

DEFENSE & SECURITY



ORION | UAS



Orion (Horizon) Unmanned Aerial System is an advanced tethered drone system providing continuous aerial coverage over large areas for law enforcement, public safety, private security and military uses, asset protection, event security, emergency communications and crisis monitoring.

Unlimited

Flight Time

80Mtr

Hovering
Altitude

300sq.km

Day Human
Detection

10km

Vehicle
Detection

200 mb/s

Secure
Communication



LAW ENFORCEMENT
Crowd Control Traffic
Monitoring Event Control



PRIVATE SECURITY
Industrial Crisis
Monitoring Assets
Protection
Event Management



MILITARY
Force Protection
Communications
Extensions
ISR



DISASTER RECOVERY
Emergency First
Responders
Popup
Telecommunications
Relief Efforts



FULLY AUTOMATED FROM TAKE-OFF TO LANDING

Thanks to a push-button interface and a wholly automated deployment, Orion users don't need any particular piloting skills nor extensive trainings.

DAY AND NIGHT VISION X30 DAY OPTICAL ZOOM

Equipped with a gyro-stabilized multi-sensor full HD camera with day-light optical zoom X30 and an infrared camera.

Orion is highly qualified for demanding and long starring missions in any day / night weather conditions.

FLY FOR DAYS NOT MINUTES

Powered from a ground source and through its patented micro-tether and built with industrial components.

Orion is designed for long duration uses.

RESILIENT MOTORIZATION FOR TRUE ENDURANCE

With its high-grade industrial motors, Orion has been engineered to endure extensive flight times and demanding environments.

MULTIPLE REDUNDANCIES FOR SECURED OPERATIONS

Orion is redundant at every level, including autopilot sensors, motorization, power distribution and logical controls.

An emergency parachute system is also included.

WEATHER RESISTANT

Designed to sustain harsh weathers thanks to Elistair molding process.

Orion electronics and internal elements are protected from the elements.



See better, see further

By combining state of the art gimbal stabilization and crystal-clear imagery with low latencies thanks to the micro-tether technology, Orion Surveillance cameras are ideal for persistent aerial surveillance.



No pilot required

Simply connect Orion to your Safe-T tethering station, enter your desired hovering height on the control pad and press Start. Be ready within minutes.



