

Spanish Paratroopers Focus on FPV Drones: Operational Micro-Laboratory with Autonomous Production and 3D Printing

Published on 19/12/2025

The massive use of FPV (First Person View) drones in recent conflicts, particularly in the war in Ukraine, is profoundly redefining modern operational doctrines. The Spanish Armed Forces are also accelerating this capability, with a significant decision directly involving the Paratrooper Sappers Squadron **(Escuadrón de Zapadores Paracaidistas - EZAPAC)** of the Ejército del Aire y del Espacio.

FPV Drones as a Structural Tactical Capability

Initially an improvised tool used by irregular forces, the FPV drone has evolved into a true **fundamental tactical capability**, employed for intelligence, surveillance, and reconnaissance (ISR) missions, as well as precision and disruption actions on the battlefield.

The Ukrainian experience has shown how economical, modular, and quickly replaceable platforms can have a disproportionate operational impact compared to their cost, especially in contexts characterized by hybrid threats and a high presence of civilian population.

A Targeted Investment to Develop Operational Autonomy

In this context, the recent **400,000 euro contract** awarded by the Ejército del Aire y del Espacio to the company Etrair is aimed at developing FPV drones within the EZAPAC (document published Tuesday, December 16 on the BOE (Boletín Oficial del Estado, the Spanish equivalent of our Official Gazette).

The official documentation states that the unit's personnel must be able to operate in complex and dynamic scenarios, facing threats ranging from terrorism to civil protection crises, including special operations and emergency interventions.

Internal Production and 3D Printing: The Ukrainian Model as a Reference

One of the most relevant aspects of the program concerns the **autonomous manufacturing of FPV drones** through the use of **3D printing** technologies. This choice allows for high flexibility in design, rapid adaptation to different mission profiles, and reduction of logistical times.

The goal is to replicate, on a national scale, a model already tested in Ukraine: essential, economical, easily reproducible, and adaptable drones, in some cases connected via fiber optics to reduce vulnerability to electronic interference.

An “Additive Manufacturing Cell” for Fungible Drones

The project involves the creation of a **basic additive manufacturing cell**, capable of independently designing, assembling, and validating functional prototypes of fungible RPAS. The priority is to ensure the unit's ability to quickly respond to immediate operational needs, integrating a knowledge transfer cycle that makes the unit progressively independent.

In practice, an **operational micro-laboratory**, designed to work **close to the unit** and **at the pace of operations**.

In parallel, a consultancy and engineering support service is planned to develop a true **operational experimentation environment**, in which to test solutions, materials, and configurations based on real scenarios.

Training and Experimentation: The Human Factor Remains Central

Technology, however, is not sufficient without adequate training. The training of FPV pilots remains a key element, as demonstrated by experiences already underway in other units of the Spanish Armed Forces.

A well-established example is the drone laboratory of the **Legión Española** at the Base Álvarez de Sotomayor, in Viator (Almería), where FPV drones and 3D printed components have been experimented with for years, seeking the best compromise between operational effectiveness and cost containment.

Towards a New Doctrine for Elite Units

The choice of the EZAPAC confirms a now clear trend: high-readiness units can no longer do without the integration of FPV drones as a **direct extension of the soldier's capabilities on the ground**.

Autonomous production, rapid adaptability, advanced training, and continuous experimentation thus become pillars of a new operational doctrine, in which technology and the human factor must evolve together to meet the challenges of contemporary conflicts.

BOE-B-2025-46409Download