



## About Us

Unicorn Aviation is a French company focused on modernizing aircraft and drone propulsion with two clear goals: **enhanced flight safety and environmental responsibility.**

Founded by Jean-Baptiste Bély and Benoît Dametto, both of whom come from high-level motorsport and are passionate about flight and engineering, the project evolved from a technical solution into a structured industrial venture. The name and logo were inspired by their 5- and 6-year-old daughters.

## Our mission

**Unmatched Safety, Sustainability, and Solving the Problem of the End of Avgas in Aviation and Drones**

Our advanced propulsion systems deliver exceptional performance, reliability, and efficiency, and are available and officially registered today.

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In an era when ecological concerns are paramount, UNICORN introduces its revolutionary Flex-Fuel technology. Ethanol-based fuel was integrated from the very beginning – the only readily available alternative worldwide that works with existing engines.



## Our EFI technology

- Flex - Fuel
- AVGAS replacement
- Sustainable Fuels - Bio Ethanol

## KEY HIGHLIGHTS

### ✓ Unprecedented Automatic Redundancy: The New Standard in Aviation Safety

#### • Automatic failure detection and correction:

Our system is so redundant that a monitoring EFIS screen is integrated to inform the pilot of any failures—even if the engine automatically compensates.

#### • Guaranteed operation even if high-pressure fuel pumps fail:

Unicorn is the only electronic fuel injection system that can run solely on the mechanical low-pressure pump, ensuring normal operation without pilot intervention.

#### • Registered by the French DSAC:

Proven over 350 flight hours without a single issue.

#### • Ongoing test bench development:

We continuously refine and improve our systems through extensive engine testing.

### ✓ Flex-Fuel: The Only Realistic and Immediately Available Alternative to Avgas

*Avgas Is on Its Way Out – We Have the Solution*

While Avgas 100LL is nearing the end of its use and alternatives like hydrogen or electric propulsion remain in development, **ethanol is the only realistic and immediately usable**

**solution.** Its major advantages include:

- Compatibility with all existing gasoline engines without major modifications
- Worldwide availability – unlike electric or hydrogen solutions
- Up to 77% fuel cost savings compared to Avgas
- Proven technology – Embraer has been flying ethanol-powered aircraft for over 20 years

### ✔ **Total Fuel Compatibility: Simplifying Refueling Anywhere**

Unicorn offers the most advanced fuel flexibility ever seen in light aviation:

- **Compatible with all gasoline fuels:**

- SP95, SP98, SP95-E10, SP98-E5
- 100LL (Avgas)
- All ethanol-based aviation fuels, including E85

- **No mixing restrictions:**

The system automatically adjusts engine operation based on the available fuel, allowing pilots to mix different fuel types freely.

- A huge advantage for travel – simply use whatever fuel is available without compatibility worries.
- Proven engine compatibility – Rotax and other major manufacturers already permit the use of ethanol-containing Mogas.

### ✔ **Why Ethanol is the Best Alternative for Aviation?**

- **Exceptional Performance**

- 107 octane rating – Superior knock resistance compared to Avgas
- Lower combustion temperatures – Reducing engine wear
- Resistance to water contamination – Ethanol absorbs and neutralizes water, minimizing fuel system issues

- **Massive Cost Savings**

- **E85 costs €0.72/L** compared to €1.82/L for SP98 and €3.10/L for Avgas
- Over 2,000 flight hours, fuel costs are reduced by more than 70%:
  - E85: €21,600
  - SP98: €54,600
  - Avgas: €93,000

- **Environmental Benefits Comparable to Electric Aviation**

- 78% lower CO<sub>2</sub> emissions than traditional gasoline
- 90% fewer fine particle emissions
- A total ecological footprint equivalent to electric aviation – without the drawbacks

### ✔ **Why is E85 better than electric?**

- No heavy batteries – Fuel weight decreases during flight, unlike batteries
- Unlimited range – Refueling is instantaneous without the need for charging infrastructure
- Stable performance in cold weather

### ✔ **Our Products: Innovation and Performance for All Aircraft**

We provide modern, ready-to-use solutions for both retrofit and new aircraft:

- **Pre-assembled retrofit injection kits:** Ensuring optimal safety and straightforward installation.
- **Complete engines:** Tested and ready for operation, available for both retrofits and new builds.
- **Lithium battery kit:** Lightweight and cost-effective, providing significant weight savings.

#### ✔ Significant Weight Savings for Aviation

- Our system is as light as traditional carburetors, ensuring no weight penalty for installation.
- On a typical complete installation, we save 9 kg compared to the iS injection series.

#### ✔ Comprehensive Service, Including Pilot Training

- We provide full pilot training to ensure a smooth transition to our systems.
- Our retrofit kits are installed exclusively in our workshops, ensuring optimal setup and maximum safety.

#### ✔ Unicorn: The Freedom to Fly with Confidence

With industry-leading automatic redundancy, total fuel compatibility, and a sustainable, cost-effective solution, Unicorn represents a major advancement for light aircraft and drones.

- **Uncompromising safety:** The only system capable of functioning even without high-pressure fuel pumps.
- **Massive cost savings:** Up to 77% lower fuel costs.
- **Groundbreaking ecological impact:** As clean as electric aviation, without its limitations.

Unicorn takes aviation to the next level.

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# What's Coming

## ✔ Current and Future Compatibility

- **Currently available for Rotax Aviation engines:** 912, 914, 915, 916
- **Under development for Continental and Lycoming engines:** Soon available for larger displacement engines in general aviation.
- Designed for both aircraft and drone applications



## Press Materials

Here you can find pictures of our products, specifications, logos, picture of our team.

[https://drive.google.com/drive/folders/1b\\_QvsooLYJ7fNRbIBJWYMdmxNHJLTc14?usp=drive\\_link](https://drive.google.com/drive/folders/1b_QvsooLYJ7fNRbIBJWYMdmxNHJLTc14?usp=drive_link)

# Contact Info

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