ELISTAIR
THE TETHERED DRONE COMPANY

Tethered drones
for persistent aerial ISR and
tactical communications.

Corporate slide deck

Elistair – **Introduction**

- Founded in 2014 in Lyon, France

- Over 600 tethered drone systems delivered in 65+ countries

- 60 000 tethered flight hours threshold passed early 2020

- Compatible with 50+ drones on the market worldwide

- French HQ and production center, US office and training team

- Elistair is recognized to be the leading tethered drone company across the globe

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Why Should You Consider
Tethered Drones?

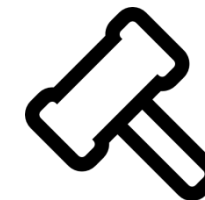## Limitations Faced by Drone Operators
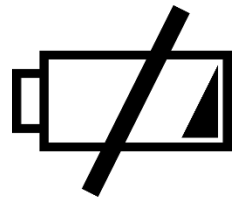
Endurance

Commercial drones have an average battery life of 20-30 minutes. Which limits the flight time and means constant battery changes.

Reliability

Drone accidents are mainly linked to signal losses, interference, fly-away or battery issues.

Legislation

In many countries a tether is seen as a positive mitigation to operate in areas that would normally be restrictive or sensitive for drone ops.

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Industry-Leading
Tethered Drones Solutions

✓ ## Uninterrupted flight time
Hours of continuous flight, powered directly from the ground.

✓ ## Secured high-speed data transfer
Un-hackable communications and data transfer through the tether.

✓ ## Push-button and plug and fly systems
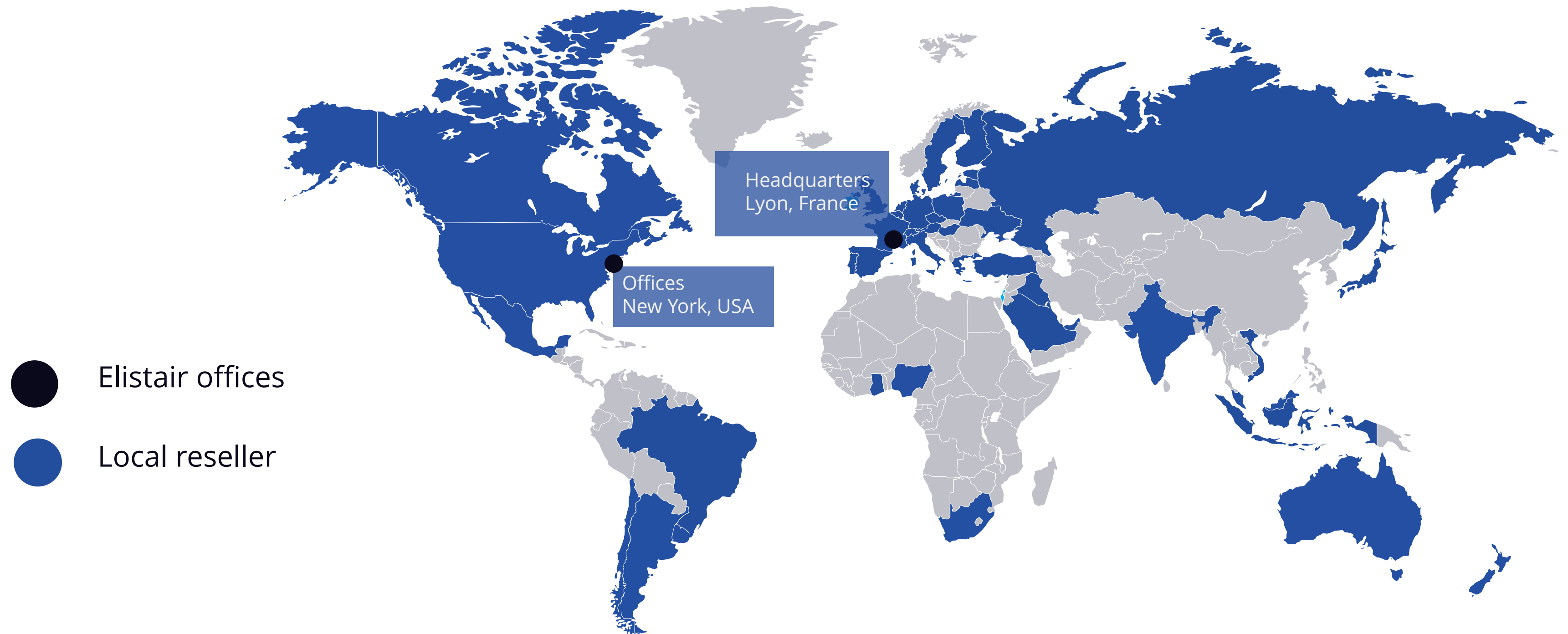Simple deployment, automated features and easy integration.

