USE CASE · TETHERED SURVEILLANCE UAV

Tethered drone for event and crowd security

A festival, a rally or a match can run for many hours, and a camera that has to land every half hour leaves gaps. A tethered drone takes power through a cable from the ground, so it can stay above one place for the whole event and send live video over optical fibre rather than a radio link.

IN SHORT

- A tethered drone draws power through a cable from a ground power box, so it can watch a crowd for hours without landing; the Star INXS Tethered Surveillance UAV is rated for 18-24 hours on ground power.
- It carries a 4K day camera with 40x optical zoom, a thermal/IR night camera (640 x 480) on a 3-axis gimbal, and a laser range finder reaching 1,200 m.
- Control and video travel over optical fibre, so there is no radio link while operating to add to the crowded radio environment of a large event.
- It deploys in under 15 minutes, and tether monitoring, power-failure alerts and emergency recovery procedures are built in.



WHAT TO SPECIFY

FIGURE	WHY IT MATTERS FOR AN EVENT	TETHERED SURVEILLANCE UAV
Time aloft	Covers the whole event without landing	18-24 h tethered, ground power
Tether length	Sets how much of the venue is in view	100 m or more
Set-up time	Rigging before gates open	Under 15 min
Link	A crowded radio environment	Optical fibre, no radio link while operating
Cameras	Crowd flow by day, people at night	4K, 40x zoom; thermal/IR 640 x 480; 3-axis gimbal
Range finder	Distance to a point of interest	Laser, 1,200 m
Safety	A cable or power fault must be flagged early	Tether monitoring, power-failure alerts, emergency recovery
Weight	Handling and transport	12-15 kg all-up

HOW A DEPLOYMENT WORKS

1. **Survey the site.** Choose a spot for the ground power box and winch with a clear view of the venue and room for the tether to rise, and agree the position with the event's safety and…
2. **Check permissions.** Drone use over crowds is governed by the DGCA rules and local authorities, so obtain what your venue requires before flying.
3. **Rig the station.** The complete set (drone with payload, power box, winch, power cable, AC-to-DC power converter and ground power box) deploys in under 15 minutes, and the ground control…
4. **Raise and monitor.** The aircraft rises to its working position; operators watch the live feed and the tether and power status from the station and the control room.
5. **Recover.** At the end of the event the winch reels the aircraft in, and the automatic flight log records the flight.

COMMON QUESTIONS

How long can a tethered drone stay up above an event?
The Star INXS Tethered Surveillance UAV is rated for 18-24 hours on ground power, on a tether of 100 m or more.

What cameras does it carry?
A 4K day camera with 40x optical zoom and a thermal/IR night camera (640 x 480) on a 3-axis gimbal, plus a laser range finder of 1,200 m.

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