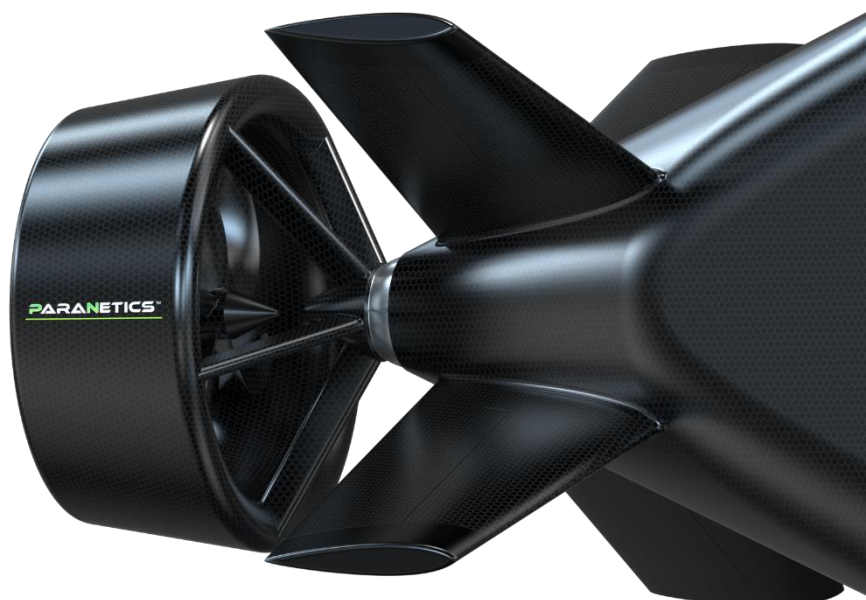


PARANETICS™

ELECTRIC AIRCRAFT, DRONE, and
SUBMERSIBLE PROPULSION SYSTEM



ParaNetics

Electric Propulsion System for Aviation and Submersibles

1. EXECUTIVE SUMMARY

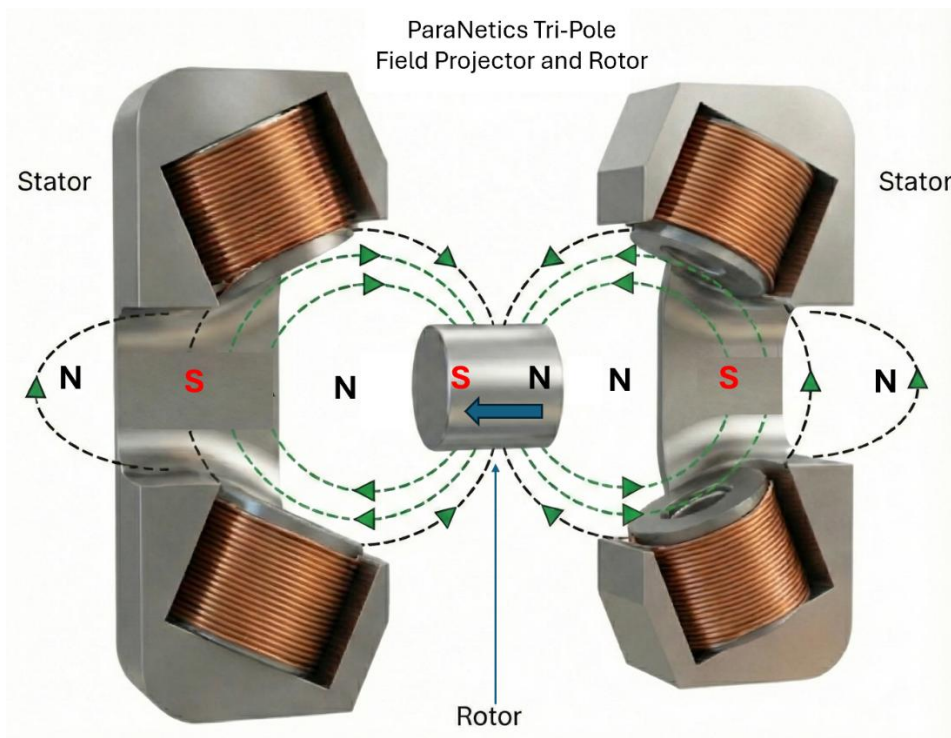
The ParaNetics Propulsion System (PPS):

The ParaNetics Propulsion System (PPS) is the next generation of propulsion for electric aircraft, drone, and submersibles. This propulsion system is built on the patented ParaNetic Magnet and its breakthrough tri-pole magnetic field.

