USE CASE · SV-2.4 VTOL

VTOL drone for power line, pipeline and road inspection

Power lines, pipelines, roads and canals run for kilometres and cross difficult ground. Inspecting them on foot or by road is slow; a multicopter has to land every few kilometres. A fixed-wing VTOL flies the line efficiently and launches from a small clearing.

IN SHORT

- Linear assets such as power lines, pipelines, roads and canals are best inspected by an aircraft that can fly long, efficient runs, and a fixed-wing VTOL needs no runway.
- The Star INXS SV-2.4 flies 82 to 112 minutes and 95 to 127 km at a cruise of 17 to 22 m/s, tested at 500 m with a 600 g payload.
- It carries up to 2.5 kg: a 61 MP camera for detailed images, or EO/IR and visible gimbal cameras.
- For one tower or one building, a multicopter that hovers close is simpler; the SV-2.4 suits long corridors.



WHAT TO SPECIFY FOR LINEAR INSPECTION

QUESTION	WHY IT MATTERS	SV-2.4
How long is the route?	Decides whether one sortie covers it	95–127 km range
What must be seen?	Fittings, insulators, corrosion, encroachment	61 MP camera under 1 cm per pixel, or EO/IR gimbal
How heavy is the sensor?	Payload limits endurance	1.5–2.5 kg capacity
Where can it launch?	Lines cross forests and hills	VTOL, no runway; 4,000 m service ceiling
What if something fails?	Long routes are far from the pilot	Return-to-launch, geofencing, failsafes

WHY FIXED-WING VTOL FOR A LONG LINE

- **Distance.** 95 to 127 km of range, tested at 500 m with a 600 g payload.
- **Speed.** Cruise of 17 to 22 m/s, so a line is flown quickly.
- **Payload.** Up to 2.5 kg for a 61 MP camera, or EO/IR and visible gimbal cameras.
- **Autonomy.** Waypoint missions follow the line, with return-to-launch and failsafes for RC loss, low battery and GPS loss.
- **Small launch site.** Vertical take-off and landing from a clearing near the line.

COMMON QUESTIONS

How far can the SV-2.4 fly along a line?
Up to 127 km on the extended-range pack, tested at 500 m with a 600 g payload.

What cameras can it carry?
A Sony ILX-LR1 61 MP camera, or EO/IR and visible gimbal cameras, up to 1.5–2.5 kg in total.

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