✓ ## Safe, reliable and proven tether solutions
CE and IEC certified, safety battery in case of power loss and health monitoring application

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Delivery and Support
in Over 65 Countries

Headquarters
Lyon, France

Offices
New York, USA

Elistair offices

Local reseller

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Delivery and Support
in Over 65 Countries

Tethered Drones – Key Applications

Tactical networks for SA, ISR and battle management systems
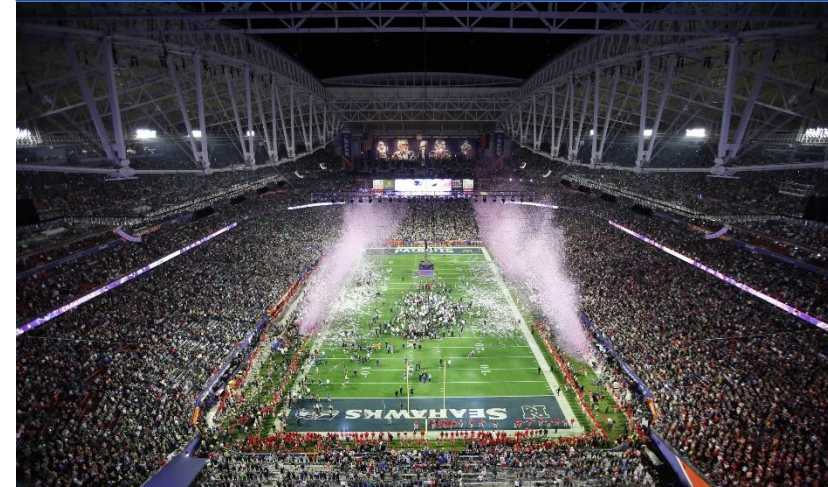
Perimeter surveillance, rescue operations

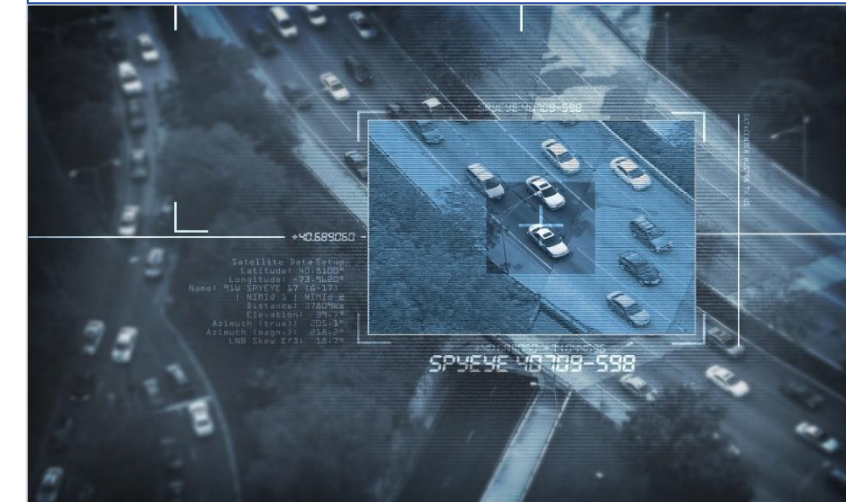Planned event security (festivals, protests, races, sporting events...)