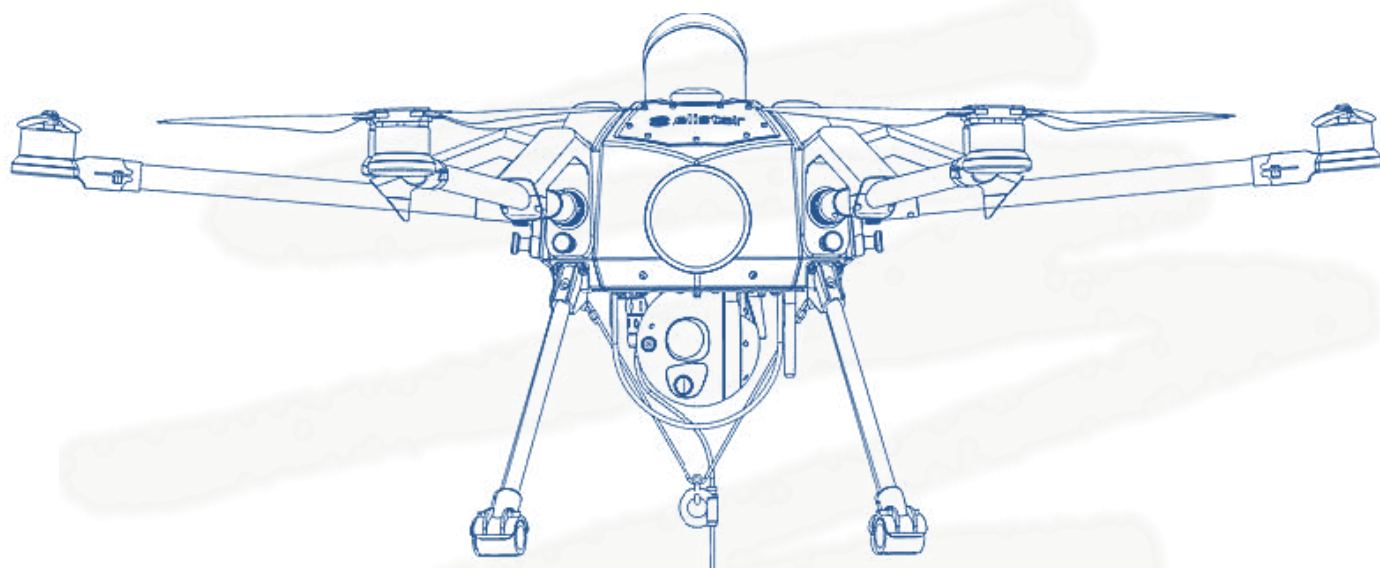
Fully secured

Avoid interferences, jamming or hacking thanks to Orion fully secured data transmissions through Elistair micro-tether. Orion also integrates built-in fault-detections, emergency procedures and a smart parachute system.



Always ready

Orion is assembled or disassembled in a snap, no tools needed. Arms easily disconnect, maximizing compacity for transportation. Connect your control pad to the system, select a hovering height, press launch!



ORION UAV

Operating Altitude (AGL)	80 m / 262 feet
Wind Continuous/Gust	35 kph / 50 kph
Data rate	Up to 200 Mbps
Global positioning	GPS / Glonass / Beidou
Safety battery	Onboard
Power Options	3 kW, 210-230 VAC
	Grid or Generator

EO/IR Gimbal

Daylight camera	Full HD 1080p
Optical zoom	X 30
Infra-red camera	640 x 512 pixels
Stabilization system	2 axis
Optional lenses	13, 14, 17, 19, 25, 35 mm
Black box	Recording for postflight analyzes

XDM Dual surveillance camera

ORION is an intelligent tethered Unmanned Aerial System (UAS) designed for missions requiring extended flight time.

This is achieved by providing continuous power supply and high-speed data transfer through the Micro-tether to the ORION UAV.

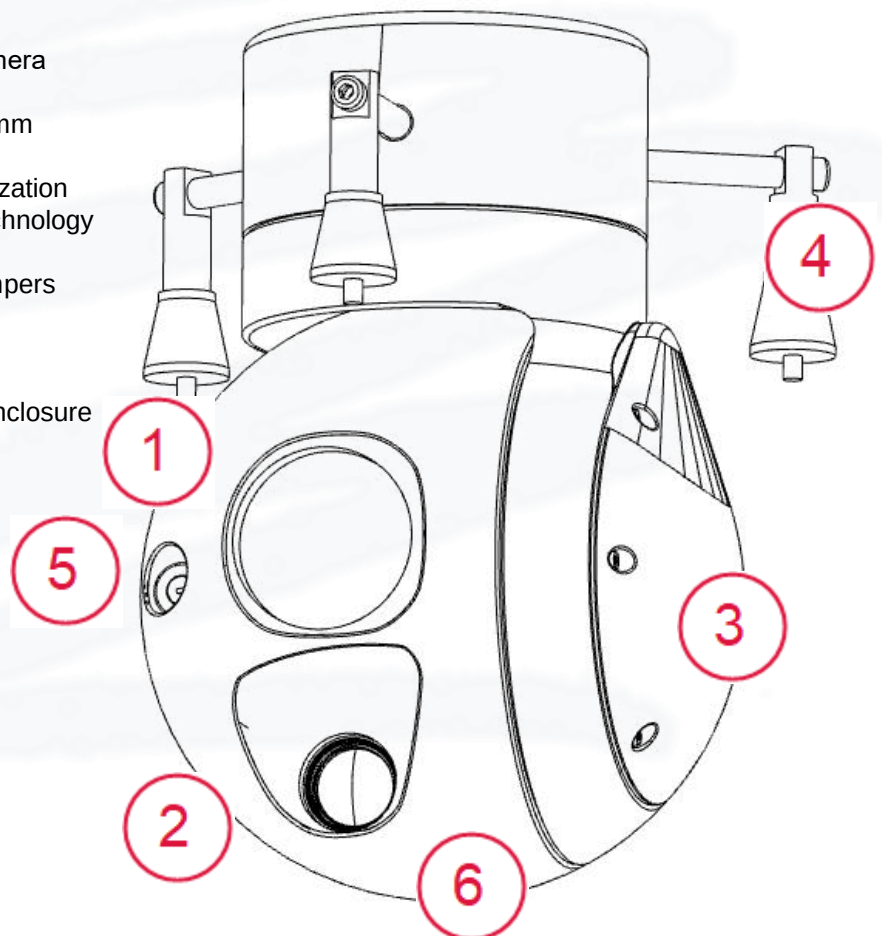
This solution allows a continuous and secure access to a live aerial viewpoint.

