AeDrone

High resolution

AeDrone is a high performance LiDAR and photogrammetric equipment.

Light and compact

It is a solid system, light and compact.

Power consumption

The whole system has a low power consumption, more than 1 hour of autonomy.

Configuration

It allows to control up to 2 cameras: RGB, NIR, thermal, multispectral, 360°.

Centralized control

Easy to manage through a web application for mobile, tablet or PC.

Versatility

Its design lets a wide range of set-ups, several drone models, vehicles and backpacks.

"AeDrone is a compact and multifunctional system to carry out your projects"

AEROLASER
ADVANCED LIDAR TECHNOLOGIES

AeDrone

AeDrone is a high performance LiDAR and photogrammetric equipment, that allows us to carry out geospatial services worldwide, obtaining excellent results.

Thanks to the versatility of the developments, AeDrone lets us set it up in different configurations, depending on the requirements of the projects. We adapt our system to achieve all the technical requirements of the project. As well, the solid design, lightweight and its small size makes this system a multifunctional for aerial missions and mobile mapping in differentent vehicles and backpacks.

The system is configured by a laser scanner, one inertial control unit (AeCU), formed by a GNSS and IMU. It also has one PC, AePC, that controls the whole system in an easy and efficient way.

Through a web application, using a wifi conection, it is possible:

- Control, manage and configure all sensors during data acquisition.

- Check IMU, gps, laser status.

- Check batery level.

- Verify available/used storage capacity.
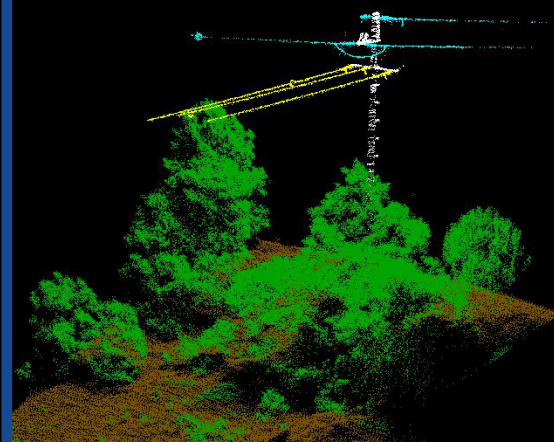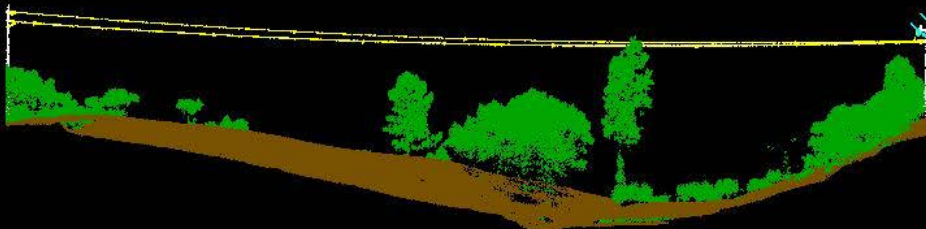
- Switch on/off the system.

In addition, the system allows to install a set of 2 cameras, RGB, NIR, thermal, multispectral, 360°. The software syncs and trigger the camera letting the user to configure it. All data can be stored on an external USB.

- All the acquired data are stored in a well organized, effective, easy and practical structure, which minimizes the post-processing job in the office.

- Storage: external USB

- Data is stored in folders by sensors. As well, each sensor save data by flight dates, sessions, flight lines. The flight lines are saved in .shp files.

- Integrated internal battery (Weight / Autonomy) from:

    - 1,590 Kg / 30min

DIFFERENT
LASER SENSORS
ARE SELECTABLE
FOR THE DRONE
CONFIGURATION

BASIC SPECS	LIVOX Mid-40	ROBOSENSE RS-LiDAR-16	VELODYNE Puck Lite
Max. Measuring Range natural targets p ≥ 20%	130 m	150 m	100 m
FOV	38.4° Circular	30° Vertical 360° Horizontal	30° Vertical 360° Horizontal
Points / second	100.000 p/s	320.000 p/s - single mode 640.000 p/s - double mode	300.000 p/s - single mode 600.000 p/s - double mode
Accuracy	± 2 cm	± 2 cm	± 3 cm
Operating Flight Altitude AGL	120 m FOV 38.4°	130 m FOV 60°	80 m FOV 60°
MODELS	AeDrone LM40	AeDrone RS16	AeDrone VLP16

Basic configurations, AeDrone

	LIVOX Mid-40	ROBOSENSE RS-LiDAR-16	VELODYNE Puck Lite
INTEGRATED SENSORS	IMU Epson M-G365 Sony Rx10 camera GNSS Tersus BX316D Antenna Tersus AX3705 AeCU_Drone Broadcom BCM283780 Internal batery 1h30m		
Weight	1970 gr	2050 gr	1800 gr
Dimensions (W. x H. x D.)	200x178x218 mm	200x178x206 mm	200x178x210 mm

Technical data

EQUIPMENT	BRAND AND MODEL	
Laser scanner	Velodyne Puck Lite Livox mid-40 Robosense rs-lidar-16	
IMU (Inertial Measurement Unit)	Sensonor STIM300, Epson M-G365, Epson M-G370,	±400deg/sec, 10g ±450deg/sec, 10g ±450deg/sec, 10g
Digital cameras	Sony RX0, DFK-38UX304,	15,3 mpx 12 mpx
GNSS	Tersus BX306 Tersus BX316D (Dual antenna)	
GNSS Antenna	Tersus AX3705	
Synchronization and power unit	AeCU_Drone	
PC	Broadcom BCM2837B0, Cortex-A53	
Software	AeDrone	
* Other sensor models could be integrated under customer request.		

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