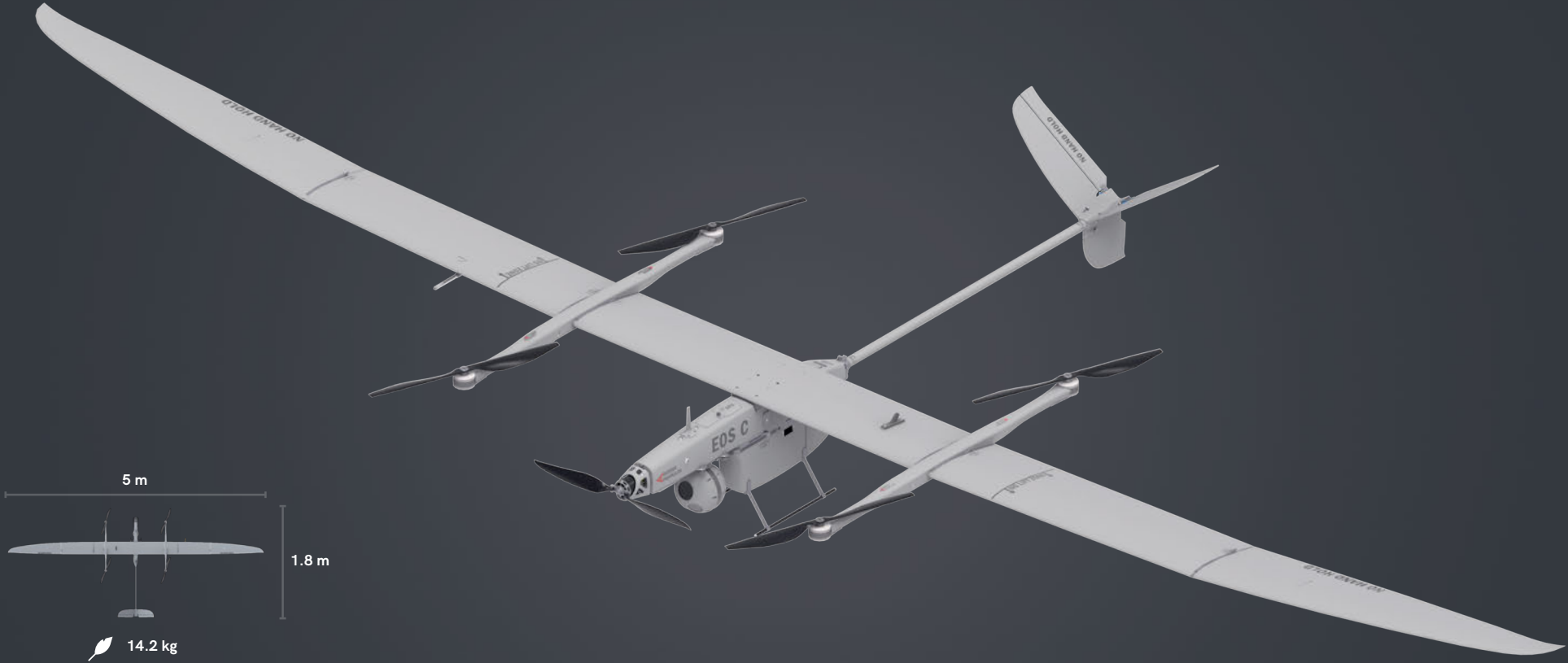


# EOS VTOL UAS



### PERFORMANCE

- Up to 3 hours endurance
- Cruise speed 61 km/h | 33 kts
- Max speed 90 km/h | 48 kts
- Ceiling 4500m AMSL | 15 000 FT AMSL
- Takeoff 3500m AMSL | 11 000 FT AMSL

### ADVANTAGES

- Vertical take-off and landing
- Compact and transportable
- Excellent ISR performance
- Virtually silent operation
- 5 minutes from transport to flight
- Non-ITAR