The ORION UAS is designed to be used specifically with the SAFE-T tether station.

Characteristics

XDM Camera	
Gyro-stabilization	2 axes
Day channel zoom (optical)	X30, FOV 63.7° to 2.3°
EO sensor (day channel)	Sony FCB EV7500
Resolution and frequency (day channel)	1080p, 30ips
IR sensor (night channel)	Astrohn / 600x400 pixels
Digital zoom (night channel)	X4
Ingress Protection Level	IP64
Motor technology	High torque direct drive
Stabilization	< 150 μ rad
Laser pointer	Various wave length available

1. Sony© EV7520 Day x30 camera
2. IR sensor Astir2 Astrohn 35mm
- 3 .Advanced mechanical stabilization with high torque direct drive technology
4. Silicon vibration-filtering dampers
5. Optional laser pointer
6. Rugged and weatherproof enclosure



GCS – Ground Control Station with T-PLANNER Software



Orion system is controlled through a rugged Toughbook loaded with Elistair T-Planner software.

Connected to Safe-T (Orion ground tether management system) through an Ethernet cable, T-Planner is an easy-to-use and intuitive interface enabling the operator to control Orion, the XDM camera and Safe-T.

Simply enter your desired height of flight, and Orion will automatically take-off and reach its desired position. Orion is a push-button surveillance system, requiring no piloting skills to be used. All safety procedures are also automated

T-Planner intuitive interface features:

- A push-button piloting mode with height control, automatic take-off and landing
- A full control of the camera, with the GCS interface or through an external joystick for more convenient and precise actions
- Standard recording and saving parameters for video and photo
- An access to two levels of health indications icons, simple or in-depth, for a deeper monitoring of Orion

An access to the IP based video stream can be used for an external use of the video feed (streaming, processing, integration into third parties VMS etc...).

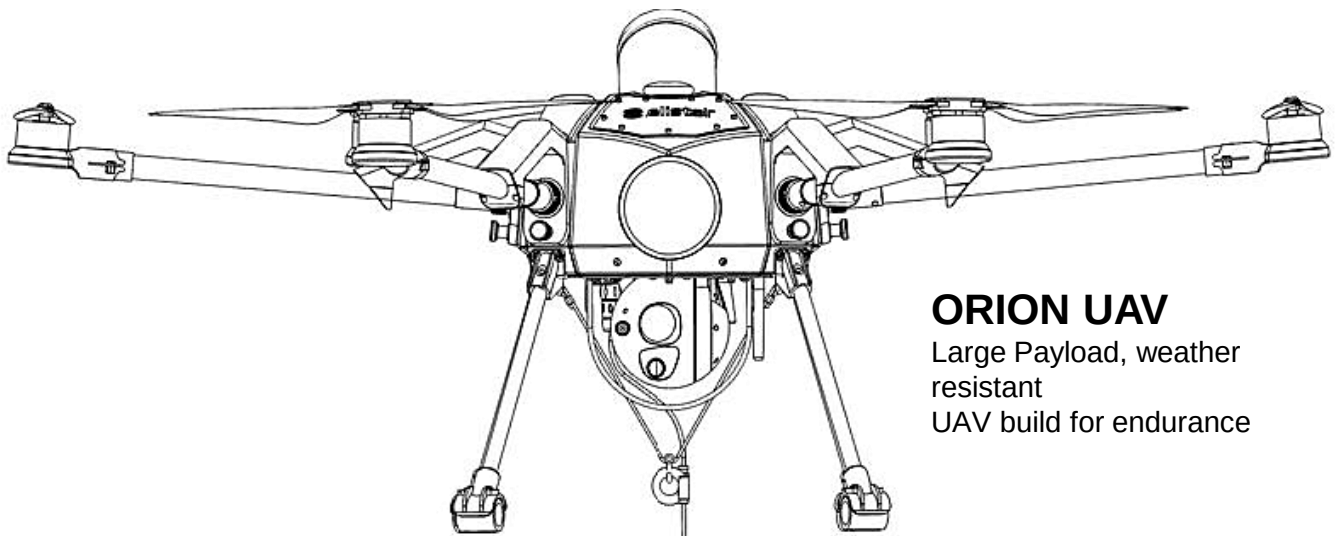


Safe-T

The Smart Tethering Station for Drones

Safe-T is an industrial grade, smart tether station for UAVs, offering real-time persistent observation capability with a wide range of compatible drones and payloads. The solution features: Patented smart Tether Management system, Computer Controlled, fully programmable and remotely actionable

Outstanding performances (power, weight, data rate and ease-of-use)
Safety features and monitoring via T-Monitor smartphone app
Designed for the most demanding missions, Safe-T has been approved for tethered flights by France Civil Aviation Authority; the DGAC, and has been successfully deployed by governments, public services and industrial companies in over 30 countries.



