GreenValley International

LiEagle

Helicopter 3D Mapping System

LiEagle is an aerial LiDAR surveying system designed for large area and long-range 3D data collection projects. The system is designed to be mounted to a helicopter platform and features a Riegl VUX-1LR laser scanner coupled with a best-in-class inertial measurement unit (IMU) for increased point cloud accuracy and precision. The LiEagle is well-suited for projects aiming to map terrain features beneath forest canopies and extract structural parameters from forest LiDAR data. The centimeter-level accuracy of this measurement device will meet the rigorous accuracy demands of civil engineering and critical infrastructure maintenance professionals. And an optional high-definition (50 megapixels) digital camera module can be used to generate photogrammetry products as well as true color 3D point clouds during each LiDAR survey.

Specifications

Laser Sensor	Riegl VUX-1 LR
Max. Measurement Rate	750,000 pts / sec
Scan Rate	10 Hz -200 Hz
Field of View	330°
Scan Range	1350 m @ Reflectance ≥ 60%
Flight Height	200 m
System Accuracy	Horizontal Accuracy < 10 cm
	Horizontal Accuracy < 10 cm
POS System Performance	Attitude: 0.005° (1σ)
	Azimuth: 0.009° (1σ)
Weight	17 kg
Dimensions (Main Unit)	505 * 492 * 319 mm
Power Consumption	210 W
Camera	Canon 5DSR
Acquisition Software	LiAcquire-VUX
Post-Processing Software (Optional)	LiDAR360 & LiPowerline

System Accuracy

At a flight-height (AGL) of 200 meters, the LiEagle system can generate 3D point clouds with absolute horizontal and vertical accuracies that are less than 10 cm.

Acquisition Software Supports Real-Time Navigation

GreenValley International delivers custom acquisition software with its LiEagle system which supports the importation of .kml & .xls formatted flight routes as well as a real-time flight status display for users to monitor during data collection. This easy-to-use program also allows operators to correct flight attitude induced errors and thereby improve the quality of LiDAR data collected.

Acquisition Software Supports Real-Time Navigation

The LiEagle supports a 45° inclination angle installation, which holding other operating conditions constant will increase point cloud density by more than 30% (compared to a 0° inclination angle installation). This feature makes LiEagle particularly useful to those seeking to survey powerline assets and corridors while collecting high-quality (complete) transmission tower point cloud data.