Make sure that all pins are locked in place

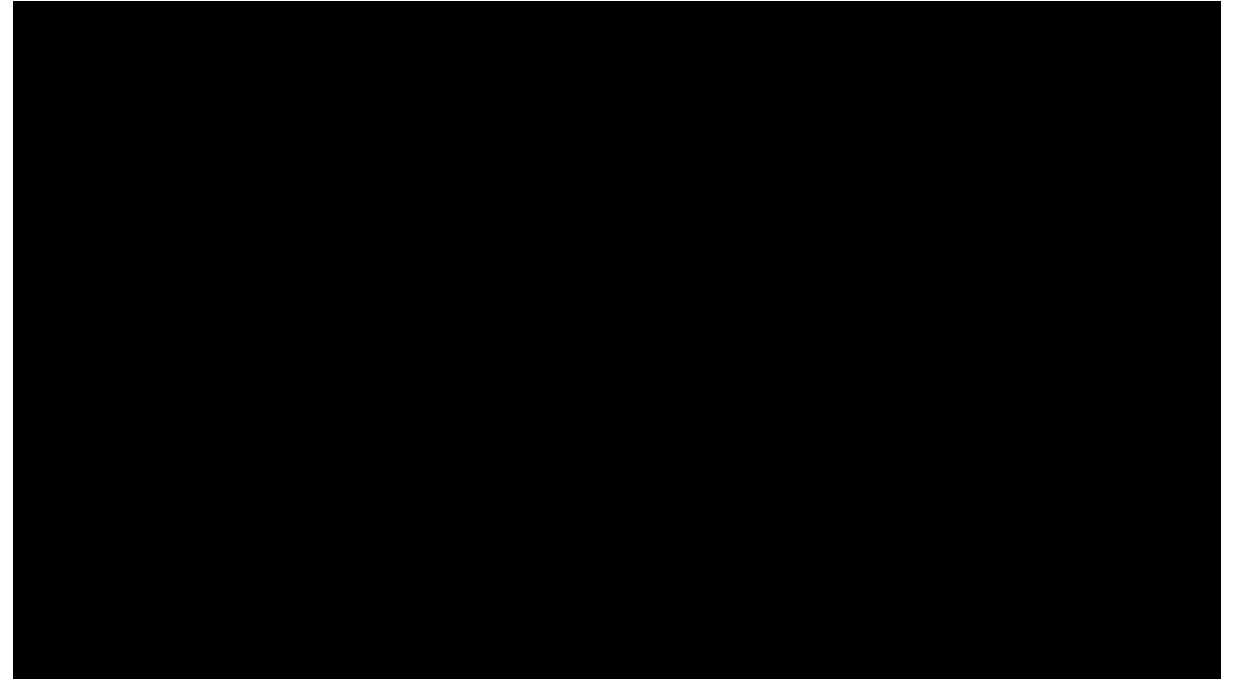
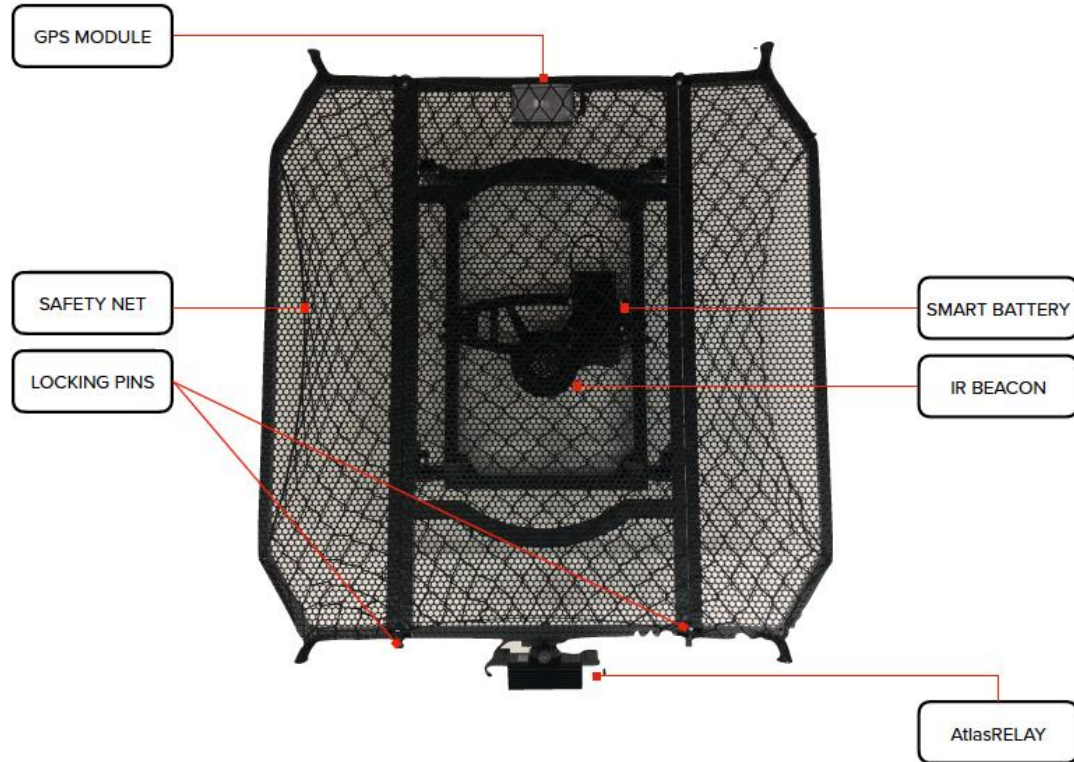