ORION UAV

Large Payload, weather resistant
UAV build for endurance

XDM CAMERA

Day / Night gyro stabilized
Gimbal with X30 day zoom
capacity

Micro-tether
(Power/Data)



GROUND Control

T-planner software for
automated flights camera
control

SAFE T-STATION

Smart tethering system



ETHERNET
Data Cable

220-250 VAC
50-60 Hz,
3KW min.



Technical Characteristics

ORION

Maximum height (cable length)	80m / 260ft
Operation in average wind	35km/h
Operation in gusts of wind	50km/h
Operating Temperature (max and min)	-10 to 40°C
Storage Temperature (max and min)	-10 to 40°C
Enclosure rating	IP32
Drone dimensions (folded)	362 x 424 x 343mm
Drone dimensions (unfolded)	1750 x 1750 x 550mm
Main Body Diameter	0.43m
Wingspan	1.75m
Height to base	0.55m
Empty weight	8,5kg
Total take-off weight (With XDM Camera)	9,7kg
Accuracy of horizontal hover flight	2,5m x hdop
Max. inclination angle of the drone	30°
Max. climbing speed	0,7m/s
Max. descending speed	0,7m/s
Max. flight time	10h
GNSS	GPS, Glonass, Beidou
Energy Backup battery (Wh)	120Wh
Max. charging power of the battery	5A

Power plant

Number of motors	6
Maximum motor output power per motor	1000W
Motor KV	300 tr/min /V
Motor Size	55x29mm
Maximum possible ESC voltage	22.2V
Recommended maximum ESC current	40 A continuous, 60A in peaks
ESC signal frequency	600Hz
Average consumption (SAFE-T + ORION) without payload	1300
Average consumption (SAFE-T + ORION) with 2kg payload	1500
Climbing speed	0,5m/s
Propeller dimension	20.4x7.3 inches (515.8x185.1mm) Polymer
Helix composition	Foldable
Propeller type	58g
Propeller weight	

Parachute

Size	6m ²
Weight	650g
Speed of decent at max weight	3.2m/s
Deployment method	Mechanical

Safety Battery

Voltage	22.2V
Type of battery	LiPo 6S
Capacity	5000mAh
Connectors	XT90
Flight time on battery	2min

Technical Characteristics

Safety Battery

Voltage	22.2V
Type of battery	LiPo 6S
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Flight Control

Flight modes	Auto or Manual
GNSS	GPS, LONASS, Galileo

Emergency RF Link (between GCS and ORION)

RF band	433Mhz
Radio link power	10mW

Radio Remote control link for manual control

RF band	2.4Ghz
Radio link power	100mW

GCS - Ground Control Station	Intel Core i5 7300U vPro
Processor	Intel HD Graphics 620
Graphics	14" HD Active Matrix (TFT) color
Screen	LCD
Protection	Impact protected, magnesium alloy
Battery life	Up to 15 hours
Video stream format (T-PLANNER)	HD 1080p 30i/s
Video latency on T-PLANNER	0,4s
Latency of camera control	0,2s
Maximum recording time	10h

YRIS Camera

Gyro-stabilization	3 axes
Day channel zoom (optical)	X30
EO sensor (day channel)	1/3-inch 3MP capture CMOS
Resolution and frequency (day channel)	1080p, 30i/s

XDM Camera

Gyro-stabilization	2 axes
Day channel zoom (optical)	X30, FOV 63.7° to 2.3°
EO sensor (day channel)	Sony FCB EV7500
Resolution and frequency (day channel)	1080p, 30ips
IR sensor (night channel)	Astrohn / 600x400 pixels
Digital zoom (night channel)	X4
Recommended Generator requirements	Minimum power
Inverter	Pure sinewave
Eco mode	Deactivated

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UNGM MEMBER



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