Geosun

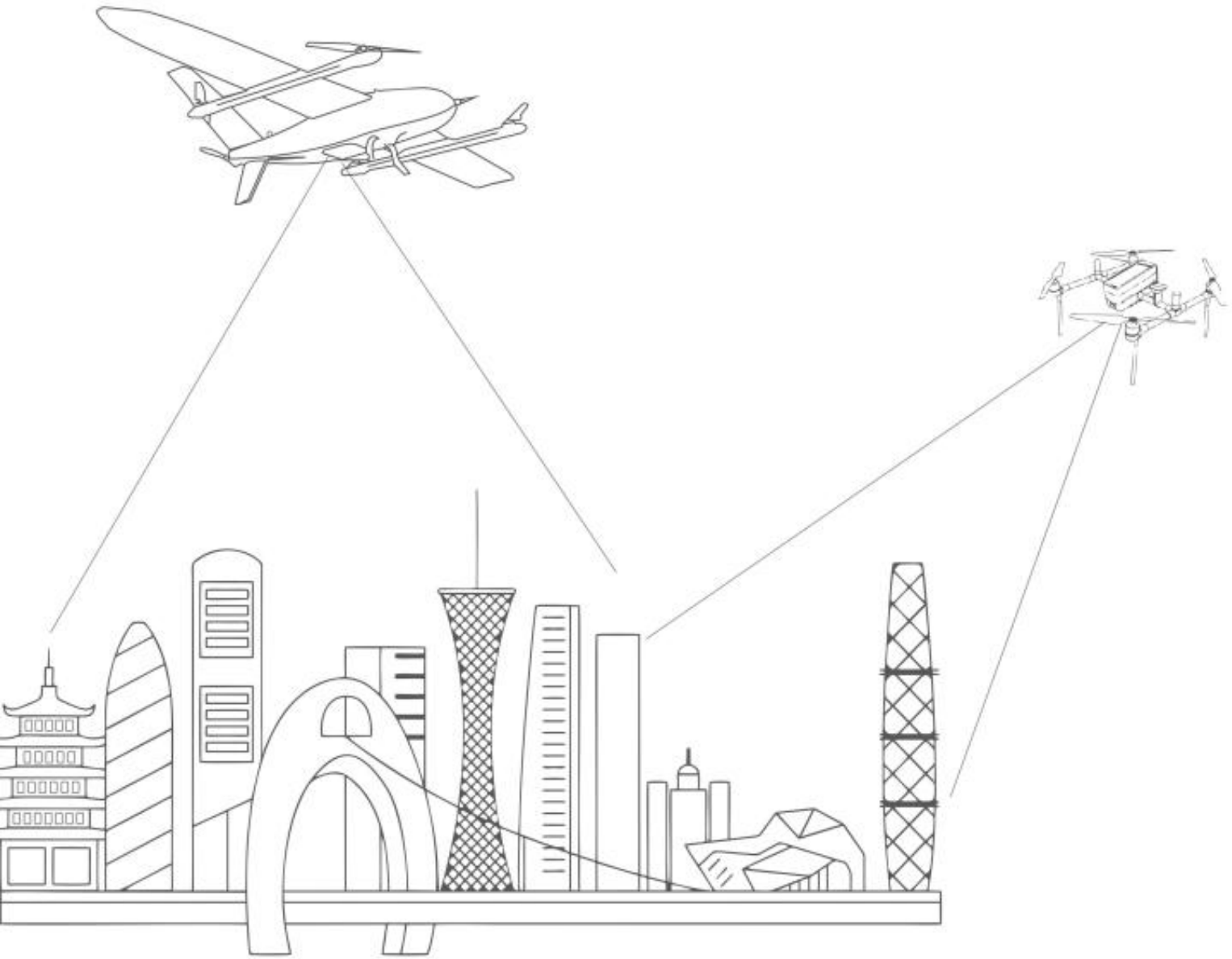
gAirHawk LiDAR Scanning Systems

About us

Geosun is a leading LiDAR solution provider who is specialized in designing and manufacturing of LiDAR scanning systems for multiple platforms.

With over 20 years of experience in GNSS/INS/SLAM technologies and world-leading POS (Positioning and Orientation System) solutions developed ourselves, Geosun is able to provide a series of high accuracy LiDAR scanning systems combining affordability and reliability.

Geosun believes that technology shall benefit more people for a better life, therefore, we strive for making the LiDAR system more affordable and applicable for the world.



Geosun

Our Mission

Make the LiDAR system more affordable and applicable

Our Vision

Help people to better understand the world we are living

Company History

2007

Geosun launched the AGS POS system and its trajectory processing software, Shuttle, becoming the only 3 POS solution providers in the world after Inertial Explorer from NovaTel and POSPack from Trimble.

