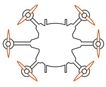
BAVOVNA

BAVOVNA AI NAVIGATION KIT

- ✓ Sensor fusion AI algorithm
- ✓ End Point Positioning Error < 0.5%
- ✓ Mission planner for GNSS-denied
- ✓ Low SWAP hybrid INS solution
- ✓ Composite radio shielding
- ✓ No maps required

AI-Driven Hybrid Navigation for UAV in GPS-denied

Fixed Wing



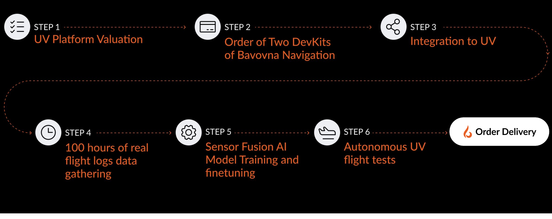
Multi Rotor

VTOL

Technical specifications

Weight:	The entire system, including IMU and AI-powered flight control, weighs only 800g, making it lightweight and easy to install on various types of UV platforms
Power:	Standard +5V power supply Max current consumption: 10A, peak of 12A, 50W, Voltage/rated input current: 4.1-5.7 V / 2.5 A, Output/input power: 14 W, USB port voltage/rated input current: 4-5.7 V / 250 mA, Servo rail input voltage: 3.3 V / 5 V
Standard Sensors:	Accelerometer, Gyroscope, Compass, Barometric Pressure, Airflow
Connectivity:	Bavovna seamlessly connects to power, CAN, PWM, RF comm, GPS, optical flow, and other sensors, providing flexibility and compatibility across UV platforms
Mission Planner:	The Bavovna Mission Planner displays Bavovna as an optional AI-powered navigation system to allow mission execution through GPS-denied / EW-threatened areas while offering an advanced API and UI based on the Ardupilot open-source platform
Flight Controller:	Bavovna uses PX Cube as the primary flight controller component, ensuring reliable and accurate control of UVs
EMI-protected Case:	Bavovna's EMI-protected case has undergone EMF resistance tests, ensuring reliability and durability in a variety of conditions
End Point Positioning Error (EPPE):	The range of EPPE is minimal with simple trajectories, without additional maneuvers. On a sophisticated trajectory, Bavovna maintains an EPPE < 0.5% at a range of 30 km.
SIGINT RF Module:	the system Bavovna can be augmented with our SIGINT RF module, enabling the reconnaissance of EM threats to ID and bypass EW and EM obstacles
No maps required:	The Bavovna system does not rely on power-hungry computer vision or unreliable maps of the flight environment

Customers Onboarding Path



Comparison to other non-GPS Systems

Type	Range	Accuracy	Nature of errors
Inertial Navigation Systems (INS)	Short	80%	Drift, biases, cumulative error of integration
Radio (eg: VOR, LORAN, TACAN)	Short	90%	Signal interference and propagation delays
Landmark (optical)	Short	95%	Environmental conditions and landmark changes
Magnetic	Short	95%	Distortion by ferromagnetic, electrical currents and geological formations
Bavovna AI-enhanced Inertial	Long	>98%	Hybrid systems can be affected by the combined errors of the systems they integrate, especially if one system's errors are not adequately compensated by others. Using continuous ML decreases the error rate.

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