



EtherCopter

Direct Georeferencing System
Overview

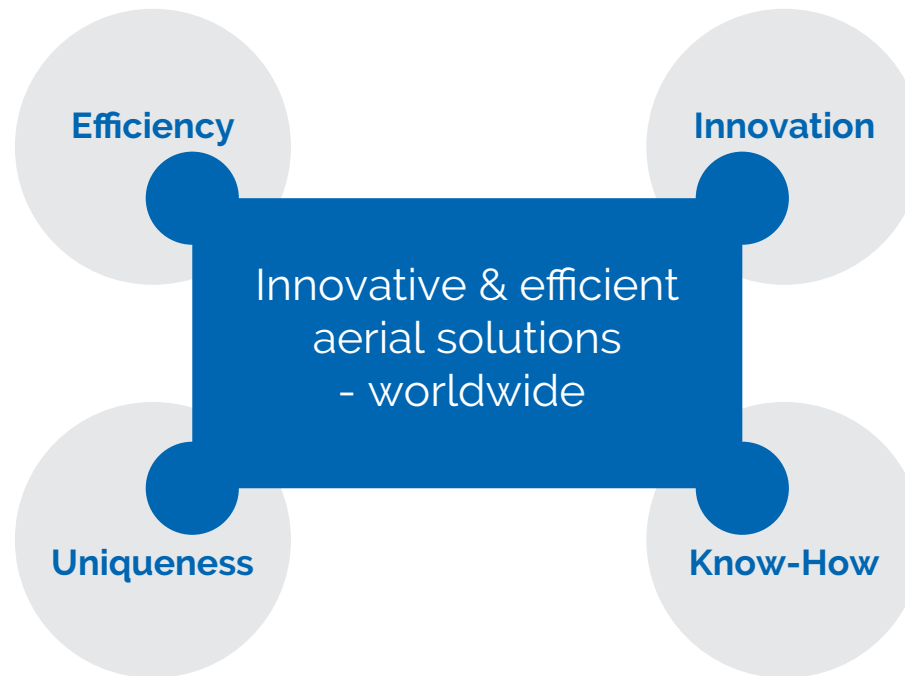
NOVARUM SKY

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Direct Georeferencing Solution

The new solution of Direct Georeferencing (DG) for use in fixed or rotary wing UAVs to allow the elaboration of georeferenced maps with very high accuracy and precision, better than 5 cm.

Reasons to choose us



EtherCopter Solution compared to market

	EtherCopter Direct Georeferencing	Currently UAV Direct Georeferencing Systems
Horizontal accuracy	=< 5 cm (GNSS L1@5Hz+correction software @2000Hz) *	=< 5 cm (GNSS L1/L2@20Hz+IMU@100Hz)*
Time to RTK FIX (Typical)	< 3 minutes	< 3 minutes
Hardware	Raspberry Pi 3 B** + GNSS L1 @5Hz MK GPS 3.5 (Mikrokopter)	Proprietary GNSS L1/L2 @20Hz + IMU
Operating modes	RTK/PPK(NTRIP, base Station)	RTK/PPK(NTRIP, base Station)
GUI	WEB Browser	Proprietary Software
Conformity	CE / FCC	CE / FCC

* Without Ground Control Points (GCPs)

** Optional Raspberry Pi Zero W

The Hardware

- > Raspberry Pi 3 B
- > MK GPS 3.5 from Mikrokopter
- > Additional telemetry radio link for long range RTK via USB interface (optional)
- > Shield Raspberry Pi Novarum Sky
- > Hot Shoe Adapter from Mikrokopter

The Hardware is easy to find in the market if replacement is needed. Software adaptable to different GNSS modules and Raspberry Pi boards.

Optional WiFi RTK

- > RTK through WiFi built-in Raspberry Pi to check RTK fix event
- > PPK for final solution after flight

With RTK solution and logic it's not necessary to have link with UAV through all the flight, it's just necessary to know when to begin the flight with RTK fix, right after the job it's possible to execute the PPK and have even better results than just with RTK.

OEM Solution

- > Suitable for any UAV and ground vehicle
- > Customized solution available

EtherCopter Direct Georeferencing can be highly customized depending on client needs. Support is guaranteed by Novarum Sky team.




Operation Interface

- > Web interface for photo georeferenced log file and GNSS raw measurements download via WiFi

RTKLIB package is used for RTK/PPK operation, it's an open-source software maintained by a large community and present high stability and reliability.



Ethercopter Direct Georeferencing - Components

	Raspberry Pi 3 B ¹ + Shield RPi B	MK GPS 3.5 + Hot Shoe adapter ²	3DR Radio (Optional) ³
Hardware Components			

¹ www.raspberrypi.org

² www.mikrokopter.com

³ 3dr.com

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