2020

Extensive LiDAR line was completed covering from 100m to 1,000m detection range for mutiple platforms

2003

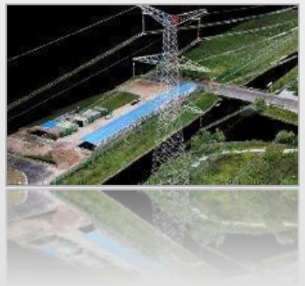
Dr. Sun led a team in China developed a GNSS real-time dynamic positioning algorithm that ensures a centimeter-lelve accuracy

2018

The first Geosun UAV LiDAR scanning system gAirHawk GS-MID40 was launched, stricking the world with its unprecedented price and performance.

2021

Integrated with RGB camera and make colorized point-cloud possible



Reward & Partner

武汉大学

OHIO STATE UNIVERSITY 1870

UNSW AUSTRALIA

University of Nottingham UK | CHINA | MALAYSIA

GDU

HESAI

LIVOX

JOUAV

国家电网公司

Why us

Affordable

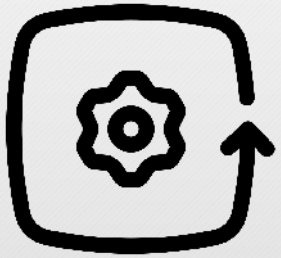
With self-developed POS solutions and trajectory processing software, we are able to provide reliable LiDAR solutions at competitive prices that none of our competitors can reach

Reliable

20 years of experience in GNSS/INS/SLAM technologies and full package of sofware developed all by ourselves will ensure you with a high level of accuracy and reliability

Adaptable

Designed for mutiple-platforms, including, UAVs, manned aircrafts, vehicles and many more.



Easy to use

Quick-installation mounting system and one-key process solution make both field work and data processing work easier for you.

Hardware
Product Overview

		 GS-100G	 GS-100C+	 GS-100V	 GS-130X	 GS-260X	 GS-1500N	 GS-1500N+	 GS-2000N
General	Size(cm)	17.2x10.6x38.9	13.8x9.1x9.4	14.2X10.9X12	14.2X10.9X12	14.4x10.9x12	23.8x10.2x13	23.8x10.2x13	24.5x14x12.5
	Weight	1.8kg	1kg	1.26kg	1.26kg	1.15kg	2.5kg	2.5kg	3.2kg
Laser sensor	Detection Range	80m@10%	190m@10%	120m@20%	120m@20%	300m Max	800m@80%	800m@80%	1500m@80%
	System Accuracy	4cm@80m	5cm@80m	4cm@80m	4cm@80m	5cm@150m	5cm@200m	8cm@400m	10cm@500m
	Ranging Accuracy	± 1.5cm	± 2cm	± 1.5cm	± 1cm	± 1cm	± 5mm	± 5mm	± 3mm
	Returns	2	3	2	2	3	5	5	7
	Point Rate/sec	320,000	240,000	320,000	640,000	640,000	100K-500K	100K-500K	100K-2000K
	Beams	16	Single Channel	16	32	32	Single Channel	Single Channel	Single Channel
	FOV	360°x270°	70.4°x4.5°	360°x31°	360°x31°	360°x40.3°	100°	100°	75°~90°
POS Unit	Pitch/roll Accuracy	0.015°	0.015°	0.015°	0.015°	0.005°	0.005°	0.003°	0.003°
	Yaw Accuracy	0.040°	0.040°	0.040°	0.040°	0.017°	0.017°	0.010°	0.010°
RGB Camera	Effective Pixel	3x5MP	26MP	26MP	26MP	26MP	26MP	45MP	45MP

GS-100G

You ultimate Handheld LiDAR Solution

Key Features

- Lightweight and compact design
- Both GNSS and SLAM support
- Designed for outdoor and indoor uses
- Internal batteries and external power supply

Included

- Laser sensor: Hesai XT-16
- POS system: Geosun AGS 302 (GNSS + IMU)
- Camera: 3x5M Pixel RGB Cameras
- Software: PointCreator Post-processing software (Pepertual license)

Optional

- CloudMapper Point Cloud Classification and Processing software

GS-100C+

You first UAV LiDAR System

Key Features

- Lightweight and compact design
- Entry-level UAV LiDAR system
- Best data quality in its kind
- One-key solution for data processing

Included

- Laser sensor: Livox Avia
- POS system: Geosun AGS 302 (GNSS + IMU)
- Camera: 26M Pixel RGB Camera
- Software: gAirHawk Post-processing software (Pepertual license)
- Mounting kit: UAV mounting kit (I.E DJI M300)

Optional

- WPM Flight Planning software
- CloudMapper Point Cloud Classification and Processing software

GS-100V

A start with versatile solutions

Key Features

- Lightweight and compact design
- Both Mobile and Aerial Solution are available
- 360 degree FOV
- Up to 640,000 Points per second (Dual returns)

Included

- Laser sensor: Hesai XT-16
- POS system: Geosun AGS 302 (GNSS + IMU)
- Camera: 26M Pixel RGB Camera
- Software: gAirHawk Post-processing software (Pepertual license)
- Mounting kit: UAV mounting kit (I.E DJI M300)