The Game Changing Difference

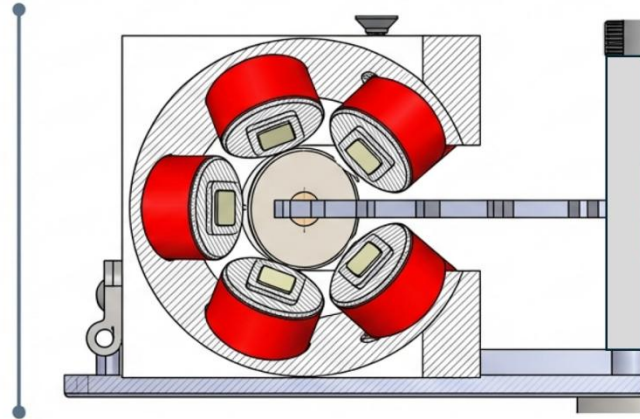
Traditional electric motors rely on standard dipole magnetic fields, where simple attraction and repulsion between opposite and like poles drive the rotor.

In contrast, the **ParaNetic Propulsion System utilizes a novel "tri-pole" stator design**, sandwiching a single south pole between two north poles. When paired with a standard permanent magnet rotor, this unique configuration enables **simultaneous attraction and repulsion** between the two components.



At the core of the PPS is the ParaNetic Magnet, a proprietary field projector that generates a unique tri-pole magnetic configuration. This design allows each rotor magnet to interact with five stator electromagnets at once, utilizing both the attractive and repulsive sides of the rotor's field. This multi-point interaction significantly outperforms traditional motors in both torque density and efficiency.

THE ARCHITECTURE: 5-POINT ELECTROMAGNETIC INTERACTION



THE STATOR:

Uses ParaNetic Field Generators containing 5 electromagnets angled in a parabolic shape.

THE INTERACTION:

Each permanent magnet on the rotor interacts with all 5 electromagnets simultaneously.

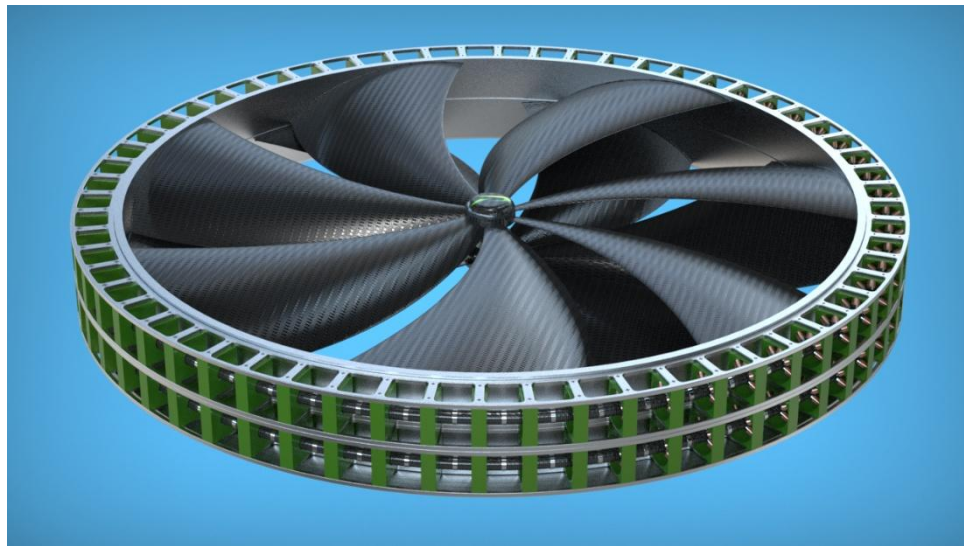
THE RESULT:

Dramatically higher torque density and full utilization of the magnetic surface area.