### ISR PAYLOAD

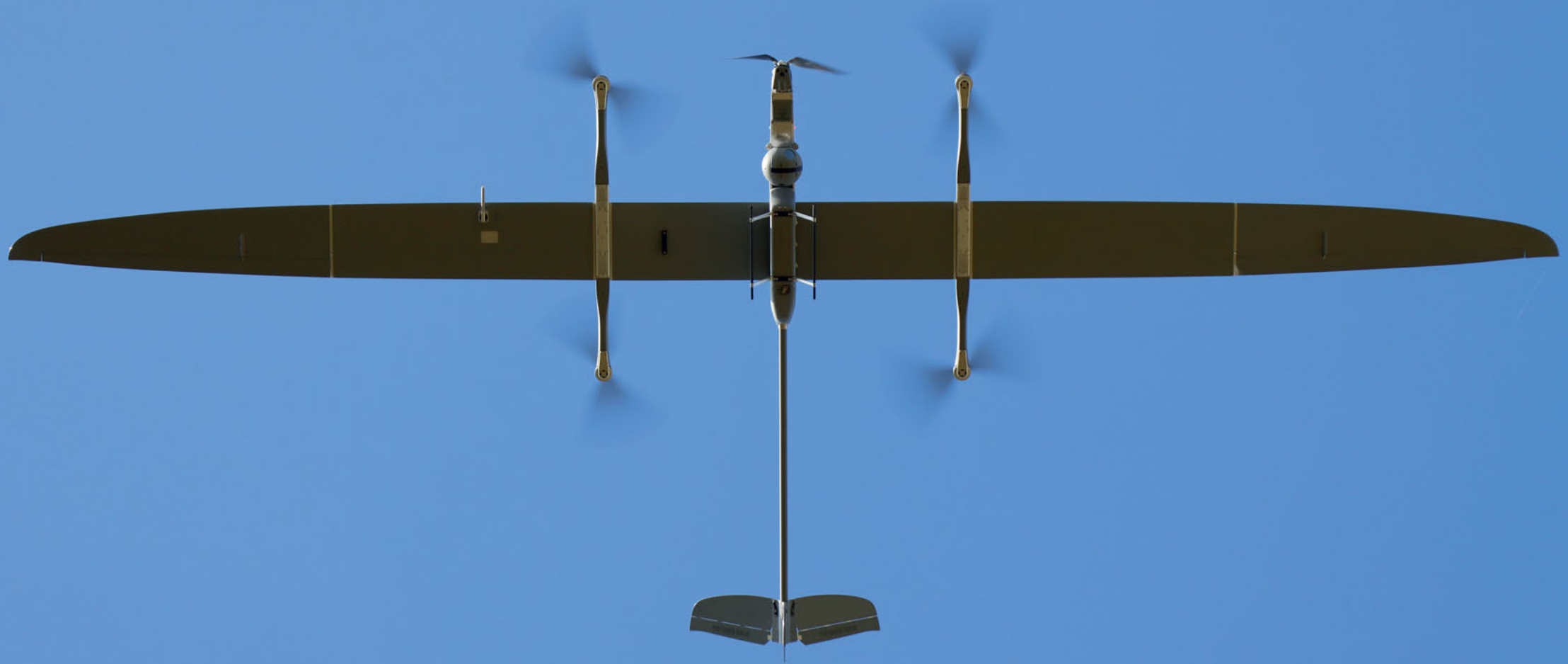
- Dual EO/IR sensors
- Full HD 30X optical zoom
- Georeferenced imagery
- STANAG 4609 KLV / H264
- Video lock and tracking
- Geo pointing

