

[FALCATA SYSTEMS]

UAS & Geospatial Intelligence -- Built for the field, not the brochure.

// WHO WE SERVE

Portuguese Army | Portuguese Air Force | Civil Protection

// CURRENT SERVICE -- CUSTOM DRONE DEVELOPMENT

End-to-end design and build of UAS platforms tailored to operational requirements. Focus on hostile-environment performance and mission-critical reliability -- systems that keep working when GPS, comms, or field conditions do not cooperate.

// TECHNOLOGY FOCUS

GPS-DENIED NAVIGATION

LIDAR INTEGRATION

RESILIENT COMMS

AUTONOMOUS FLIGHT

GEOAI

// PLATFORM CAPABILITIES

- GPS-denied navigation: 60GHz FMCW radar coupled with an STM32 MCU, correcting IMU drift from ground-reflection speed and altitude data.
- Clean value chain: electronics sourced exclusively from allied nations (NATO, Taiwan, Japan), avoiding espionage risk and vetoed hardware.
- Modular sensor payloads: interchangeable Doppler radar and LiDAR slots for topography and obstacle detection.
- Lean manufacturing: in-house PCB prototyping and 3D-printed aero-grade chassis, cutting unit costs well below traditional defense-contractor pricing.

// FUTURE PIPELINE

Geospatial Intelligence Platform

Drone-based airborne surveys -- magnetometry, LiDAR, gamma-ray spectrometry -- processed with machine learning for terrain analysis and threat assessment.

Managed Survey Services

Full-cycle airborne data collection and reporting for defence and civil protection clients, from flight planning through delivered analysis.

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Prepared by Falcata Systems. For recipient use in evaluating Falcata Systems as a supplier.