Pup-up communications

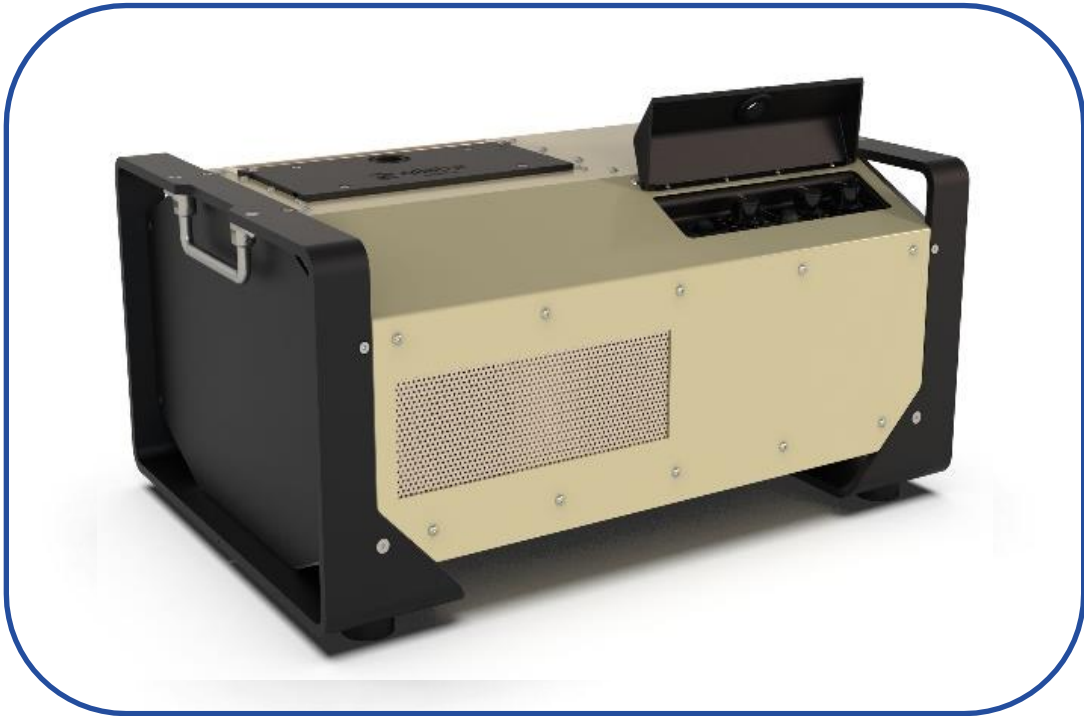Live TV, aerial broadcasting

Traffic monitoring

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Tethering stations

Stations – Overview

Ligh-T v4

Safe-T v2

Compatible with 50+ drones

Features

Ligh-T v4	Feature	Safe-T v2
70m	Length	100 – 125m
Electric winch	Winch	Smart electric winch
>1200w max cont. power	Power	>2200w max cont. power
IP43	IP rating	IP54
20 kg	Weight	26 kg

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Ligh-T 4
Compact Tethering System
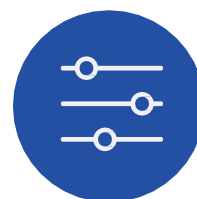
Up to 1200W of continuous power
Ultra-light micro-tether with high power capacity.

70m, with auto tether management system
Rugged and lightweight structure for field operations.

200 Mbs of high-speed and secure data
Secured communications through the micro-tether for compatible payloads.

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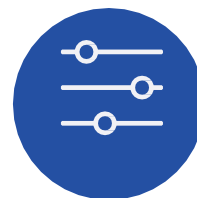THE TETHERED DRONE COMPANY

Inspire 2

M200 Series

M300

ZOE

DarkMatter

Safe-T
Smart Tethering System

Up to 2200W of continuous power
Ultra-light micro-tether with high power capacity.

100 - 125m of smart tether management
Advanced software with various modes for various missions.

200Mbs of high-speed and secure data
Secured communications through the micro-tether for compatible payloads.

Vehicle Mounting Kit
Fixing points for integration into a vehicle or structure.