### COMMUNICATION

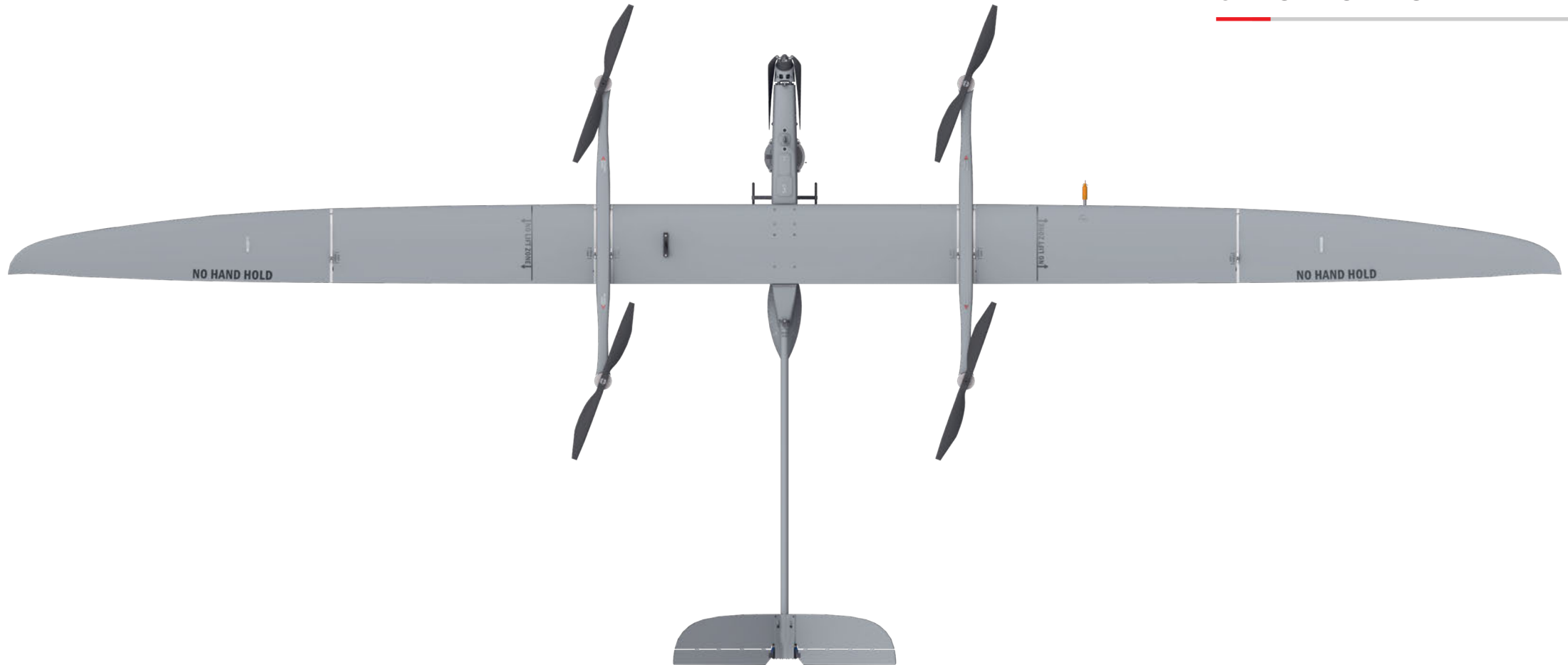
- RLOS 50km range
- AES-256 encryption
- Advanced anti-jamming
- MESH/MANET network
- Communication relay mode
- Moode-S ADS-B transponder

### ENVIRONMENTAL

- Temperature -20° to +50°C | -4° to +122°F
- Precipitation 10 mm/h | 0.4 inches/h
- Wind penetration 16 m/s | 31 kts



# SPECIFICATION



## PERFORMANCE

Endurance	Up to 3h with payload	
Maximum distance	190 km	118 miles
Communication range (RLOS)	50 km	31 miles
Cruise speed	61 kmh	33 kts
Max speed	90 kmh	48 kts
Service ceiling (AMSL)	4500 m	15 000 ft
Max takeoff altitude (AMSL)	3500 m	11 000 ft
Precipitation	10 mm/h	0.4 inches/h
Wind penetration	16 m/s	31 kts
Vertical flight wind tolerance	12 m/s	23 kts
Temperature	-20...+50°C -4°...+122°F	

## PHYSICAL

Wingspan	5m	196.8 inches
Overall length	1.8m	70.8 inches
Overall height	0.45 m	17.7 inches
Payload capacity	1.1 kg	2.42 lbs
Mass (MTOW)	14.2 kg	31.1 lbs

## COMMUNICATION

Frequency	2.2-2.5 GHz or 4.4-4.9GHz
Bandwidth	5/10/20 MHz
Encryption	AES-256
Range	Up to 50 km RLOS
Type	MIMO / MANET / MESH
	Silvus or DTC
Anti-jamming	Optional CRPA GPS

## FLIGHT CONTROL

Autopilot	Fully autonomous Waypoint navigation Fly-by-camera mode Geo-fencing
Safety	Programmable failsafes Automatic return to home
Failsafe routes	Dead reckoning Continuous health monitoring Servo and ESC feedback

## OPERATIONAL

Deployment	Vertical takeoff and landing
Takeoff/landing site	Obstacle free area 15x15 m
Instrumentation	GPS/GLONASS/GALILEO Barometric altimeter, radar altimeter Pitot tube with drain Inertial Navigation System (INS) Servo feedback and logging ESC telemetry and logging
Propulsion	Fully electric / battery powered
Air Traffic Control	Optional Mode-S / ADS-B Out transponder
Emergency tracking	Optional GSM / GPS tracker
Visibility	LED Navigation and anti-collision lights IR strobe / light
Battery	Lithium-polymer smart battery with BMS Automatic self storage feature
Features	Fire support utility, video on map Reporting, image analytics tools Video recording and instant playback