Optional

- Mobile mounting kit
- WPM Flight Planning software
- CloudMapper Point Cloud Classification and Processing software

GS-130X

Better precision and penetration

Key Features

- Lightweight and compact design
- Both Mobile and Aerial Solution are available
- Up to 1,280,000 Points per second (Dual returns)
- 0.03°×0.03° beam divergence

Included

- Laser sensor: Hesai XT-32
- POS system: Geosun AGS 302 (GNSS + IMU)
- Camera: 26M Pixel RGB Camera
- Software: gAirHawk Post-processing software (Pepertual license)
- Mounting kit: UAV mounting kit (I.E DJI M300)

Optional

- Mobile mounting kit
- WPM Flight Planning software
- PCA Point Cloud Classification and Processing software

GS-260X

The longer, the better

Key Features

- Lightweight and compact design
- 3 returns
- 300m detection range max
- Both Mobile and Aerial Solution are available

Included

- Laser sensor: Hesai XT-M2X
- POS system: Geosun AGS 303 (GNSS + IMU)
- Camera: 26M Pixel RGB Camera
- Software: gAirHawk Post-processing software (Pepertual license)
- Mounting kit: UAV mounting kit (I.E DJI M300)

Optional

- Mobile mounting kit
- WPM Flight Planning software
- CloudMapper Point Cloud Classification and Processing software

GS-1500N

Redefine survey-grade LiDAR

Key Features

- 800m max detection range
- Up to 500KHz PRR
- 210 lines max
- For UAVs and manned aircrafts

Included

- Laser sensor: LuoJiaYY FT800H
- POS system: Geosun AGS 303 (GNSS + IMU)
- Camera: 26M Pixel RGB Camera
- Software: gAirHawk Post-processing software (Pepertual license)
- Mounting kit: UAV mounting kit (I.E GS-L300)

Optional

- Manned aircraft mounting kit
- WPM Flight Planning software
- PCA Point Cloud Classification and Processing software

GS-1500N+

Make high accuracy even higher

Key Features

- 1,500m max detection range
- Up to 2,000KHz PRR
- 200 lines max
- For UAVs and manned aircrafts

Included

- Laser sensor: LuoJiaYY 1500
- POS system: Geosun AGS 304 (GNSS + IMU)
- Camera: 45M Pixel Full Frame RGB Camera
- Software: gAirHawk Post-processing software (Pepertual license)
- Mounting kit: UAV mounting kit (I.E GS-L300)

Optional

- Manned aircraft mounting kit
- WPM Flight Planning software
- PCA Point Cloud Classification and Processing software

GS-2000N

Born for aerial surveying

Key Features

- 1,500m max detection range
- Up to 2,000KHz PRR
- 300 lines max
- For UAVs and manned aircrafts

Included

- Laser sensor: LuoJiaYY 1500
- POS system: Geosun AGS 304 (GNSS + IMU)
- Camera: 45M Pixel Full Frame RGB Camera
- Software: gAirHawk Post-processing software (Pepertual license)
- Mounting kit: UAV mounting kit (I.E GS-L300)

Optional

- Manned aircraft mounting kit
- WPM Flight Planning software
- PCA Point Cloud Classification and Processing software

GS-850

New standrad of stability and duration

Key Features

- Hexacopter design
- More stability and capacity
- 65 minutes flight time (Without payload)
- Compatible with GS-100C+, GS-130X, and GS-260X

Included

- 1 x GS-850 RTK
- 2 x Flight batteries
- 1 x Controller
- 1 x Controller battery
- 1 x transport case
- 1 x charger case
- 1 x repair tool kit

Optional

- Millimeter-wave Radar Collision Avoidance System
- WPM Flight Planning software

GS-L300

More powerful is possible

Key Features

- Hexacopter Large capacity design
- Max payload 12kg
- 85 minutes flight time with 2kg payload
- Mutiple obstacle avoidance system
- Compatible with GS-260X, and GS-1350N

Included

- 1 x GS-L300
- 1 x Flight battery
- 1 x battery charger kit
- 1 x controller
- 1 x transport case

Optional

- WPM Flight Planning software

Accesories

Mapping while driving

Key Features

- Flexiable and steady
- Quick installation and easy to use
- All in one design
- Compatible with GS-100V, GS-130X, and GS-260X

Included

- 4 x air sucker
- 4 x joint coupling rod
- 1 x fixing plate
- 2 x power bank straps
- 1 x mount locker to the LiDAR device

Optional

- GNSS antenna
- Power bank

Software

Shuttle

One of the world only 3 mature and reliable POS solutions

Designed by a series of patented algorithms invented by Geosun and awarded as one of only 3 mature and reliable POS solutions in the world that is equivalent to Inertial Explorer from Novatel and Pospac from Trimble. Shuttle is able to maximize the performance of GNSS/INS hardware and ensure a superior accuracy in position, velocity and attitude for various LiDAR systems.

gAirHawk

A leading LiDAR post-processing software

Designed by Geosun with Shuttle embodied and is the only LiDAR post processing software that is able to process data with a one-key solution. Other identical features are Raw data self-recognize, strip adjustment, Point Cloud Optimization and Colorized Point Cloud.