M300

MD4 - 1000

M600

ZOE

DarkMatter

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Air Modules
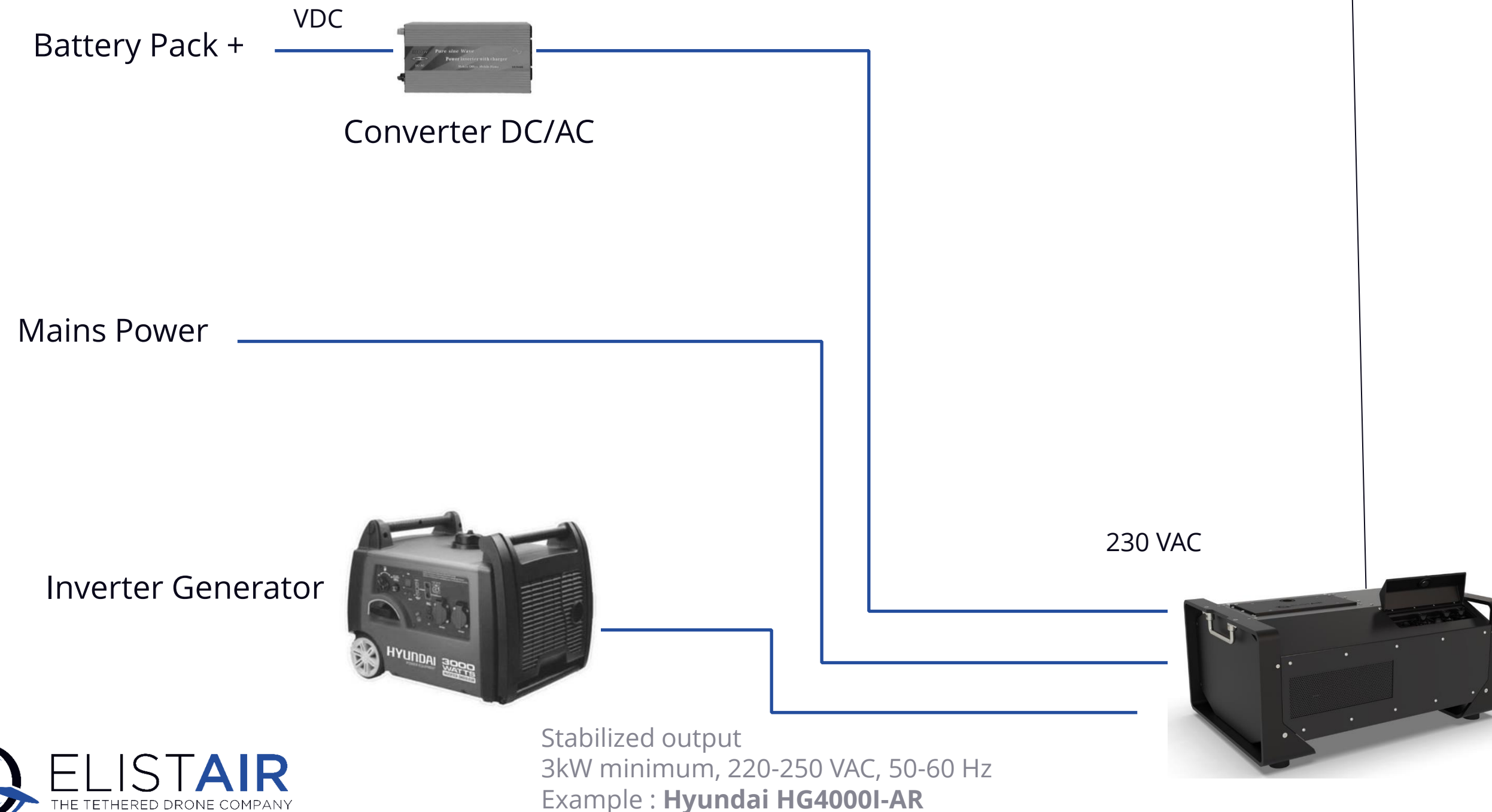## The Connection to the Drone

Inspire 2
M200 V1
M210 V1
M210 RTK V1

M200 V2
M210 V2
M210 RTK V2

M300

6S Drones
S900
Acecore ZOE
Microdrones MD4-1000
Clogworks Darkmatter
Freefly Alta 6
Yuneec H920

12S Drones
M600

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Powering Your Drone
Options

Module Output

24 or 48 VDC output voltage
Up to 2200W
2800W / 100A peak
XT90

12V, 24V, 48V or 110V to 230VAC
3000W nominal power, 6000W max.
Example : **Converter AIG – 3000S-24**

Battery Pack +

VDC

Converter DC/AC

Mains Power

Inverter Generator

230 VAC

Station Input

110 or 220-250VAC input voltage
50-60 Hz

Stabilized output
3kW minimum, 220-250 VAC, 50-60 Hz
Example : **Hyundai HG4000I-AR**