## PAYLOAD

Type	2-axis stabilized gimbal
Full HD TV sensor	30X optical, 3X digital zoom Resolution 1920x1080 HFOV 63.7° - 2.3° DRI: 14/6/2.5 km human 22/12/6 km vehicle
LWIR sensor	HFOV 18° 8X digital zoom Resolution 640x512 DRI: 1280/320/160 m human 3850/950/295 m vehicle
Video	1920x1080p H.264 downlink High quality on-board recording STANAG 4609 KLV metadata

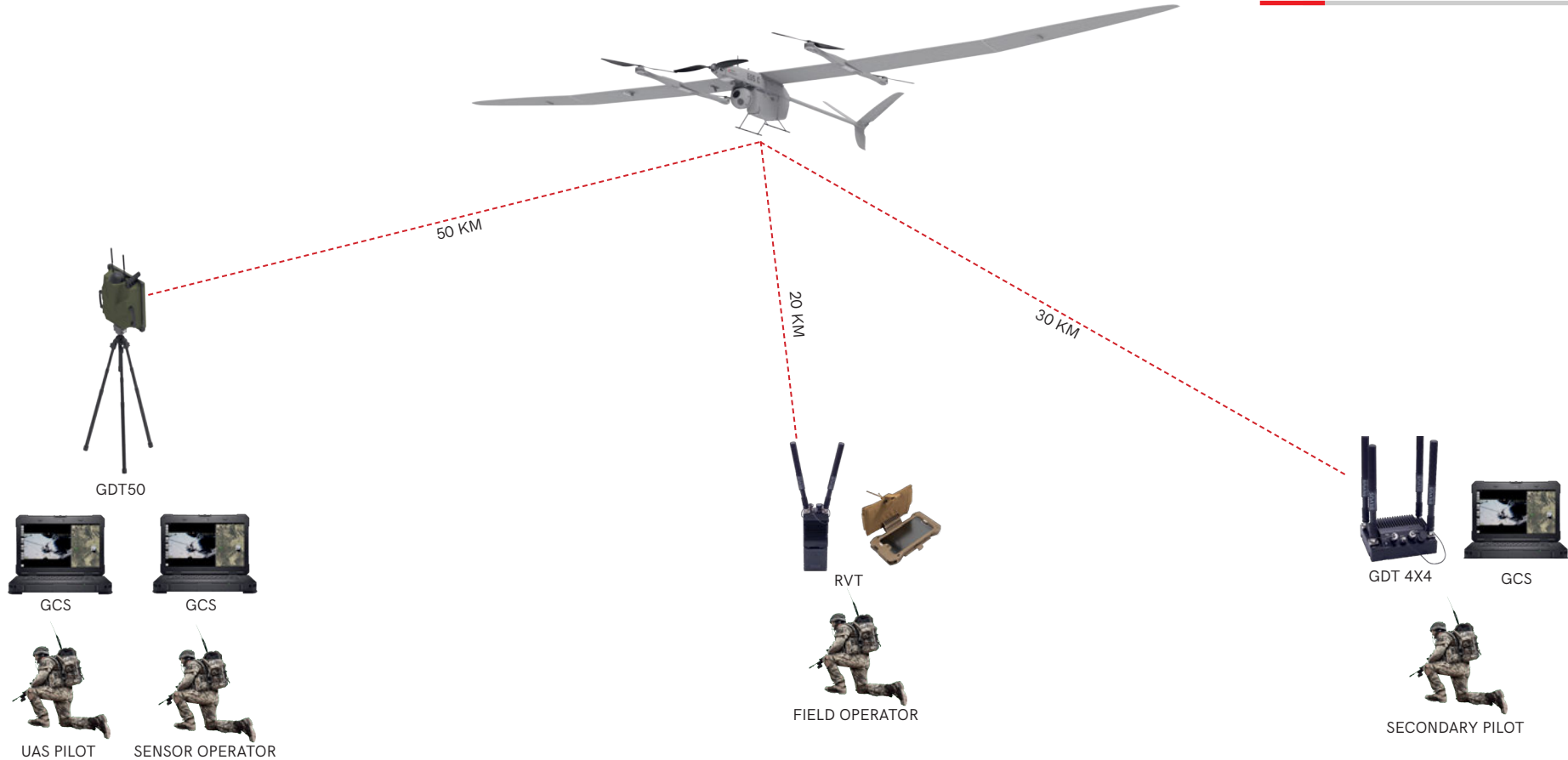
## CONTACT

Website	www.threod.com
Email	sales@threod.com

**THREOD**  
SYSTEMS



# SYSTEM OVERVIEW



**GCS**  
Laptop based ground control station. Dedicated laptop for aircraft control. Rugged and high performance. Daylight readable display.