The PPS employs a circumferential propulsion system, integrating the rotating magnetic assembly directly into the rim of the ducted fan blades. This architecture effectively eliminates traditional blade tips, which significantly reduces aerodynamic noise and increases thrust by 30% or more. This compact, rim-driven design also enables entirely new geometries for aircraft and submersibles.

Multiple propulsion systems can be stacked to create counter-rotating thrust, cancel gyroscopic torque, and multiply power output without gearboxes or mechanical complexity.



Prototype testing demonstrates 96–98% efficiency, 25–30% torque gains, passive cooling, and significant noise reduction. Every PPS includes three independent propulsion systems, within the unit, each with its own controller and power input—delivering aerospace-grade triple redundancy and fault tolerance.



This mission-first architecture aligns naturally with aerospace certification pathways and enables new vehicle designs impossible with legacy motors.

With seven working prototypes, validated tri-pole field physics, and strong IP protection, the ParaNetics Propulsion System is positioned to redefine electric propulsion across a wide range of electric aircraft and submersible platforms.

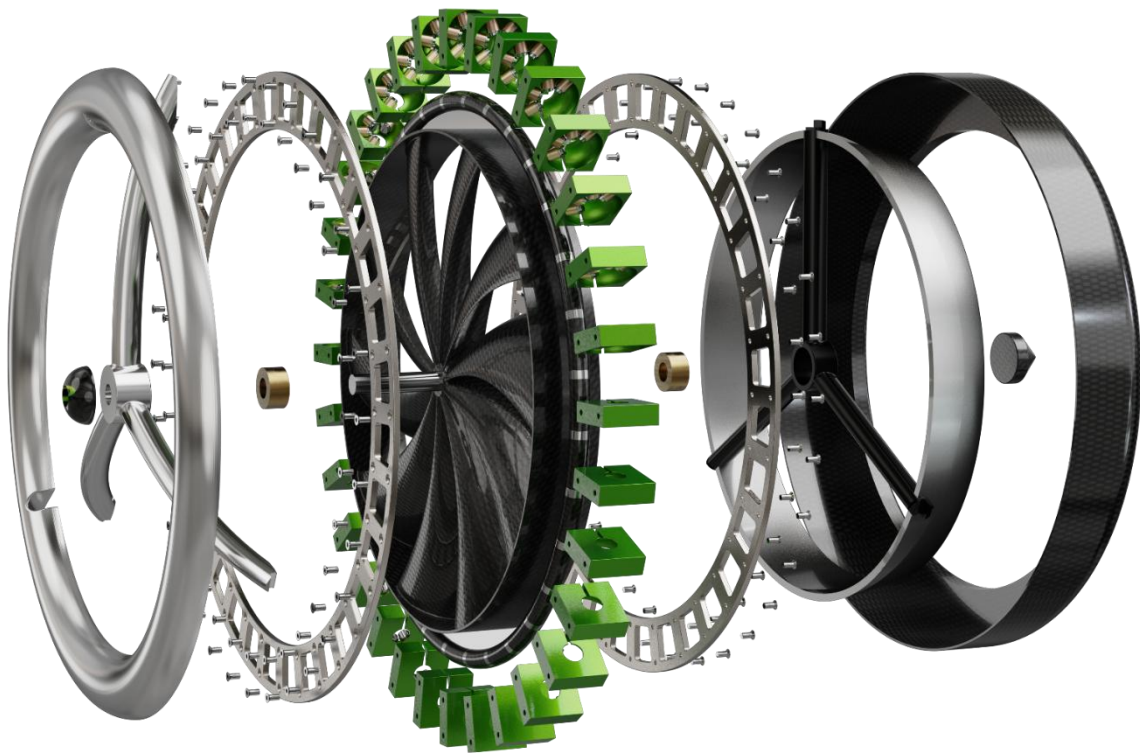
The ParaNetics Propulsion System is an innovative breakthrough in electric propulsion technology, blending cutting-edge specifications with versatile design features. It stands out as the leader in high-efficiency, high-performance propulsion systems for electric aircraft and subsurface propulsion.