One Package

From Planning to deliverables, we cover them all

Mission planning	UAV	LiDAR System	LiDAR post-processing software	Point Cloud processing software
WayPoint Master				PCA

Support

Demo Unit

Software Trial

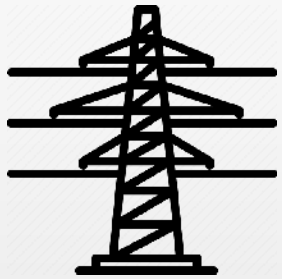
1 Year Warranty

Technical support

Application

LiDAR systems are widely used in applications such as Forestry, Power Line Inspection, Surveying & Mapping, Archaeology, and Engineering due to its rapid data collection and quick data processing for high accuracy 3D point cloud model.

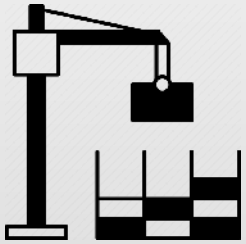
Forestry



Power Line Inspection

Mining

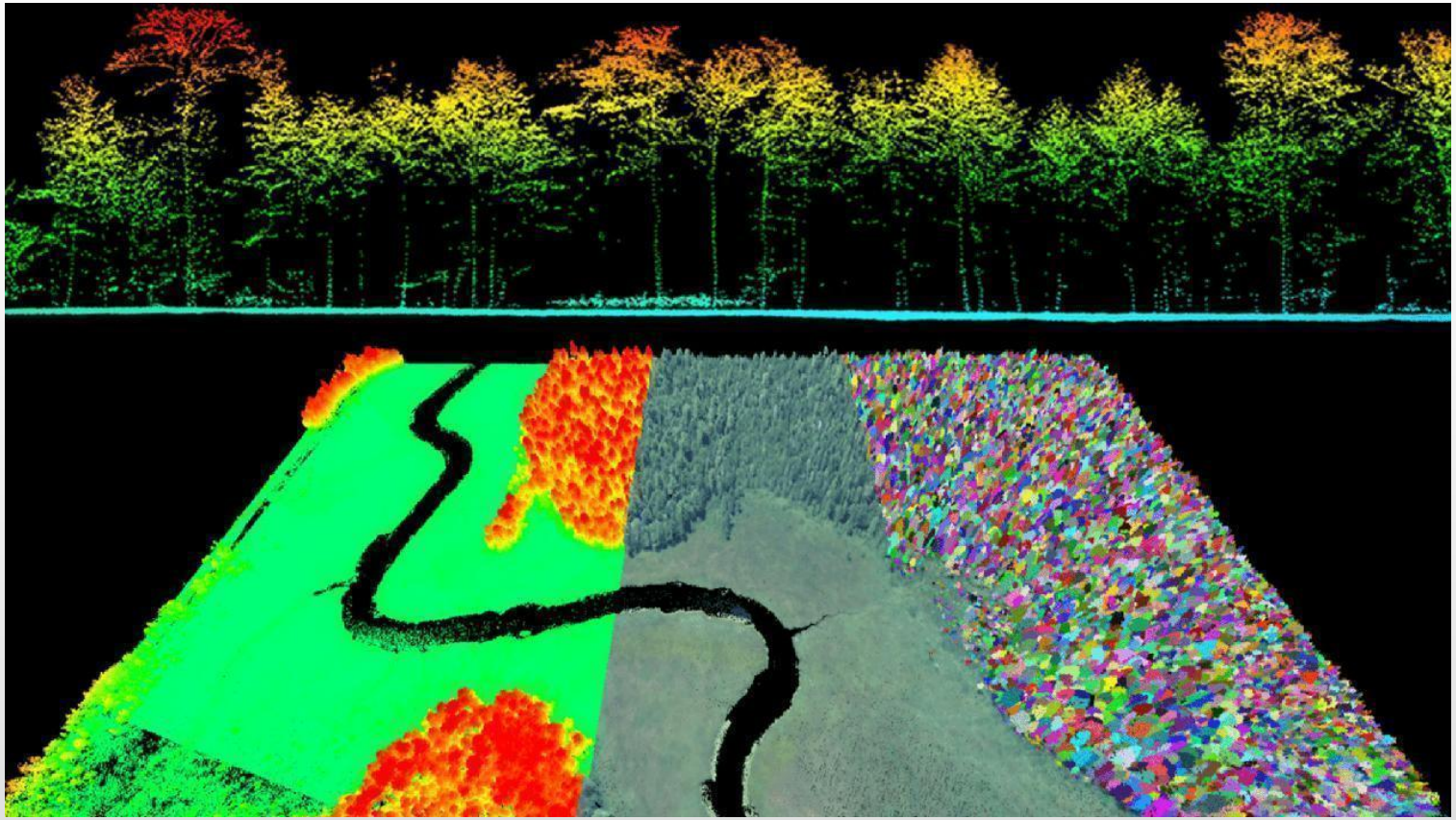
Surveying & Mapping



Engineering

Archaeology

Forestry



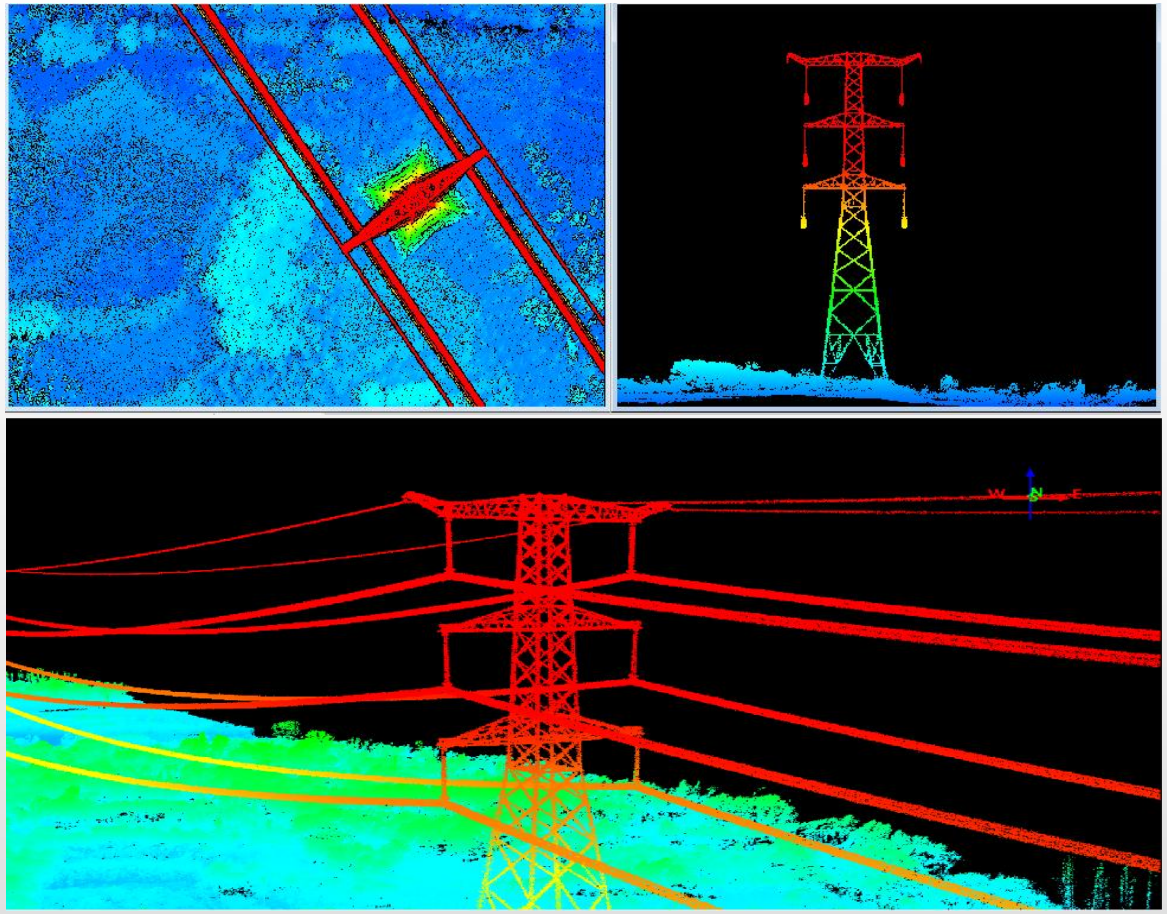
LiDAR systems have also been applied to improve forestry management. Measurements are used to take inventory in forest plots as well as calculate individual tree heights, crown width and crown diameter.
Other statistical analysis use lidar data to estimate total plot information such as canopy volume, mean, minimum and maximum heights, and vegetation cover estimates

