GEIGER-MODE LIDAR

RAISING THE STANDARD TO NEW HEIGHTS

HARRIS® TECHNOLOGY TO CONNECT, INFORM AND PROTECT™

HarrisGeospatial.com

Flood mapping

Land use planning and management

Transmission line monitoring

Pipeline design and maintenance

Transportation engineering and planning

Urban modeling

Asset management

Forestry analytics

GEIGER–MODE LIDAR
HOW THE WORLD WAS MEANT TO BE SEEN

After two decades of providing the U.S. Government with Geiger-mode LiDAR data, Harris Geospatial Solutions is now offering its high-resolution LiDAR data and products to commercial organizations and civil governments. This new LiDAR technology changes the way LiDAR is captured and allows for collections on a larger scale than has been possible up until now. All of this is accomplished faster than traditional LiDAR, at higher-point density, and at an affordable price.

Harris Geospatial Solutions is the only place you can get Geiger-mode LiDAR data, and we are uniquely positioned to offer end-to-end commercial geospatial products and services to our customers around the world. So whether you need point cloud data to do your own analysis or want us to deliver a finished data product so you can make better decisions, we can help.

Harris Geiger-mode LiDAR

35,000 (AGL ft)

› Low power
› High sensitivity
› Large array collection
› Collection from multiple angles
› High sample rate

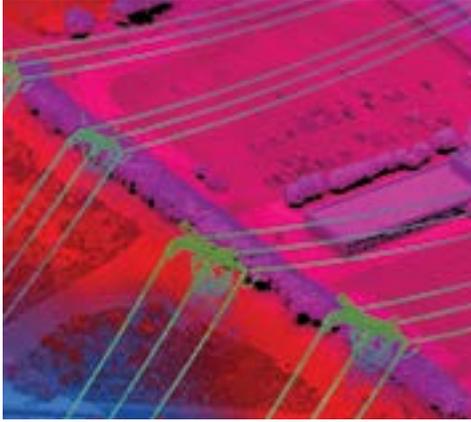Standard Linear LiDAR

8,000 (AGL ft)

› High power
› Low sensitivity
› Single pulse
› Single measurement
› Low sample rate

ACTIONABLE INFORMATION FOR YOUR INDUSTRY
ENHANCED DATA PRODUCTS FOR SMARTER OPERATIONAL DECISIONS


Utilities

For utility providers, we deliver products for full system-wide asset management and engineering, including transmission and distribution, as well as generation and substation infrastructure. One specific use for Geiger-mode LiDAR is managing vegetation encroachment on power lines. Manual methods of surveying are effective, but expensive and time-consuming. Linear LiDAR collects provide a good alternative to manual methods, but can also be cost prohibitive if you want to collect data on large portions of your corridors. With Geiger-mode LiDAR, large collections can be accomplished in a short amount of time and at a lower cost per linear mile than traditional LiDAR, offering a more precise view of where vegetation mitigation is needed to help prevent the possibility of fire and power outages.

Quickly survey utility infrastructure.

Federal and Local Governments

Flooding can happen anywhere, but certain areas are especially prone to serious flooding. Using Geiger-mode LiDAR we can identify your community's flood risk with highly accurate flood plain mapping before the rain starts. Floodplains and areas subject to coastal storm surge may experience frequent flooding while others are only affected by severe storms. Our data and products can tell you whether areas that are outside of high-risk zones may also be at risk during certain events. Changing weather patterns, erosion, and development can affect floodplain boundaries so up-to-date data is essential to determine flood hazards for your community and for properties located within it. Our Geiger-mode LiDAR data and products can give you the advanced warning you need to mitigate risks, warn population centers, and deploy assets for rescue.
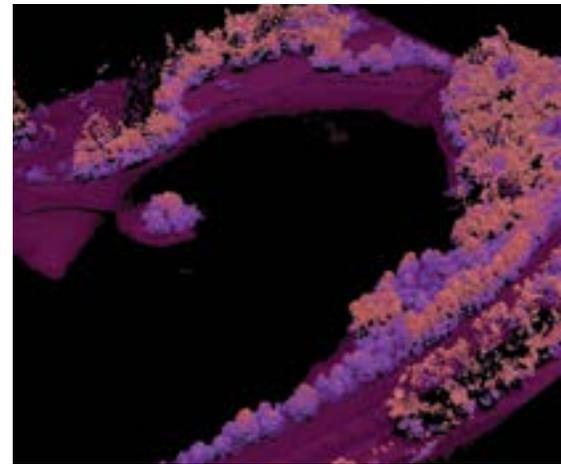
Determine flood risks.
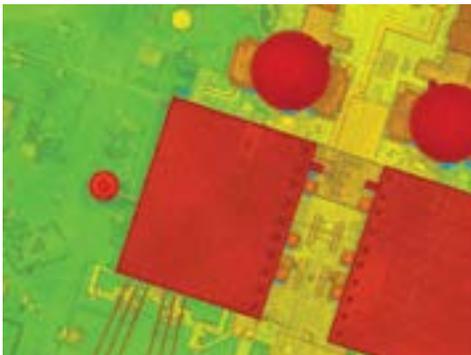
Oil and Gas