Once platform is set up  
switch on the drone,  
AtlasRELAY, battery for  
beacon and the GCS



# ALPS

Mobile or fixed light weight foldable robust self-sustained landing platform



# MARKET DIFFERENTIAL

- 1) Portability/Ease of Use - Durable, weatherproof case, tactical backpack
- 2) Payloads - Swappable payloads, zoom, thermal and 4K video
- 3) Swarm/Network Ready - Command multiple drones at once, control over longer range
- 4) Object Recognition / AI - Smarter tools with integrated human and vehicle detection capability
- 5) GPS Denied Mode - Capable of operating in GPS denied area
- 6) Frequency Hopping - Prevent jamming
- 7) AtlasNEST - Docking station, completely autonomous missions, battery charging and swapping

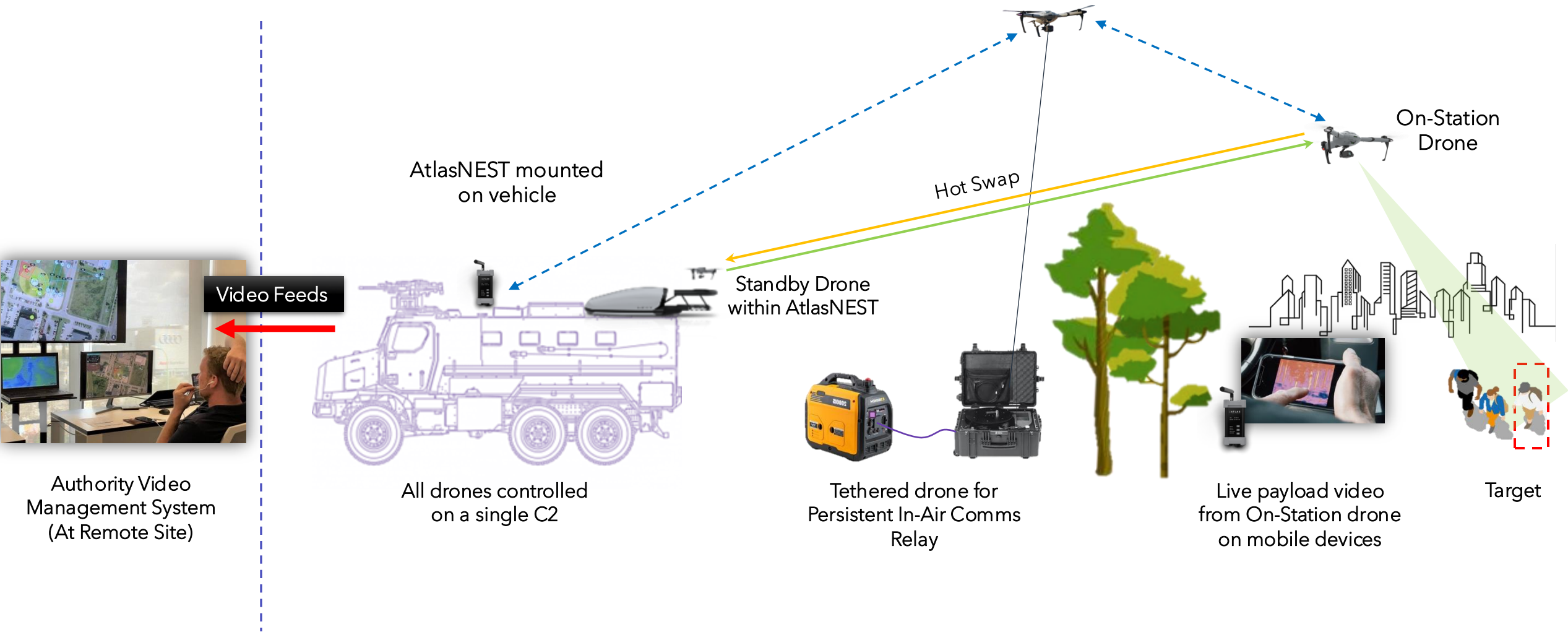




# CONCEPT OF OPERATION #1



# CONCEPT OF OPERATION #2

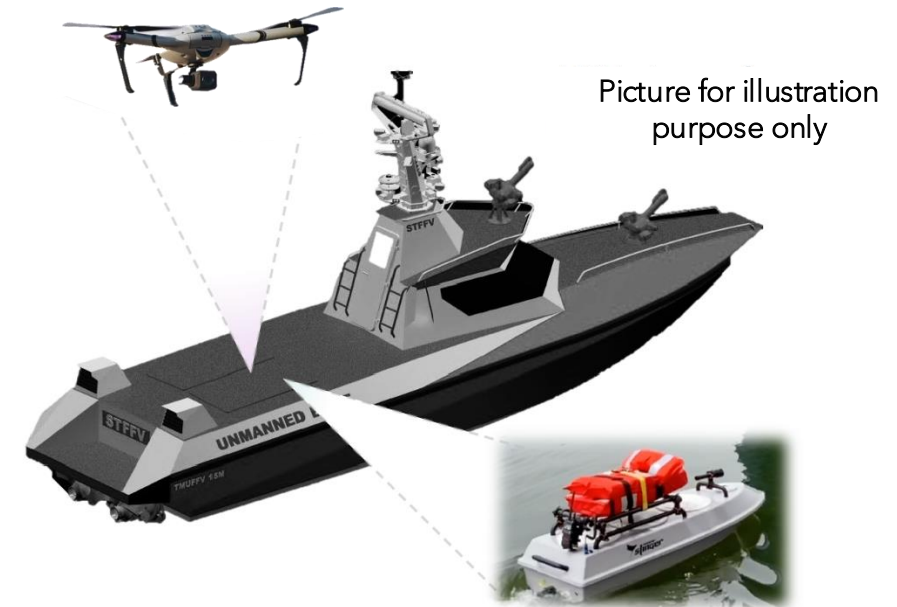