Sample data link: GS-130X Forestry

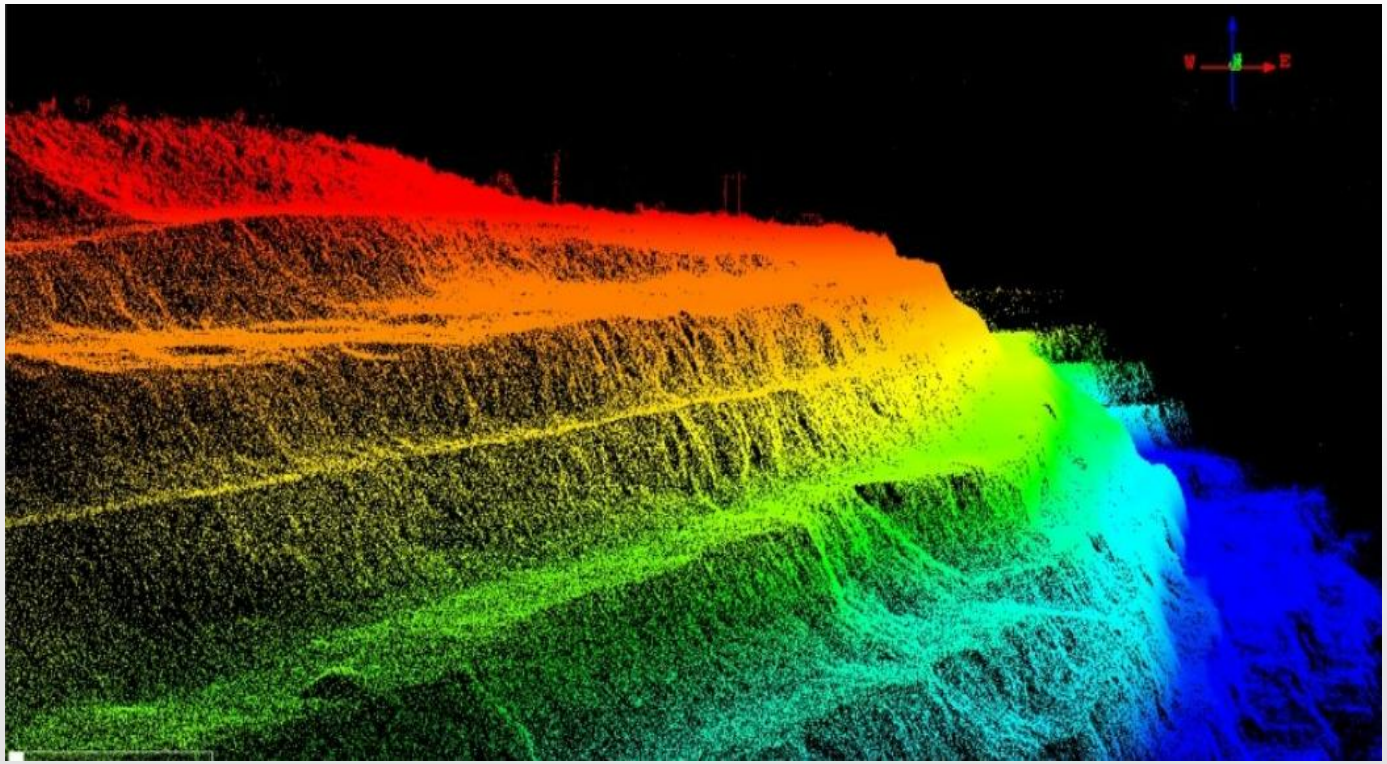
Power Line Inspection

LiDAR point clouds and 3D maps allow grid operators to measure the distance between the foliage, different vegetation and power lines. This in turn allows them to make well-informed decisions and predict the areas that will become problematic in the near future. Instead of doing large scale clearing operations, the grid operators can focus on the areas that pose the largest threat to the stability of their power line network.

Sample data link: GS-260X Power Line Inspection



Mining



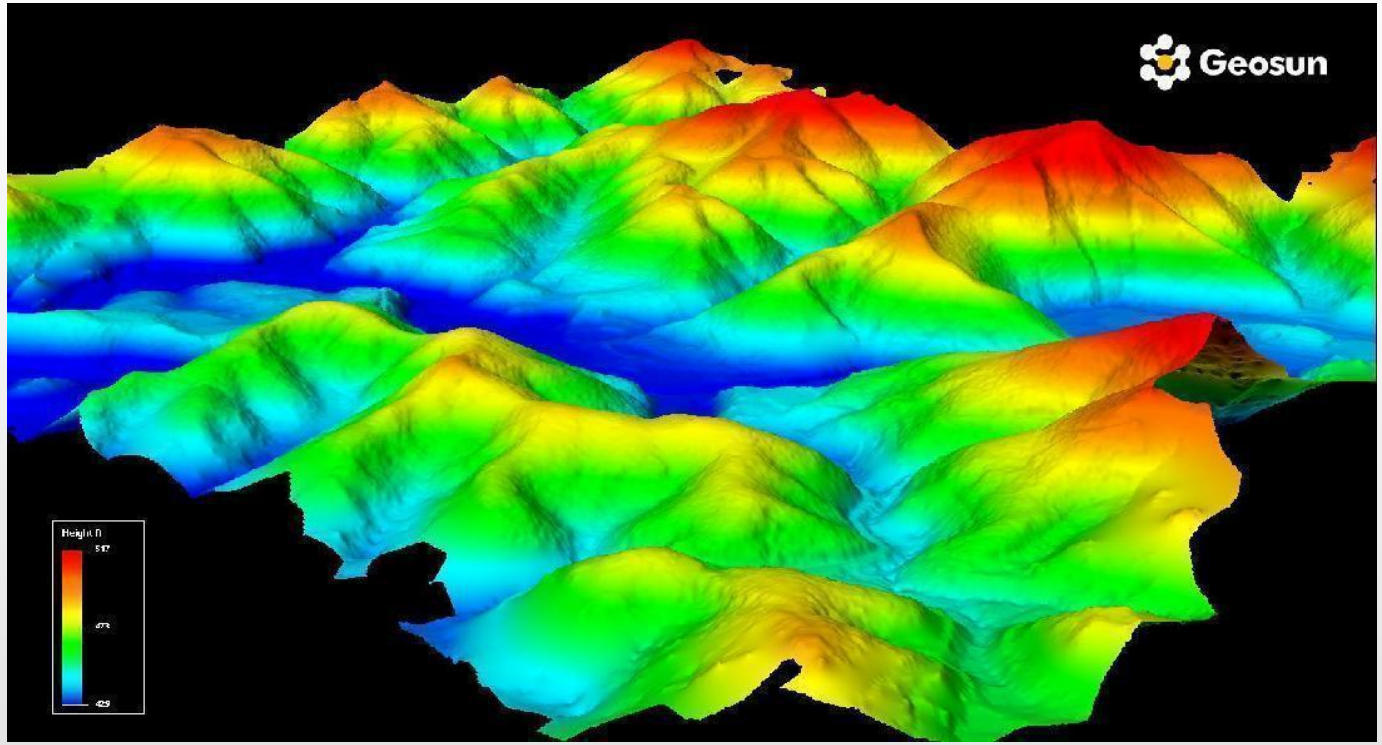
For the calculation of ore volumes is accomplished by periodic (monthly) scanning in areas of ore removal, then comparing surface data to the previous scan.