Counter Rotating, Ducted Fan, No Blade Tips, Triple Redundant

Motor Wraps Around the Outside Parameter

THIS IS NOT A RIM DRIVE MOTOR



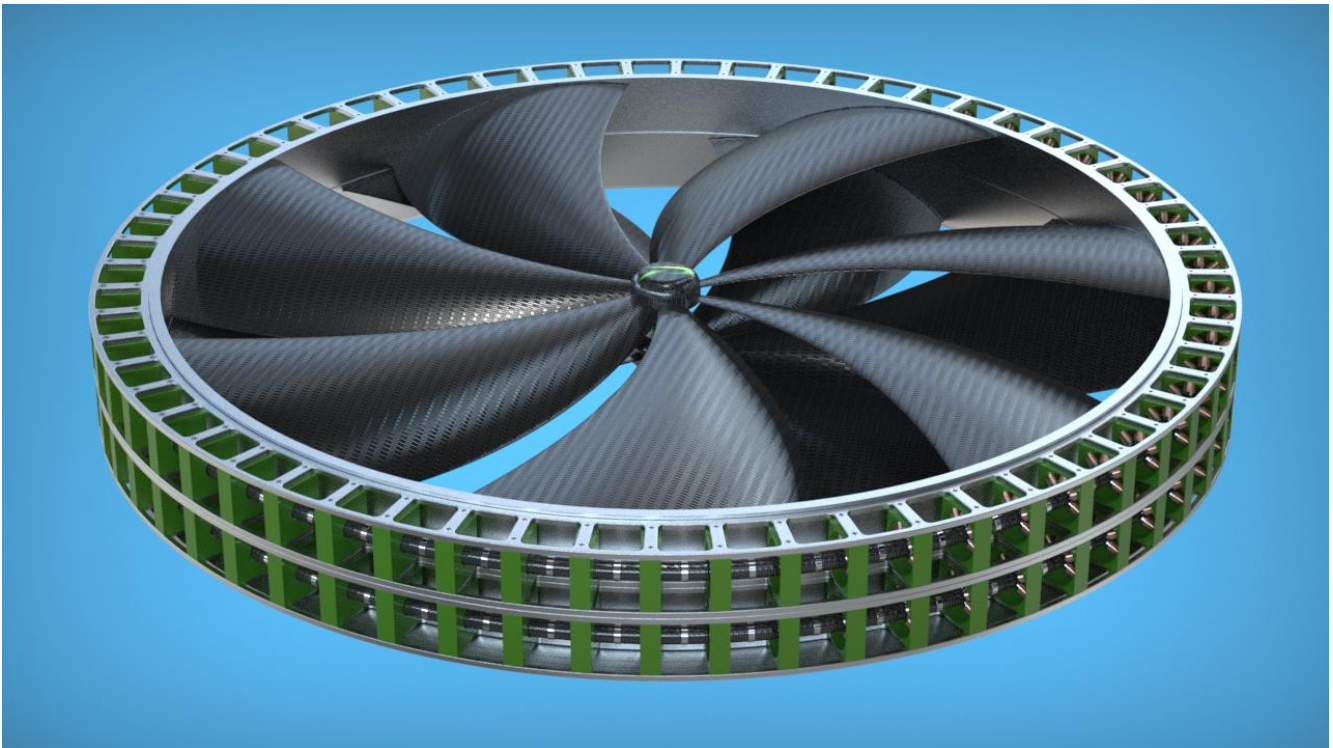
Cutaway Views of the ParaNetic Propulsion System



Stackable Pancake Architecture: Scalable Performance

The propulsion system's flat, modular design enables stacking of multiple units, offering:

1. **Enhanced Horsepower:** Each stacked unit multiplies power output.
2. **Gyroscopic Force Cancellation:** Counter-rotating blade configurations neutralize torque effects, improving aircraft stability.
3. **Increased Redundancy:** Additional units enhance operational safety and reliability.



