

UAV UPGRADES • OPTICAL NAVIGATION

Drone upgrades built **for EW**

We install **Ardupilot**, gimbals, thermal cameras and an onboard computer with **optical navigation** — the drone flies and returns without GPS or radio link.

- Queen of Hornets
- Vampire
- 15"+ frame

WHAT WE DO

We upgrade heavy drones to operate reliably under EW

15"

Frames of 15 inches and up

Enough space and payload capacity for the autopilot, cameras and onboard computer — with no compromise in flight.

PLATFORMS

Queen of Hornets

Vampire

and others



EW resilience

Optical navigation
instead of GPS



Auto return

Optical RTL on link
loss



A → B missions

Route flight without
GPS

WHAT WE INSTALL

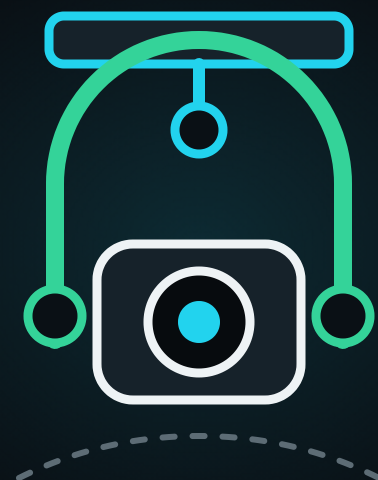
Complete **turnkey kit**



01

Ardupilot

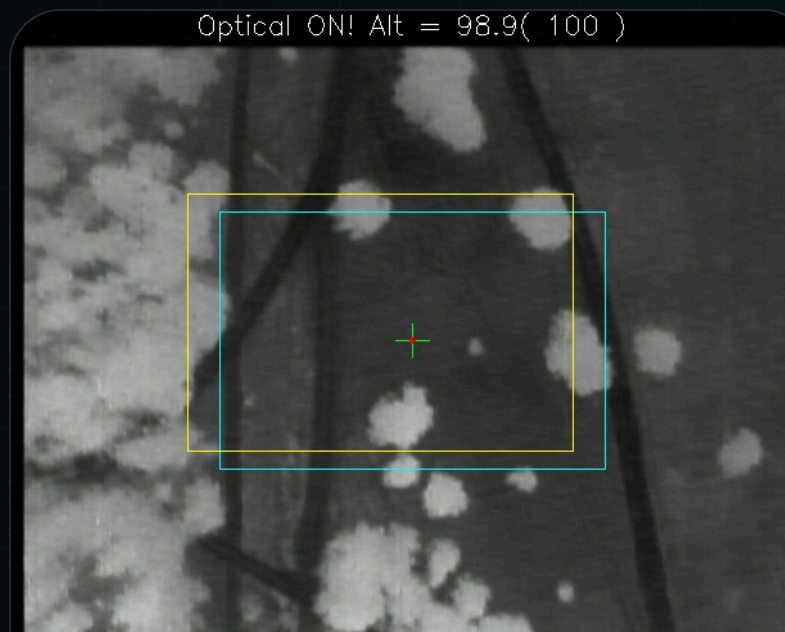
Autopilot with optical odometry — stable flight without satellites



02

Gimbal systems

Stabilized camera for surveillance and precise target work



03

Thermal cameras

Operations at night and in low visibility



04

Onboard computer

Real-time video processing: optical navigation and autonomous missions

AVAILABLE VERSIONS

Three levels of autonomy

LEVEL 1

Optical Failsafe

Safe flight and return without GPS

- ✓ Optical stabilization on Ardupilot (Odometry, no-GPS)
- ✓ Drone position arrow in QGroundControl without GPS
- ✓ Optical RTL Failsafe — return to home
- ✓ Web configuration form

LEVEL 2

Optical Navigation Base

Mission flights without GPS

All of **Optical Failsafe** +

- ✓ Special compass and azimuth settings without GPS
- ✓ Mission flights: from point A to point B and back