Sample data link: GS-260X Mining

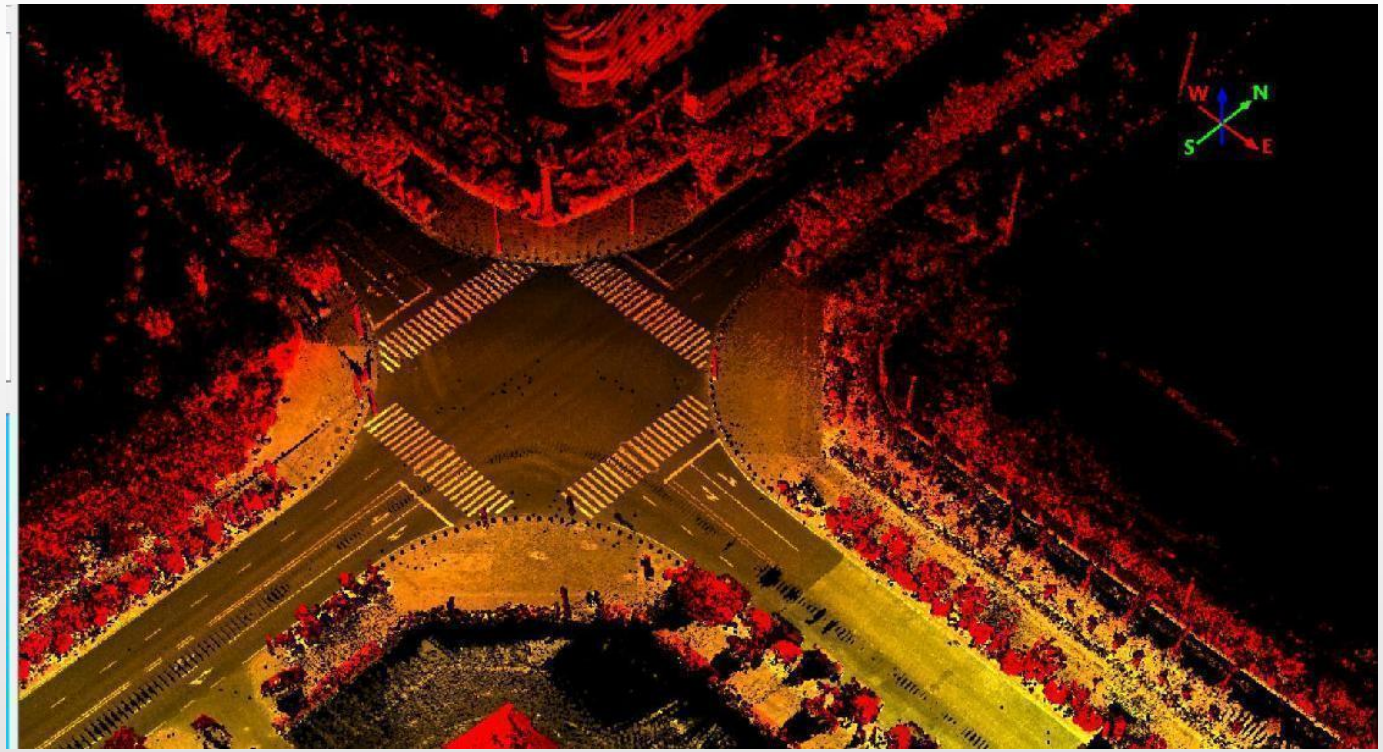
Surveying & Mapping

LiDAR are widely used by companies in the remote sensing field. They can be used to create DTM (Digital Terrain Model) or DEM (Digital Elevation Model); this is quite a common practice for large areas as Airborne LiDAR is able to cover them up in several flights.

