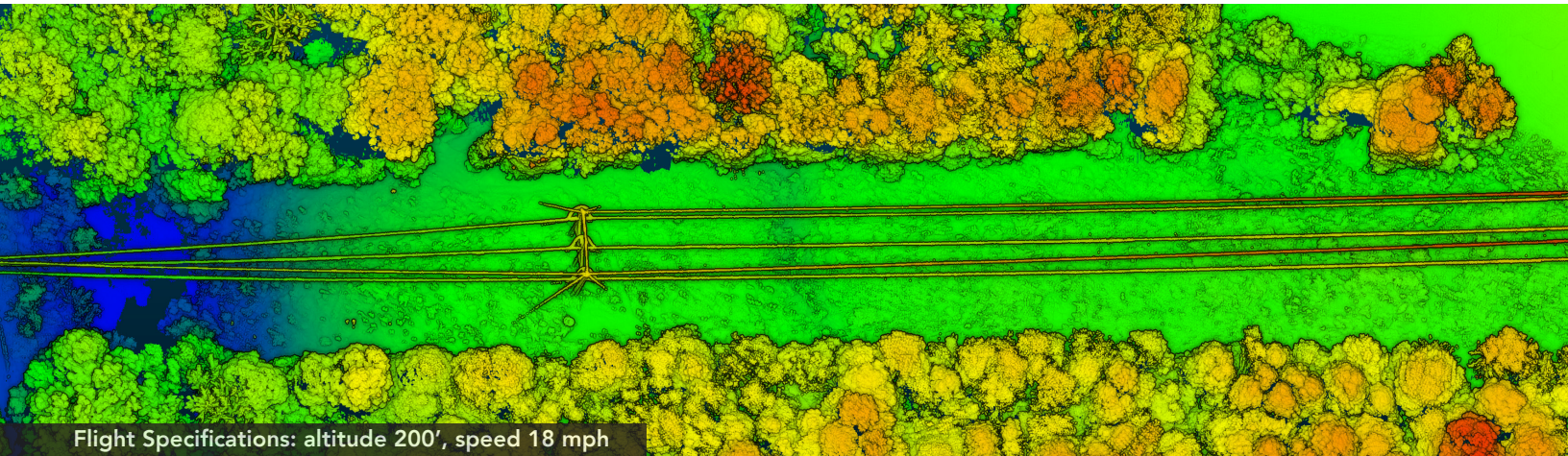


# APPLICATION CORRIDOR MAPPING

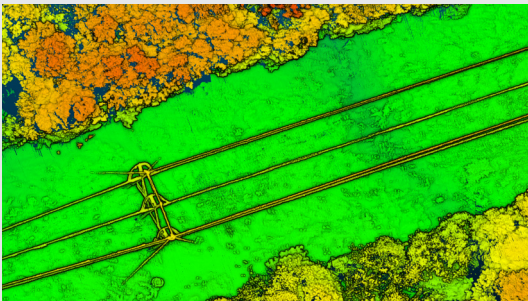


Flight Specifications: altitude 200', speed 18 mph

High Resolution Images

Superior Range

High Point Density



*Detail of High-Resolution Point Cloud*  
Flight Specifications: altitude 200', speed 18mph

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.

**Building and maintaining safe and reliable energy** and transportation corridors can present a multitude of challenges. Traversing dangerous and remote areas, as well as navigating complex urban centers, these vitally important corridors can be difficult to survey, map, analyze and monitor, putting these critical assets at risk.

**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 maps of your powerline, pipeline, highway and railway corridor projects, quickly and without endangering people.

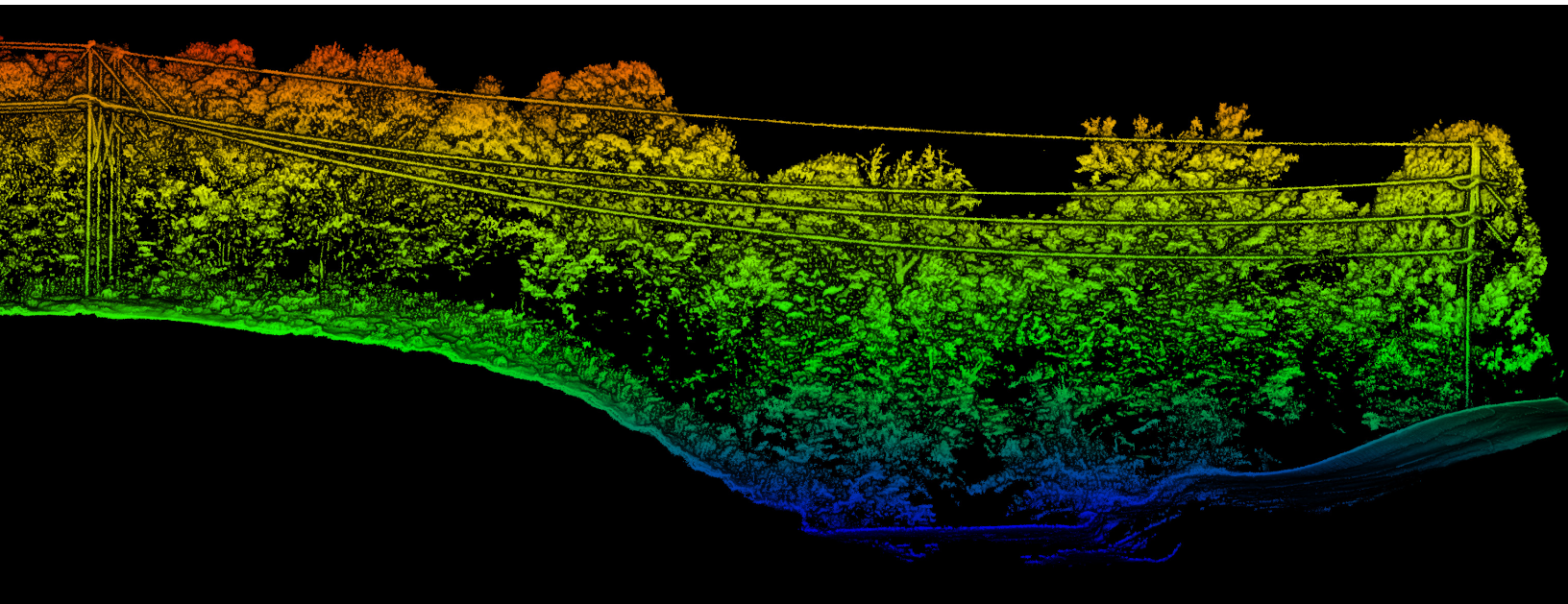
**Data collected from corridor flights** can be used to: 1) create topographic maps and boundary surveys prior to construction, 2) inspect and monitor conditions of existing infrastructure, 3) collect accurate position information of wires, structures, vegetation and terrain, 4) improve maintenance planning and scheduling for crews and equipment, 5) monitor the safety clearance area around power and pipe lines, 6) monitor environmental conditions including fault and landslide hazard detection, wetlands, and river crossings, and 7 ) assess and monitor road surface damage, and compute cross section parameters and road alignment.

**The RedTail LiDAR System is the optimal tool** to help you plan, build, and monitor your next corridor project. 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 will exceed your energy and transportation corridor needs.



# 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](http://redtaillidar.com)

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