USE CASES

Logistics

Bombers

Recon

LEVEL 3

Optical Navigation Advanced

Ground station and map tools

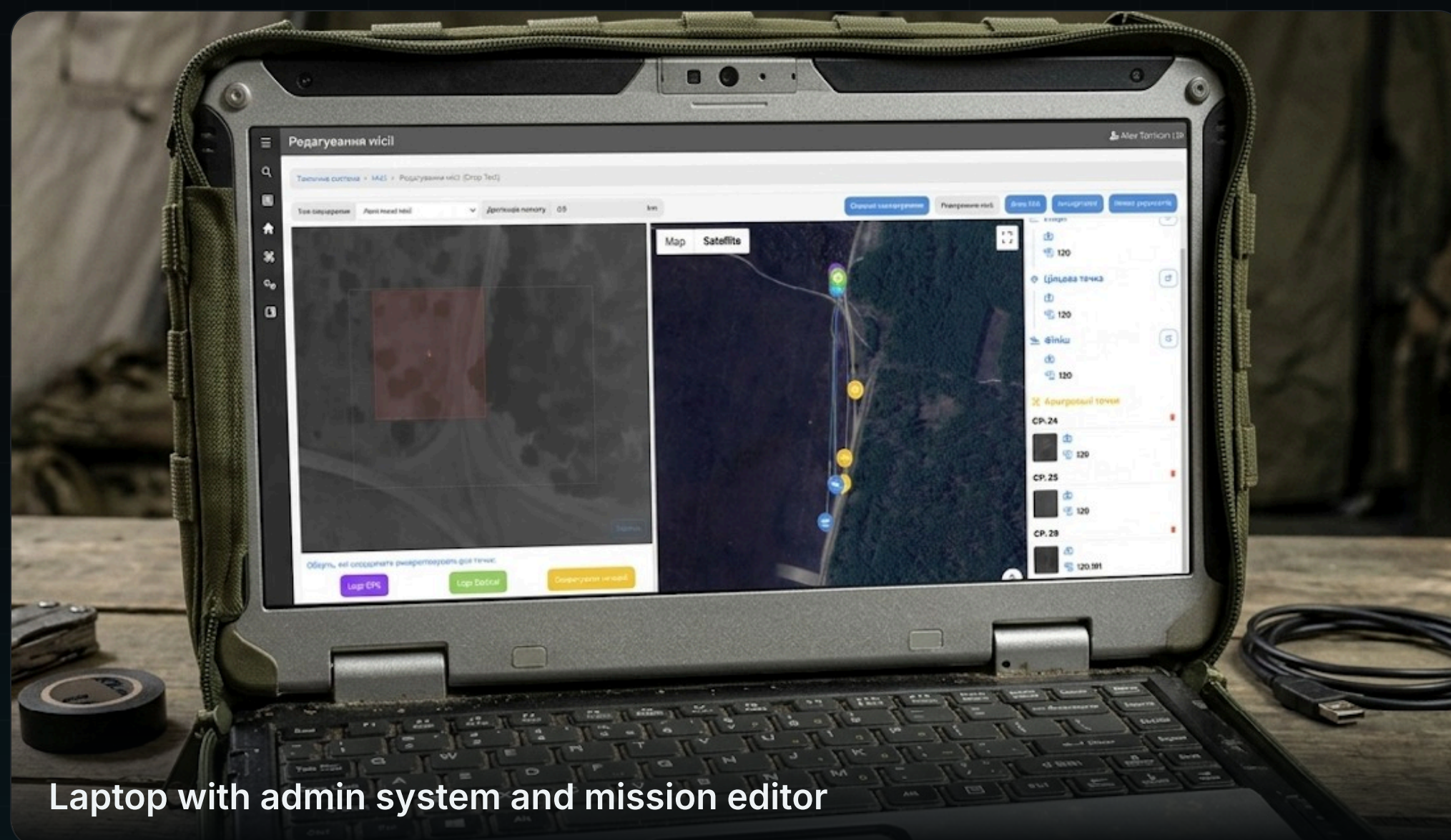
All of **Optical Navigation Base** +

- ✓ Laptop with admin system
- ✓ Flight log analysis
- ✓ Flights using maps from a previous flight with 99.9% accuracy
- ✓ Satellite maps **OPTION**
- ✓ Point drop **OPTION**