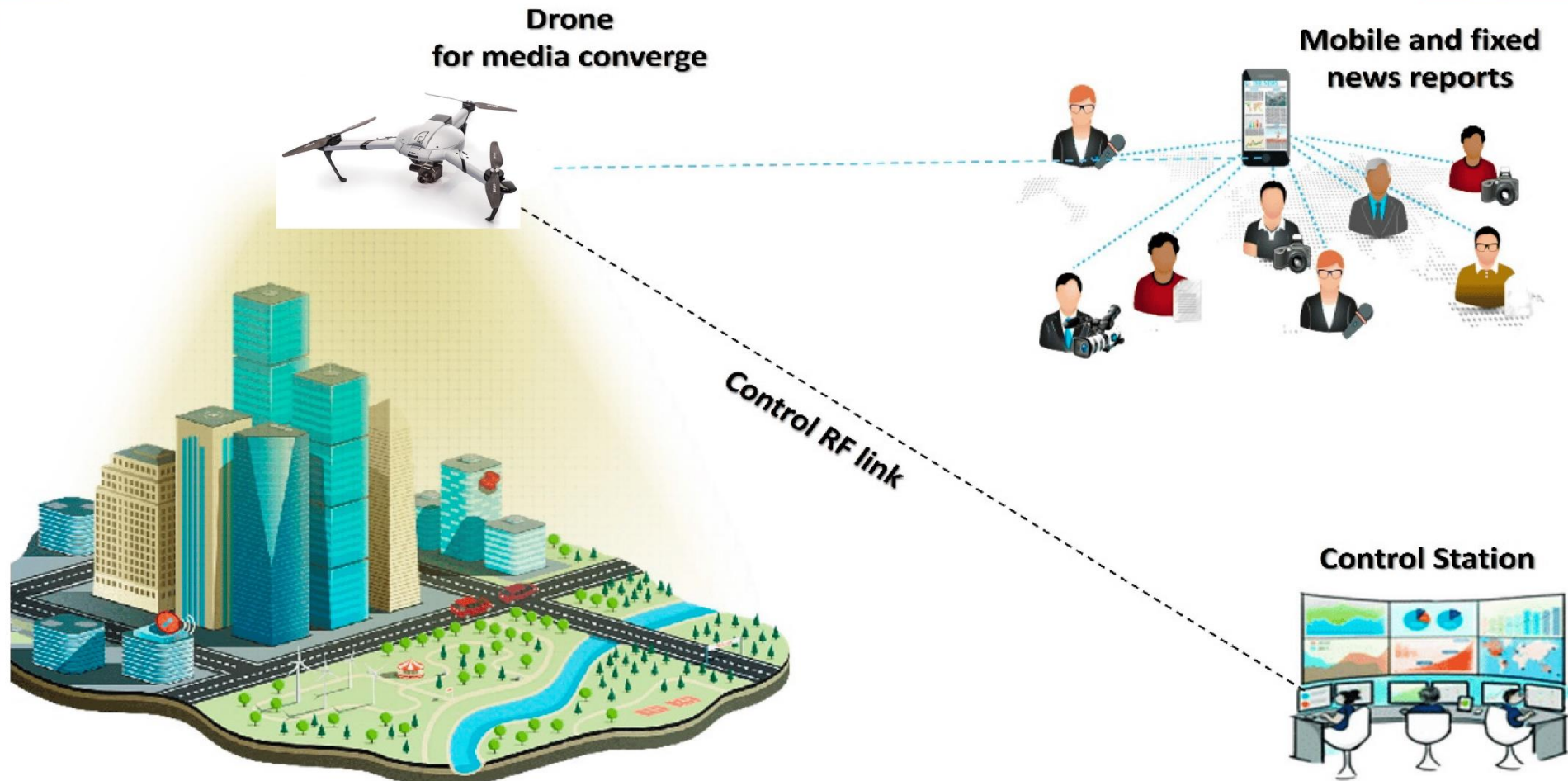
# CONCEPT OF OPERATION #3



Fully unmanned operation with Mothership, AtlasPRO Drone and Stinger Rescue Boat

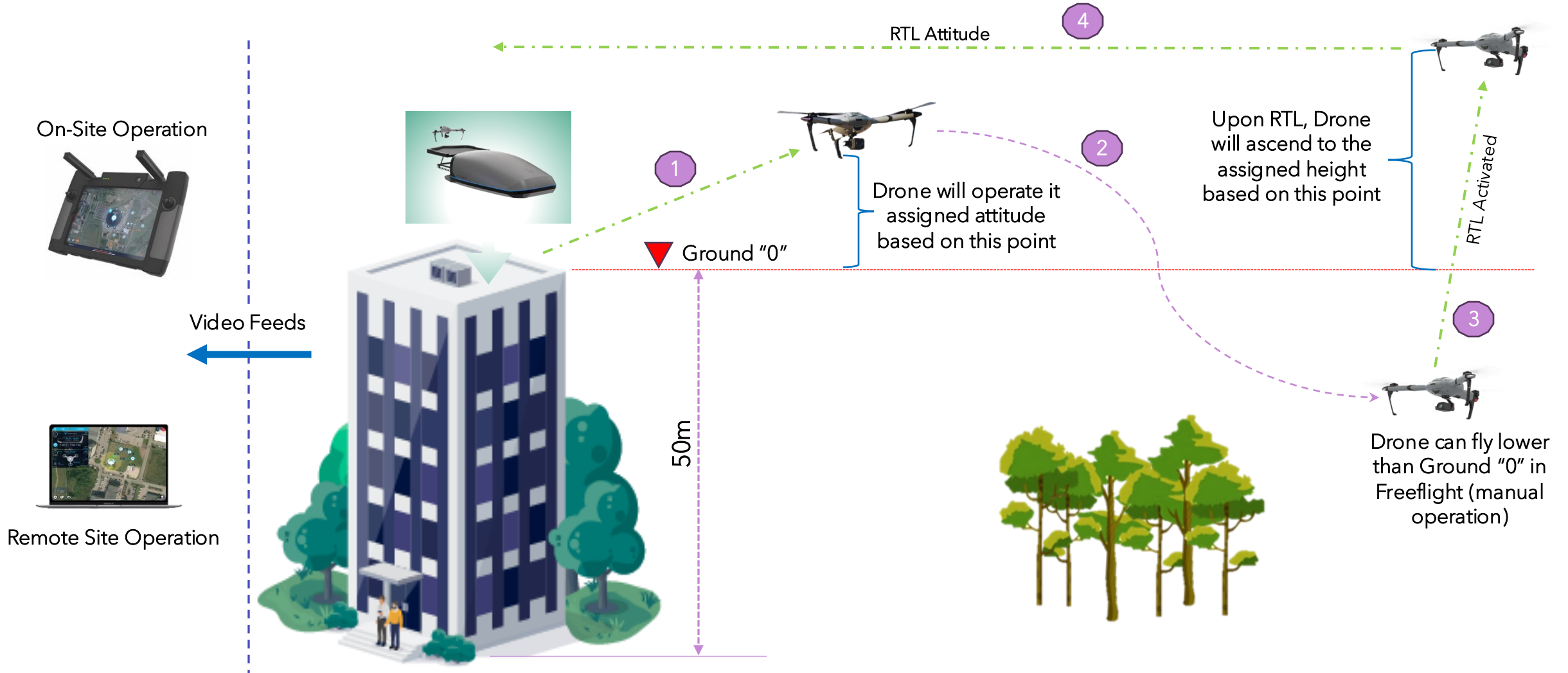


# CONCEPT OF OPERATION #4



In support of Media Coverage for Major Events

# DEPLOYMENT ABOVE ROOFTOP







THANK YOU