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Safe-T
T-monitor Application
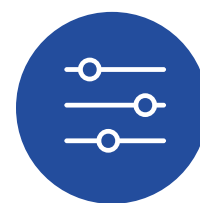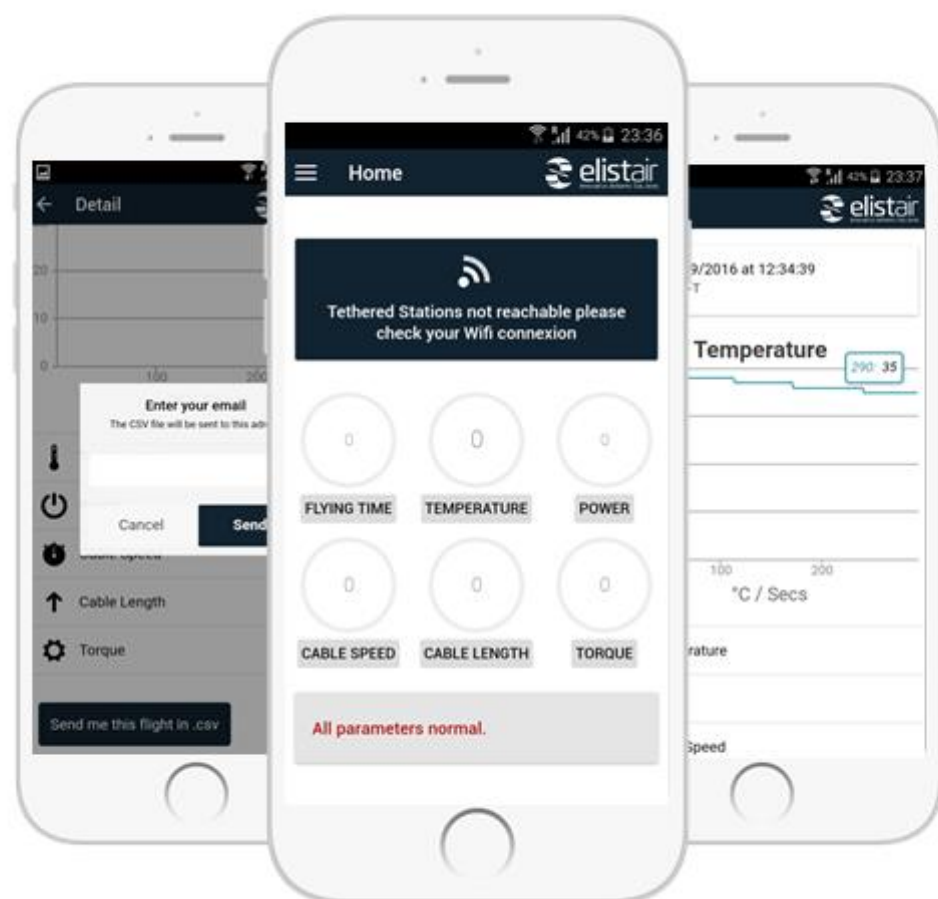
Monitor your flights

Access to six information values on your smartphone including Power Consumption and Flight Time.