**GDT 50**  
Ground data terminal with directional antenna. Provides communication up to 50 km RLOS. Tripod and vehicle mount. Wired and wireless connectivity.



**GDT 4X4**  
Ground data terminal with 4 antennas. Provides communication up to 30 km RLOS. Tripod and vehicle mount. Wired and wireless connectivity.



**GDT 2X2**  
Ground data terminal with 2 antennas. Provides communication up to 20 km RLOS. Tripod and vehicle mount. Pouch for on-person carry. Wired and wireless connectivity.



**RVT**  
Remote video terminal. Share live video and communicate with on-field personnel. GDT 2X2 + rugged smart-phone or tablet.

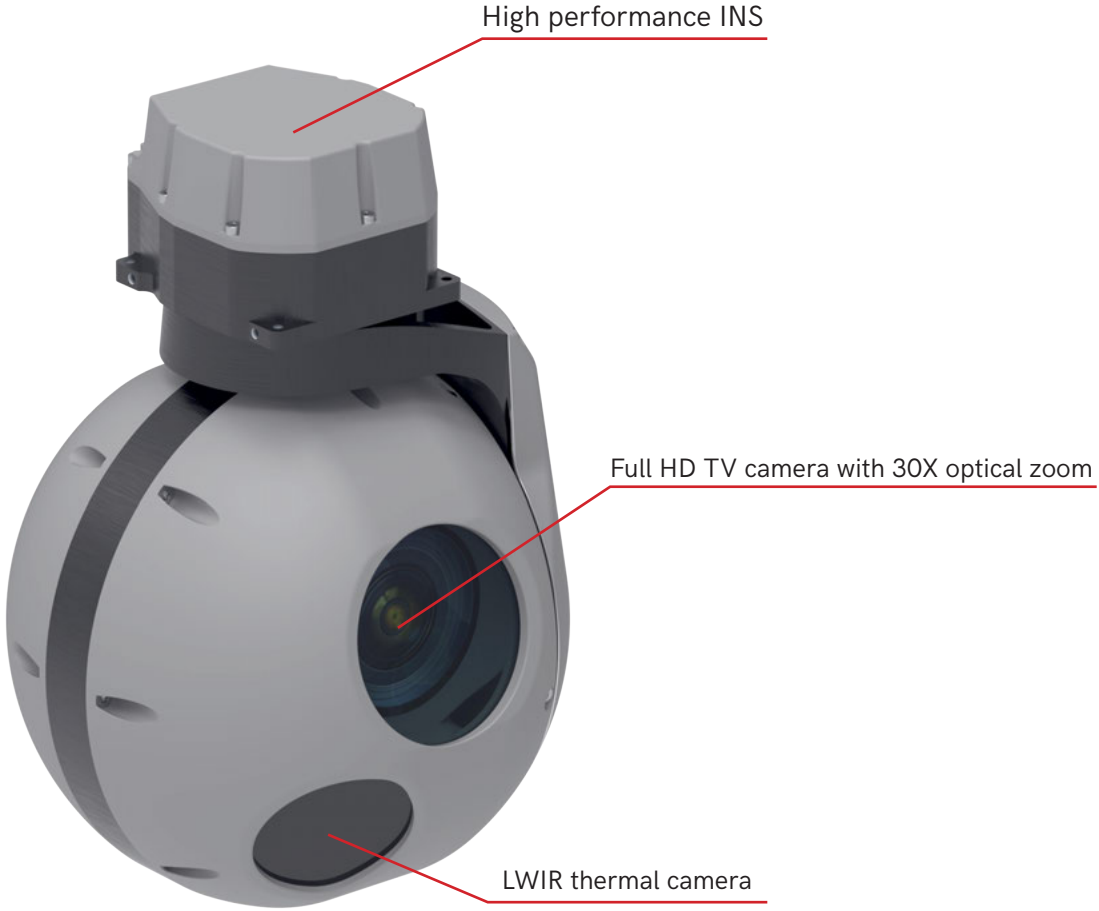


**VEHICLE GCS**  
Mobile workstation for extended missions. Up to three workstations. Includes back up power, AC and heating. Provides transportation for the system and crew.