LEVEL 3

Optical Navigation Advanced

Admin system on a laptop: logs, maps and mission planning in one place



Laptop with admin system and mission editor



Previous flight map — 99.9% accuracy



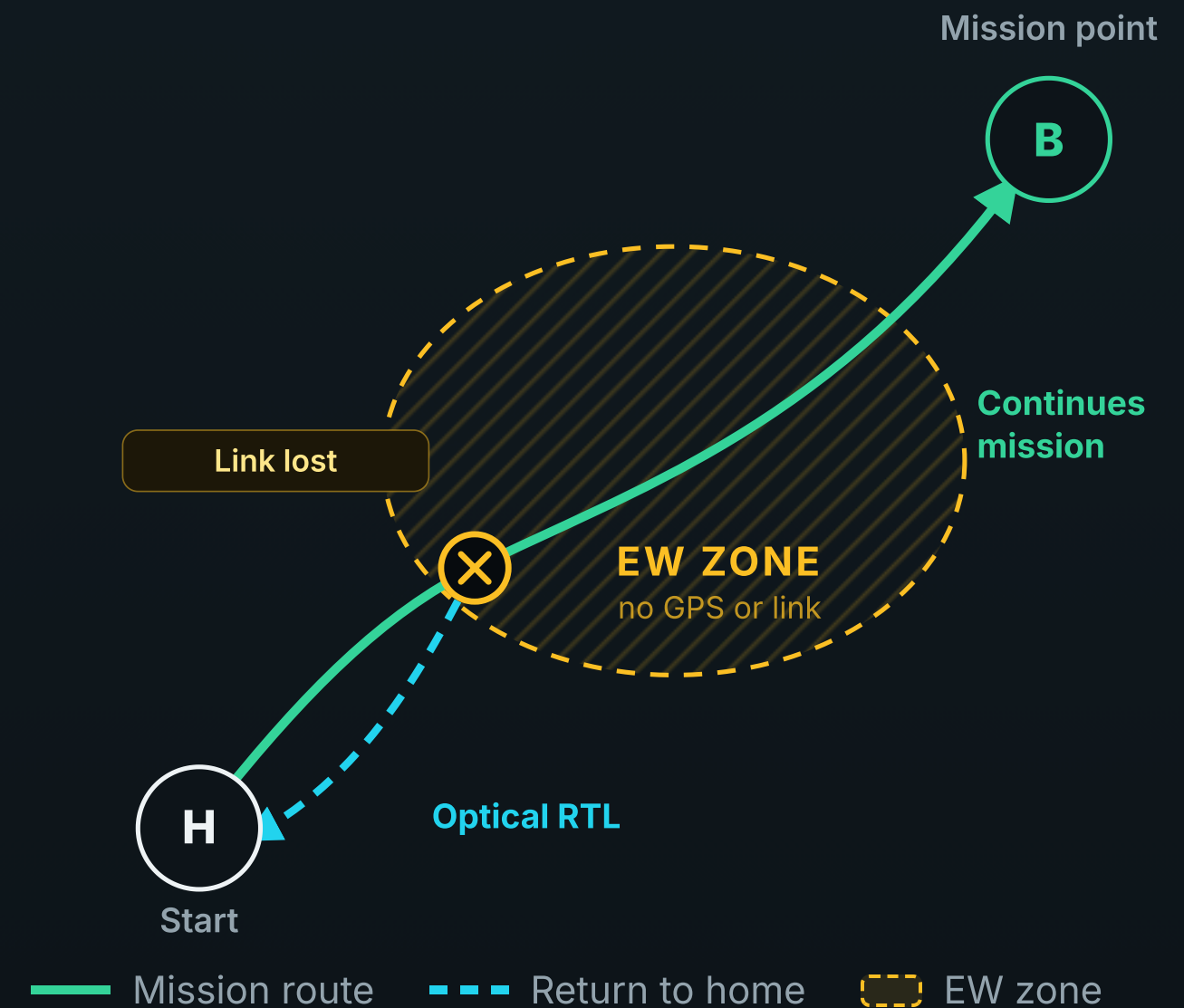
Point drop **OPTION**

HOW TO USE

From setup to autonomous flight

- 01 Set up the **controller and drone** following the manual
- 02 Optical mode is **switched on the controller**
- 03 Set the **start point** in the web form
- 04 Set the **flight azimuth** using the dedicated guide when GPS is unavailable
- 05 **Plan the mission** in the web form
- 06 Link lost? The drone **continues the mission** without GPS or link **or returns home**

MISSION SCENARIO





Indra Tech

Drones that complete the mission and come back — even without GPS or link

- Optical Failsafe

- Optical Navigation Base

- Optical Navigation Advanced