Record and analyse

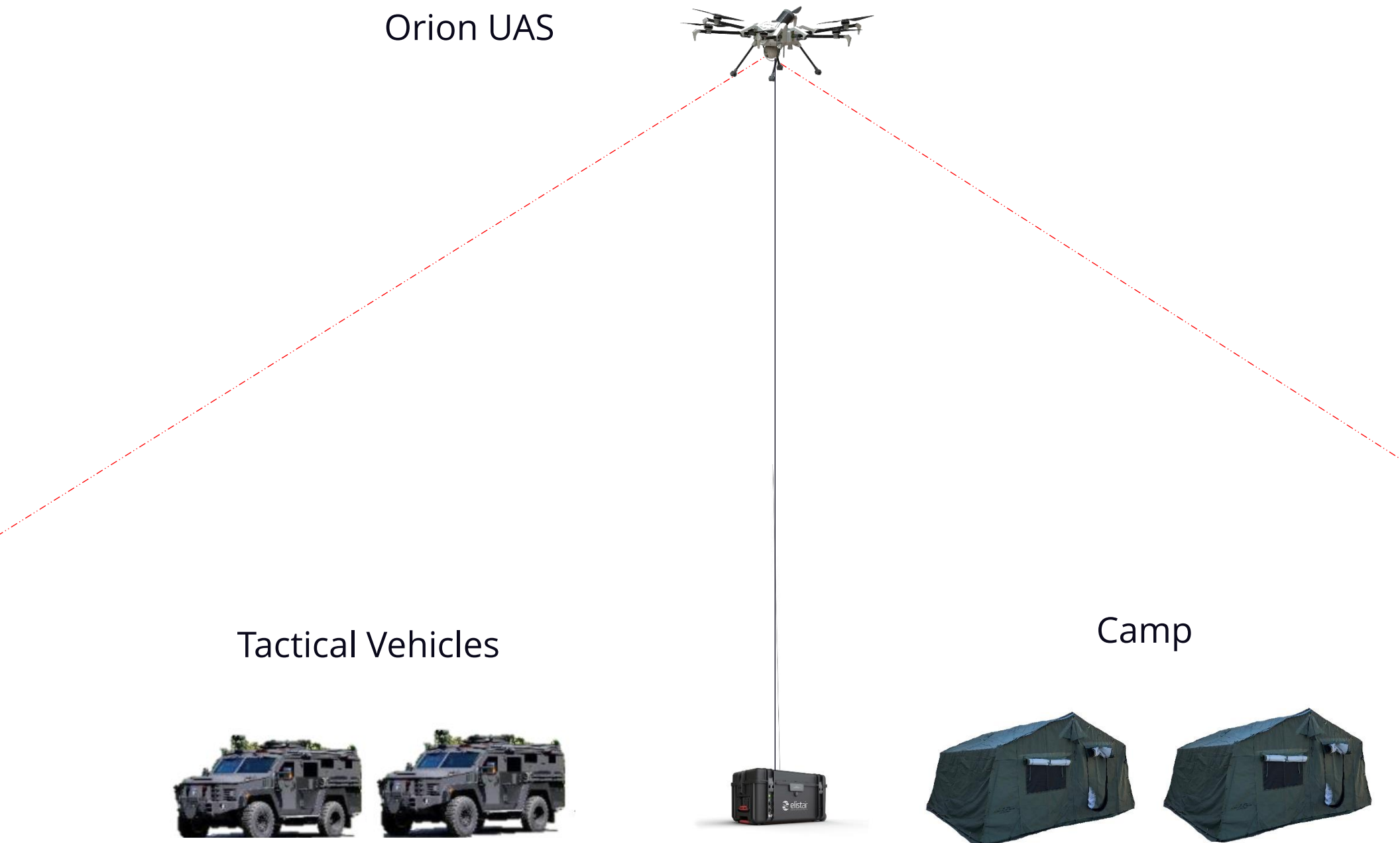Flight data can be saved and sent to Elistair if the user chooses to.

Be alerted of any incident

An alarm will activate in case of power outage or other incident so you can take action.

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Use Cases

Mobile Surveillance Applications
## Example: Forward Operating Base Surveillance

Orion UAS

Pop up surveillance capability to provide warfighters with real-time situational awareness for temporary camps surveillance.

The XDM surveillance camera combined with the Orion UAS can be deployed in minutes over a forward operating base to detect intruders during daytime or nighttime, with a low logistic footprint.

Tactical Vehicles

Camp

Use Case
FOB/Force Protection

Objective:

Provides a intimate surveillance picture of the surrounding area.
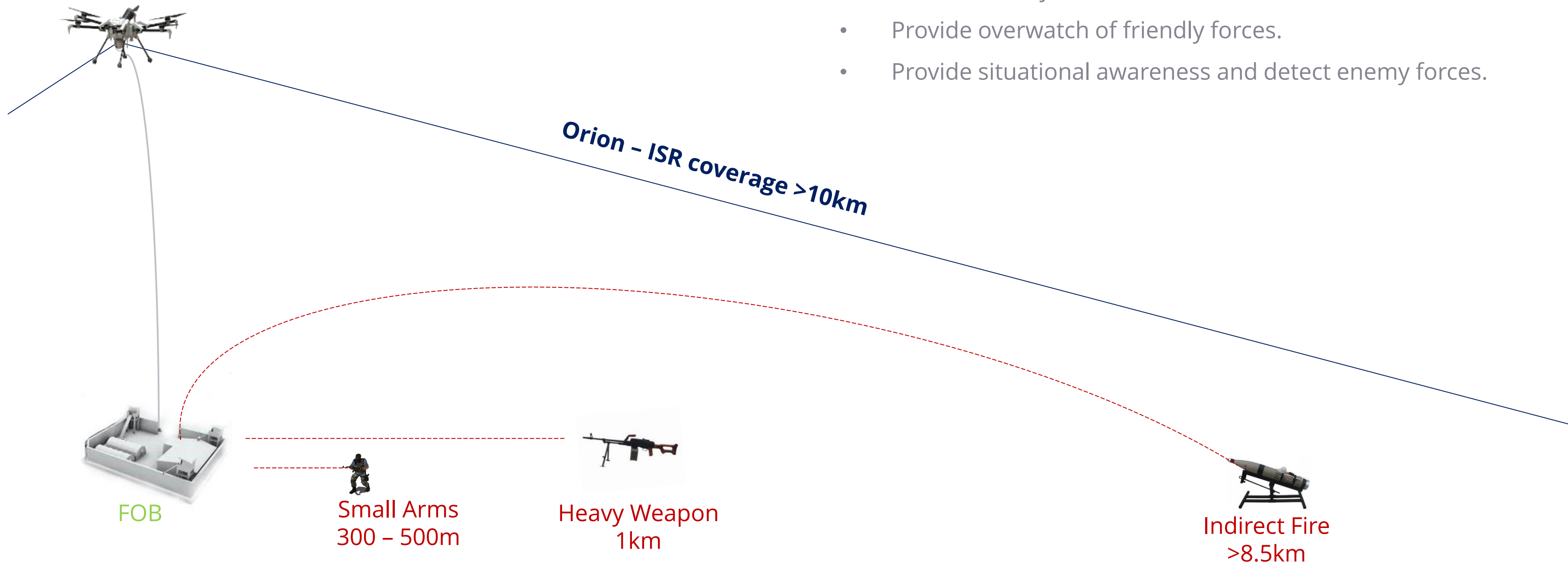
>10km
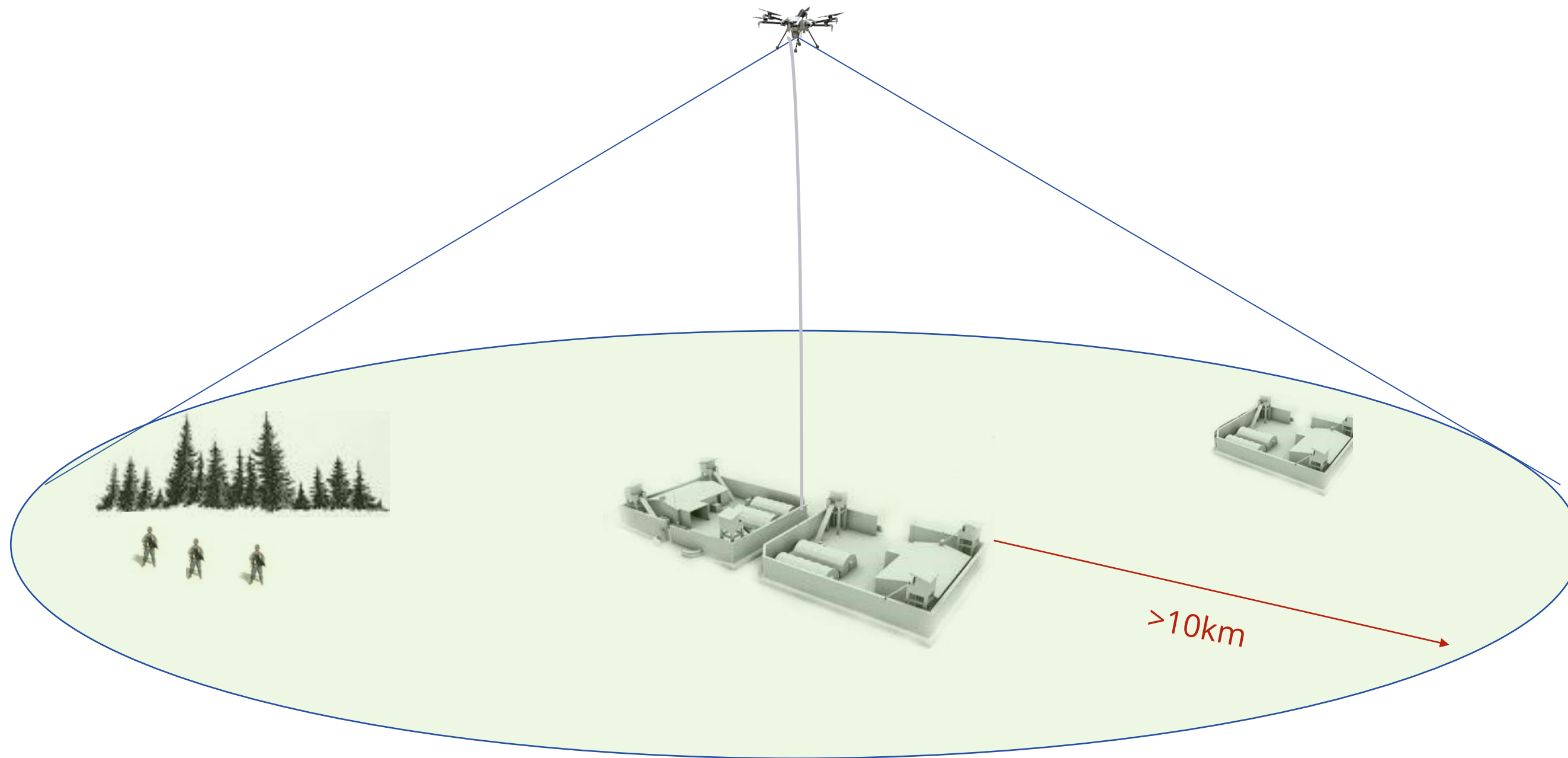
Use Case
FOB/Force Protection Continued