# PAYLOAD



30X optical zoom FullHD TV camera



TV camera in near infrared (NIR) mode for low light mode



LWIR thermal camera

**Imaging payload**

- 2-axis gyro stabilized gimbal
- Excellent image quality
- Outstanding accuracy
- Day and night imaging

**Full HD TV sensor**

- 30X optical, 3X digital zoom
- Resolution 1920x1080
- HFOV 63.7° - 2.3°
- DRI: 14/6/2.5 km human
- 22/12/6 km vehicle

**LWIR thermal sensor**

- 8X digital zoom
- Resolution 640x512
- HFOV 18°
- DRI: 1280/320/160 m human
- 3850/950/295 m vehicle

**Video**

- 1920x1080p 30 fps downlink
- H.264/H.265 MPEG-TS encoding
- High quality on-board recording
- STANAG 4609 KLV metadata

**Features**

- Moving target tracking
- Scene tracking
- Geo-pointing
- Picture-in-Picture





# PAYLOAD



## TV Camera

Use the FullHD 30X optical zoom TV camera to identify the targets



## Thermal camera

LWIR camera to find targets during day and night



## Picture-in-Picture

See the target in both visible and thermal spectrum simultaneously



## Target tracking

Track moving and stationary targets

**THREOD**  
SYSTEMS



# GROUND STATION

## Ground Control Station Software

Thred Systems has developed an intuitive yet powerful ground control station software suite that supports the pilot at every stage of the mission.

Plan simple or complex missions with support of pre-planned loiters, scan patterns and multiple failsafe routes. Define geofencing areas to comply with airspace restrictions and respond to emergencies.

Continuously monitor the status of the aircraft and its sub-systems and get alarms when attention is needed. Autopilot and ground control software make sure that the aircraft always has enough energy to land at a designated site.

Mapping system supports multiple offline and online layers with KML vector overlays to simplify mission planning and coordination.

Full payload control and video footprint in the GCS allows the pilot to have complete situational awareness and conduct an entire mission from a single computer if needed.

## Payload Control Software

Thred Systems mission software provides a comprehensive set of tools for even the most demanding operations.

Video on map renders the sensor imagery over 3D terrain to enhance context awareness. Measure and add points of interest directly on the video display or on the map.

Annotate the imagery and prepare the reports to share target information efficiently. Built-in text and audio chat for real-time communication between sensor operator, pilot, and offsite participants. Fully synchronized with the video for after-mission analysis.

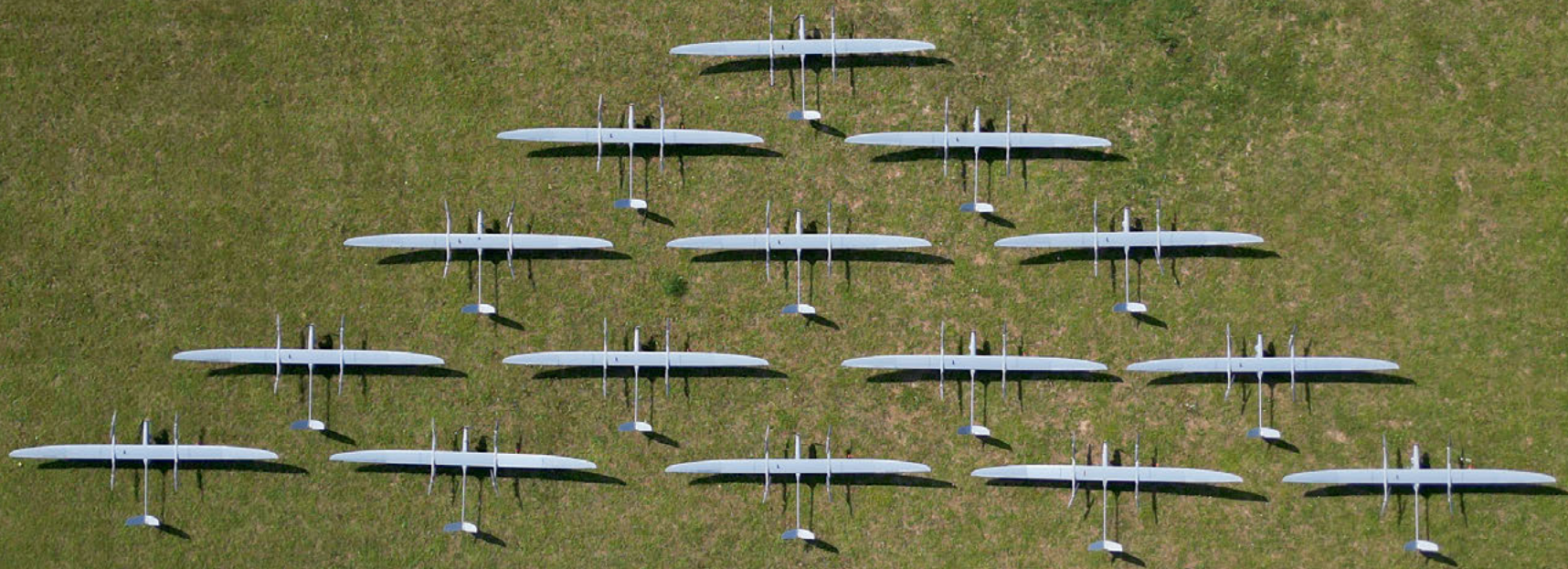
Video recording and instant playback, export video clips during or after the mission.