Key Features and Advantages

Efficiency: Setting a New Benchmark

The ParaNetics Propulsion System achieves 96–98% energy efficiency, significantly surpassing industry standards for both brushed (75–80%) and brushless DC motors (85–90%). This unparalleled efficiency is attributed to:

- The patented ParaNetic magnetic field system and optimized magnetic circuits
- Advanced materials and innovative winding techniques
- Reduced energy losses from resistive heating, core inefficiencies, and friction

Integrated Design: Tailored for Specialized Applications

The propulsion system's pancake-style form factor—a large diameter with minimal depth—is optimized for aviation and other demanding contexts:

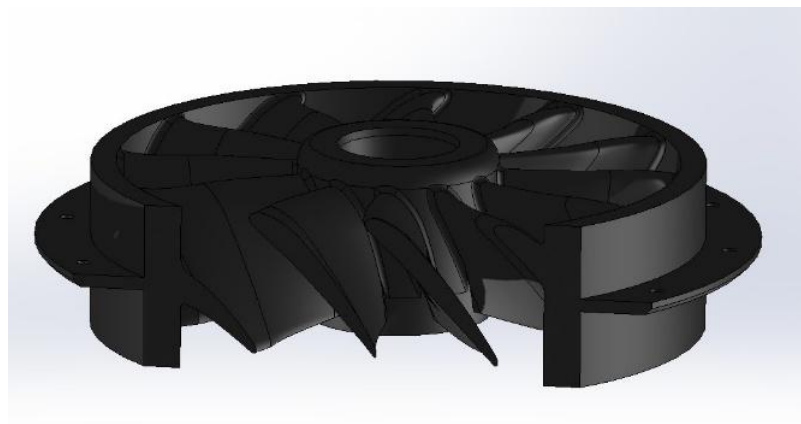
- The integrated design includes both the rotor/stator and fan blade assembly, streamlining systems while improving torque delivery and thermal management.
- Its modular architecture allows for stacking, enabling scalable power output and intrinsic redundancy without adding significant complexity or weight.