Objectives:

- Keep the enemy outside of effective weapon range.

- Restrict enemy freedom of movement.

- Provide overwatch of friendly forces.

- Provide situational awareness and detect enemy forces.

Orion – ISR coverage >10km

FOB

Small Arms
300 – 500m

Heavy Weapon
1km

Indirect Fire
>8.5km

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Event Security
the Ryder Cup 2018

Paris, France

Aerial Surveillance of one of the worlds biggest sporting events. Used to monitor crowds, infrastructure and carry out perimeter security.

Two Orion tethered drones were deployed by a private security company working in conjunction with Law Enforcement and Emergency Service Authorities.

*Condition: Day
*Flight Time: 8-11 hours per day over 4 days
*Camera: Day/IR x 30 zoom

Similar applications:
*Crowd control
*Perimeter surveillance
*Critical infrastructure surveillance

Video Link

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Television Broadcasting
World Ski Championships

Live broadcasting from the slopes

Åre Sweden.

Dramatic live broadcasting of the ski slopes from the World Ski Championships in Sweden.

An M600 tethered to Elistair Safe-T tether station provided uninterrupted shots of the event. The equipment operated in extreme weather conditions from inaccessible locations.

*Condition: Day
*Flight Time: 5 hours per day over 5 Days
*Camera: Broadcast quality payload streaming live to control stations in Sweden

Similar applications:
*Live news broadcasting
*Film productions
*Time lapse photography

Pop Up Communications
Rajant Cell On Wings

Temporary secure communications for emergency services

Morehead, United States of America.

During Morehead Festival, a pop up secure wireless network was established to ensure first responders would maintain connectivity; despite the existing 4G/LTE network saturation. By elevating the Wireless Mesh Node above the buildings, Rajant increased the footprint of the network.

*Condition: Day
*Flight Time: 10 hours
*Payload: Rajant Instamesh Airborne Module

Similar applications:
*Search and Rescue/natural disasters
*Event connectivity
*Secure military communications

Video Link

Border Control
French-Italian Border, Night Operation

Night border surveillance operation

Menton, France

Night operation with French Border Guards and the Sentinelle military operation on the French-Italian border.

Elistair's Orion UAS was deployed next to the main highway, fitted with a night vision camera. At approximately 70 meters high it live streamed a wide view of the location. The images helped to spot illegal crossings during that night.

*Condition: Night
*Location: Menton area, France

Similar applications:
*Coast guard patrols
*Perimeter surveillance
*Special operations

Video Link

Public Safety
Fire Fighting Exercise

Continuous coverage of a large fire fighting exercise

Poitiers, France

Aerial surveillance for a large scale firefighting exercise

Elistair's tethered drone system was deployed as part of a multinational firefighting exercise in support of the French Fire Fighting divisions 44 and 86. The tethered drone was fully integrated into the command and control infrastructure providing live video data to the decision makers.

*Condition: Day
*Flight Time: 4 hours

Similar applications:
*Industrial accidents
*HAZMAT incidents

Video Link

Traffic Monitoring
Data From Sky Project

Traffic monitoring of a key congestion area in Lyon

Lyon, France

Aerial traffic monitoring utilising third party software

Elistair's tethered drone system was deployed to monitor and gather data of vehicle movements at a key communication link in Lyon

*Condition: Day
*Flight Time: 3 hours
*Defined Gates: 5
*Vehicles Identified: 7826

Similar applications:
*Traffic enforcement
*Urban engineering studies

Video Link

The SARA Project
Search and Rescue Operations

European SAR Project with Italian Navy

Provides a tethered, maritime drone option, able to operate underway to aid in SAR operations.

*Condition: Day/Night
*Flight Time: 8 hours persistent
*Camera: Day/IR x 30 zoom

Similar applications:
*Maritime Security
*Man overboard emergencies