Client-server architecture allows real-time mission sharing and access to archived footage over private or public networks. Customers can set up their own private cloud environments.

Search and play back archived footage side-by-side with live imagery and display video coverage on the map.

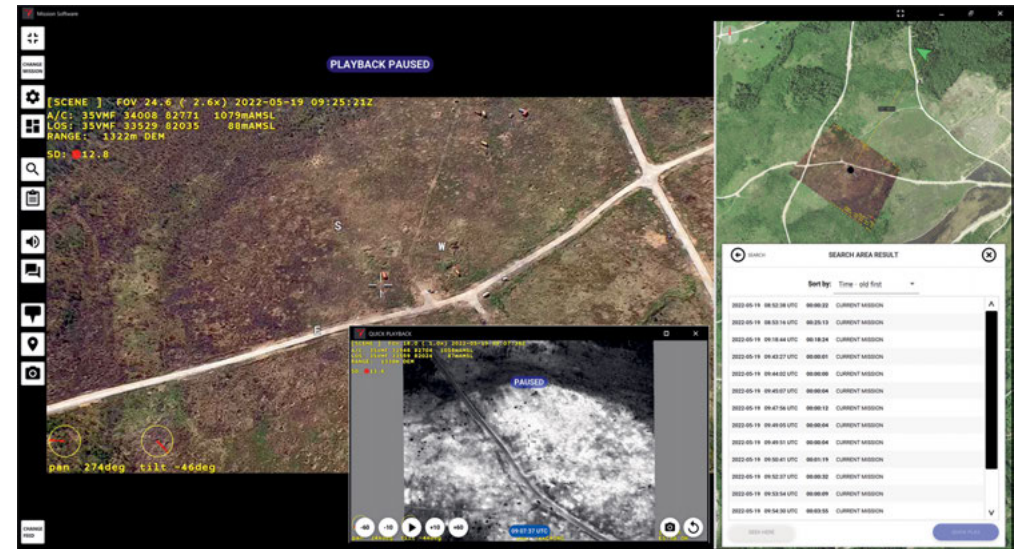


**THREAD**  
SYSTEMS

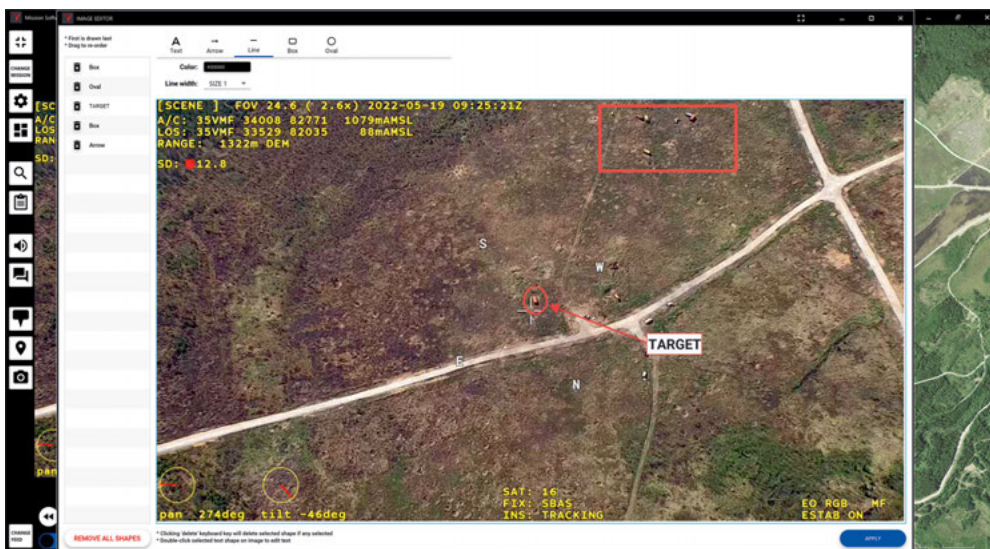




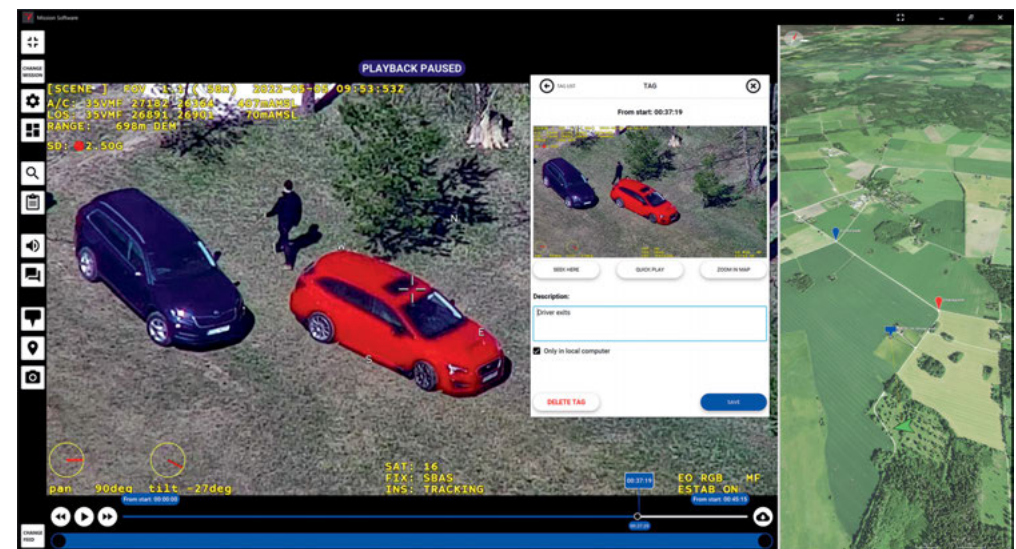
**Video measure and footprint**  
Measure distances and bearing directly on the video, visualize sensor coverage history on map.



**Search archived footage**  
Search archived footage for specified coordinates and view results.



