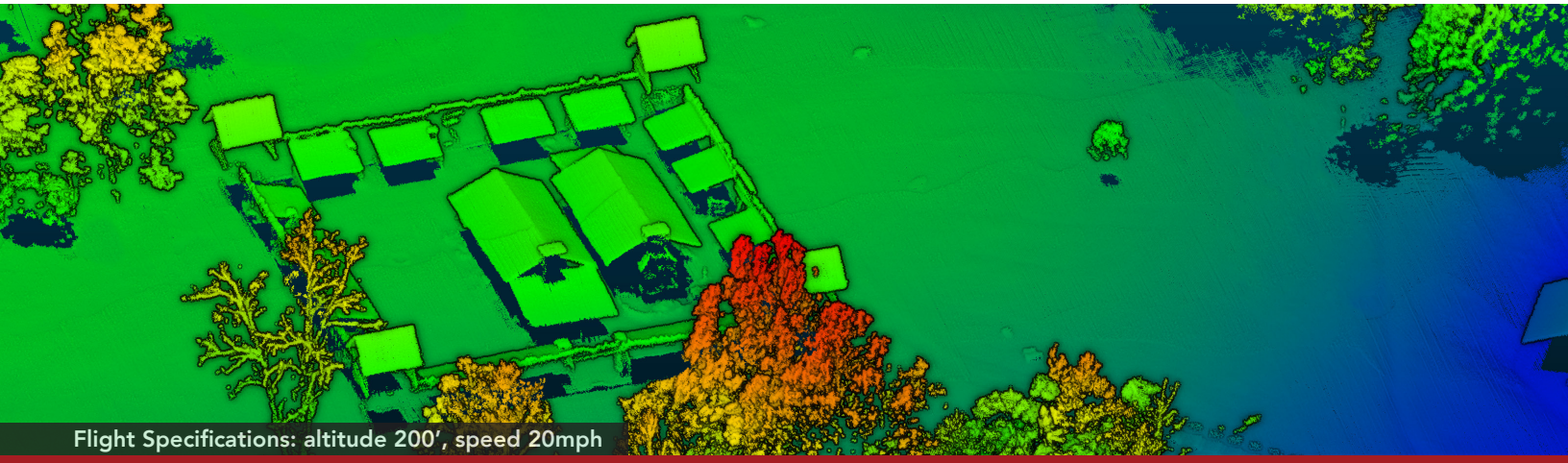
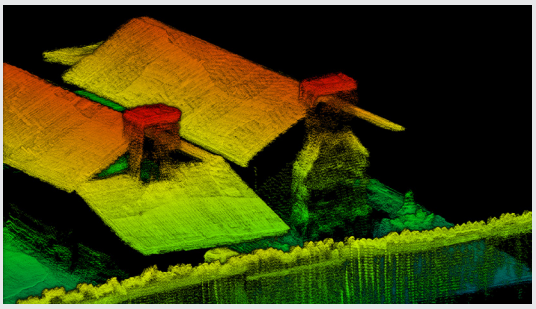
APPLICATION
HISTORIC PRESERVATION

REDTAIL LiDAR SYSTEMS



Flight Specifications: altitude 200', speed 20mph

High Resolution Images • Superior Range • High Point Density



High-Resolution Point Cloud
Flight Specifications: altitude 100', 13mph

The RedTail LiDAR System – incorporating LiDAR technology licensed from the U.S. Army Research Laboratory – is designed to provide high-resolution imaging from multicopters, hybrid, and fixed-wing UAVs.

Marrying technology and history, preservationists, historians, natural resource managers, and archaeologists are adopting the use of drone-based LiDAR to assist with the tasks of resource mapping, development, management, and monitoring.

Designed specifically for small unmanned aerial vehicles, the RedTail LiDAR System combines the agility and operability of a drone with a superior point cloud generation tool. Together, they create high resolution, highly accurate 3D point clouds of your cultural and historical sites.

The power of LiDAR imaging for historic preservation is the ability to create accurately georeferenced point clouds of historically important sites. Data collected can be used to: 1) detect large-scale features, such as mounds, foundations, and spatial patterns, 2) provide precise three-dimensional measurements of structures, 3) safely assess structures in remote and dangerous areas, 4) quickly archive documentation of structures to guide preservation and rehabilitation decisions following a disaster, and 5) when paired with GIS and 3D modeling software, can create an immersive visualization experience.

The RedTail LiDAR System is the optimal solution for cultural and historical imaging. With a pulse repetition rate of up to 400,000 pulses per second, even ground- point distribution, superior ranging capability and optimized scan angles, the RedTail LiDAR System simplifies even the most challenging of cultural and historical landscape 3D mapping missions.

Learn more at redtaillidar.com

Phone **304.306.2396** Email **sales@redtaillidar.com**

About the **RedTail LiDAR System**

The RedTail LiDAR System was designed to meet the market demand for high-quality, high-resolution point clouds from unmanned aerial vehicles. The microelectromechanical (MEMS) mirror-based technology was developed at the Army Research Laboratory (ARL) with the goal of generating accurate, high resolution point clouds over areas of interest on a single drone flight. At RedTail LiDAR Systems, our mission is to provide the optimal tool to rapidly and efficiently create superior point clouds for a broad range of commercial, academic and government customers.

The RedTail LiDAR System – Scanning the way it was meant to be.™

HIGH RESOLUTION
The RedTail LiDAR System's small beam divergence angle yields high-resolution point clouds.

EASE OF USE
The RedTail LiDAR System has been designed by a team of professionals that understands how important it is to provide a system that is easy to use and simple to integrate onto UAV platforms.

RANGE
The RedTail LiDAR System was designed with range being a critical performance attribute. Our system operates effectively against 15% reflective targets at a height of 250 feet, and 400 feet against 80% reflective targets, thereby ensuring mapping flights can be performed in a wide variety of operating environments (e.g., tall trees, buildings).

SCAN PATTERN
The RedTail LiDAR System transmits all laser pulses to the ground to optimize point cloud density. LiDAR points are evenly spaced to provide superior mapping capability.

LINE SCAN FREQUENCY AND PULSE REPETITION RATE (PRR)
The RedTail LiDAR System has a line scan frequency of 400 scans per second and a PRR of up to 400,000 pulses per second. This rapid side to side scan pattern, coupled with the high PRR, allows operators to fly faster and cover more area.

SCAN ANGLE AND SCAN TYPE
The RedTail LiDAR System was designed with an optimum scan angle of 30 degrees which enhances accuracy and data quality. In addition to side-to-side scanning, the RedTail LiDAR System can operate in a 30 x 30-degree raster scan mode which lets you focus precisely on areas of interest.

Learn more at redtaillidar.com Phone **304.306.2396** Email **sales@redtaillidar.com**