Sample data link: GS-260X Topographic



Engineering



LiDAR scanning is an invaluable tool for accurately representing buildings interiors in vivid details. Thanks to its efficiency, speed and accuracy, it's becoming widely used in architecture, construction and design.

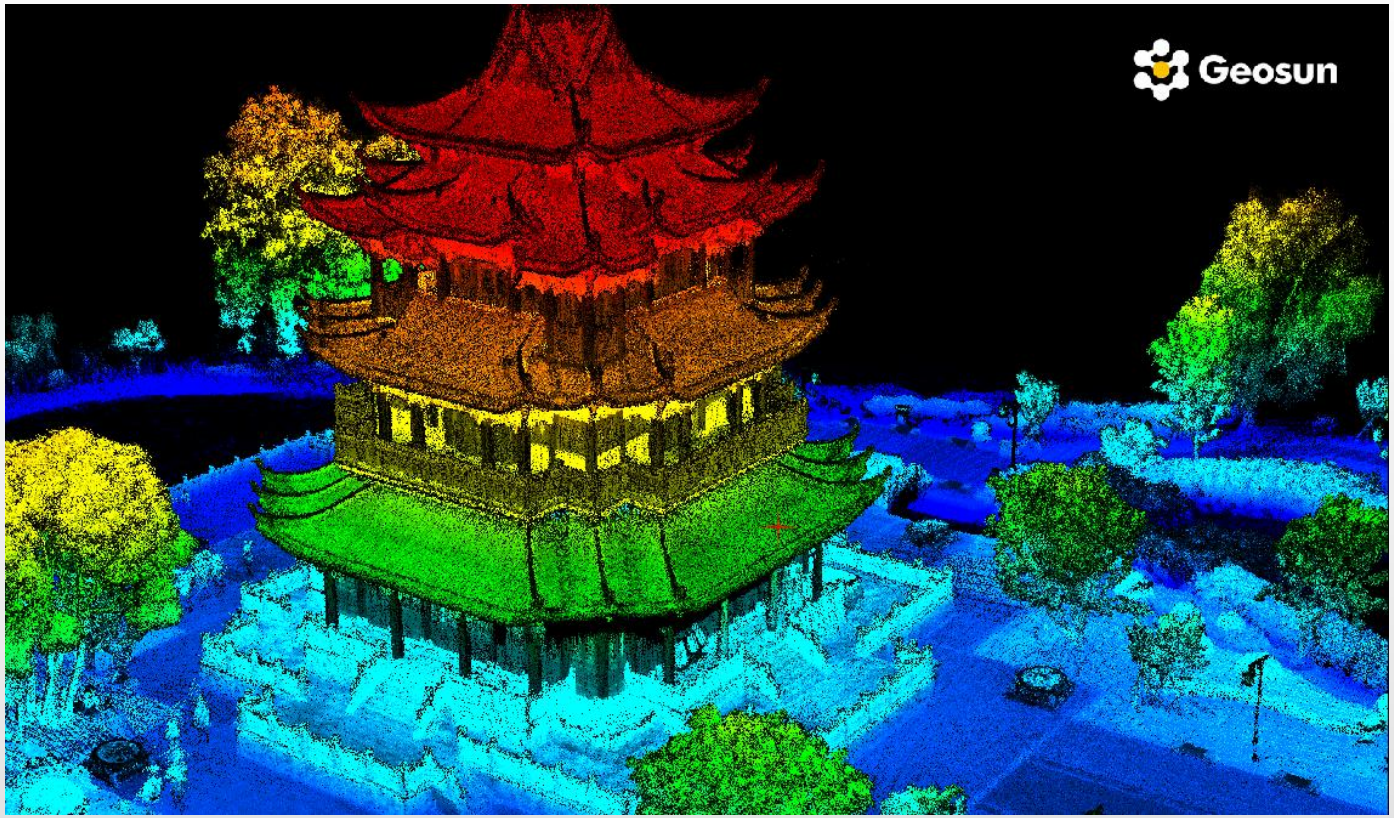
Sample data link: GS-260X Road Mapping

Archaeology

Lidar has many uses in archaeology, including planning of field campaigns, mapping features under forest canopy, and overview of broad, continuous features indistinguishable from the ground. Lidar can produce high-resolution datasets quickly and cheaply. Lidar-derived products can be easily integrated into a Geographic Information System (GIS) for analysis and interpretation.

Lidar can also help to create high-resolution digital elevation models (DEMs) of archaeological sites that can reveal micro-topography that is otherwise hidden by vegetation

Sample data link: GS-260X Archaeology



Trusted by clients around the world













Geosun

Contact us for a shared future

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