**Snapshot annotation**  
Draw on snapshots and save to database or export as reports.



**Points of interest and tags**  
Create and share POI-s and tags. Tags are moments in time with coordinates visible on the time-line and map. Tags can be searched over the entire archived footage.

**THREAD**  
SYSTEMS

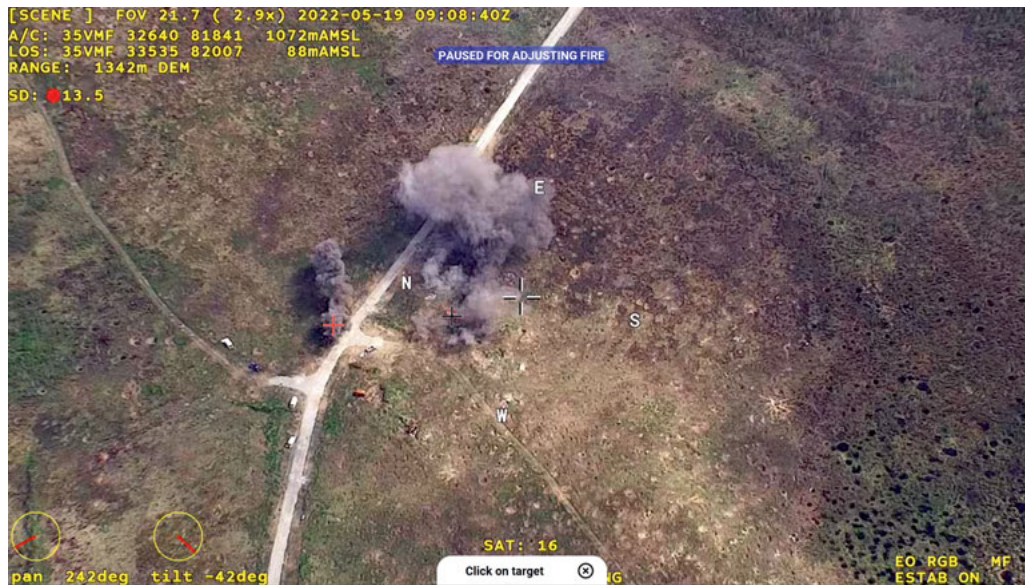


# CALL FOR FIRE



## Find the target

Use the sensor to find and identify the target.



## Adjust fire

Calculate and transmit the required adjustments by clicking on the hitpoints.



## Create call for fire

Utilize software tools to create and transmit the CFF.



## Battle damage assessment

Assess the effects on the target.

 **THREOD**

SYSTEMS

