USE CASE · TETHERED SURVEILLANCE UAV

Tethered drone for refineries, ports and power plants

Large industrial sites are hard to watch from the ground: long fences, tall structures and areas that guards cannot see. A tethered drone raises a camera above the site and keeps it there around the clock, powered from the ground.

IN SHORT

- A tethered drone gives a refinery, port or power plant a camera above the site for 18-24 hours on ground power, through a cable from the ground.
- The Star INXS Tethered Surveillance UAV carries a 4K, 40x zoom day camera and a 640 x 480 thermal/IR night camera on a 3-axis gimbal, with a 1,200 m laser range finder.
- Control and video use optical fibre with no radio link while operating, which suits sites with strict emission rules; tether monitoring and power-failure alerts flag faults early.
- If the site handles fuel or other explosive materials, ask for the hazardous-area details before specifying any aircraft.



QUESTIONS TO ASK BEFORE YOU SPECIFY

QUESTION	WHY IT MATTERS	TETHERED SURVEILLANCE UAV
How long must it stay up?	Shift and night cover	18-24 h tethered, ground power
What tether?	Clearing stacks, cranes and structures	100 m or more
What camera sensors?	Detect people, heat and activity	4K, 40x zoom; thermal/IR 640 x 480; laser range finder 1,200 m
What if power or the tether fails?	Safe recovery, early warning	Tether monitoring, power-failure alerts, emergency recovery
Are there emission limits?	Radio rules inside the site	Optical fibre link, no radio link while operating
Is the site a hazardous area?	Explosive atmospheres have separate rules	Ask us for hazardous-area details

WHAT ROUND-THE-CLOCK WATCH NEEDS

- **Continuous watch.** 18-24 hours aloft on ground power, on a tether of 100 m or more.
- **Thermal and zoom.** A 640 x 480 thermal/IR camera for night and a 4K, 40x optical zoom day camera.
- **Ranging.** A laser range finder (1,200 m) gives the distance to a structure, vehicle or fence point.
- **No radio on the link.** Control and video travel over optical fibre.
- **A record.** The automatic flight log documents each flight, and the complete set deploys in under 15 minutes, for example when an alarm raises the threat level.

COMMON QUESTIONS

How long can a tethered drone watch a plant without landing?
The Star INXS Tethered Surveillance UAV is rated for 18-24 hours on ground power.

Does it work at night?
Yes. A thermal/IR camera (640 x 480) gives night vision, and a laser range finder measures distance up to 1,200 m.

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