Ducted Fan Blade Design: Enhanced Safety and Performance

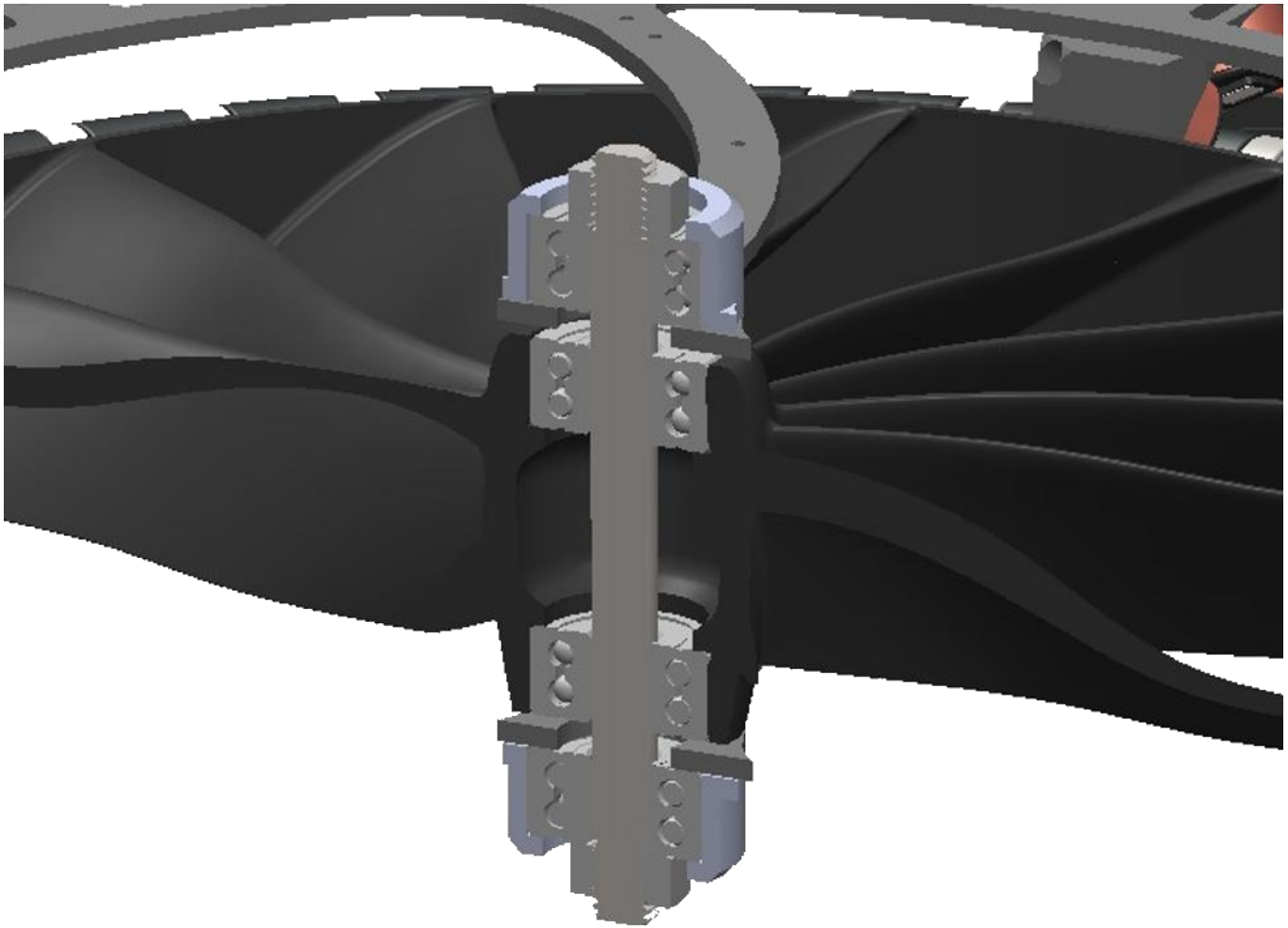
The ducted fan blade system sets the ParaNetic Propulsion System apart from open-propeller designs, delivering these core benefits:

1. **Noise Reduction:** The enclosed duct absorbs and disperses sound, resulting in quieter operation — crucial for urban or environmentally sensitive areas.
2. **Safety:** Enclosed blades prevent contact with high-speed components, ideal for populated or confined spaces.
3. **Environmental Resilience:** The protective duct minimizes wear and tear, shielding blades from debris and extending service intervals.
4. **Efficiency:** Blade-tip vortices are eliminated, optimizing thrust and reducing energy losses.
5. **Object Impact Protection:** The duct shields the blades from hazards like small debris or birds during flight.

Ducted Fan Blade Design: No Blade Tips, Reduces Noise and Improves Performance. Blades are like the spokes of a bicycle wheel holding magnetic rotor assembly in place. The duct rotates with the blades.



Redundant “Quad Bearing” Design - Allows for complete failure of two bearing sets, with no impact on the propulsion system’s performance.



Triple Redundancy

One of the propulsion systems standout features is its integrated triple redundancy, embedding three separate propulsion systems into each propulsion unit as shown by the different colors.

This approach:

- Ensures uninterrupted operation even in the event of component failure
- Optimizes the power-to-weight ratio, critical for flight safety and efficiency
- Reduces the need for separate redundant systems, saving weight and space



Each of the three propulsion systems drives a set of blades and are controlled by their own independent computer controller.

Designed to Work with a Variety of Aircraft Designs



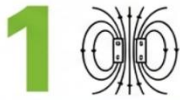
In Wing



Pylon



THE NEW STANDARD IN IN PROPULSION



PHYSICS:

The first practical application of Tri-Pole Magnetic Fields.



EFFICIENCY:

>95% efficiency using 100% of the magnet.



SAFETY:

Built-in triple redundancy for mission-critical reliability.



INTEGRATION:

A circumferential system that merges motor and propulsor.

PARANETICS™

Mission-First Engineering.

Visit: Paranetics.com

for more images and videos