Oil and gas operations are often spread out over large areas of varied terrain. Surveying this land can be difficult due to terrain accessibility and conditions, not to mention that it's expensive and time consuming. Geiger-mode LiDAR offers our Oil and Gas customers large area data collects quickly and affordably. Our elevation products will help you make smart business decisions about the most cost-effective, efficient, and safest placement of wells, roads and pads. When you're looking to manage and maintain the health of your assets like pipelines or stacks, you won't find a better product available to keep your operation running smoothly.

Monitor your energy assets.

Insurance

Mitigating risk and serving your customers are two of the biggest requirements you face as an insurer. Sometimes it's difficult to achieve both aims simultaneously. Geiger-mode LiDAR is a cost-effective way to collect incredibly accurate inventories of building and property conditions over large areas before claims are made. Having this inventory catalog will not only help reduce fraud in the event of a loss, but you'll be able to serve your customers more reliably and with faster claim payments since you'll know exactly what was damaged and how much it will cost to repair or replace.

Extract rooftops from large areas.

Data collection

Calibration and classification

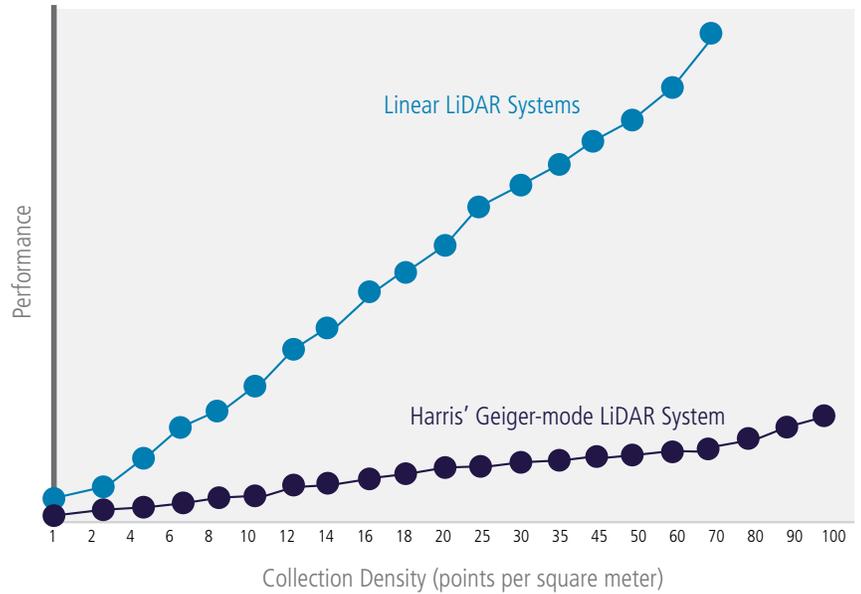Bare earth elevation

Editing

Hydro-compilation

3D modeling and visualization

Data storage and dissemination

HARRIS GEIGER-MODE LIDAR VS. TYPICAL LINEAR LIDAR

	Typical Linear LiDAR		Harris Geiger-mode LiDAR		
Density (points per meter)	2	8	2	8	20
Instantaneous Coverage Rate (mi²/hr)	190	50	1300	850	580
RMSEz (cm)	9.25	9.25	9.25	9.25	9.25
Altitude (AGL ft)	8000	4,000	35,000	27,000	18,000
Swath Width (ft)	8,800	3,300	25,000	16,000	13,000
Ground Speed (kts)	140	70	450	290	290
Samples per Second (k)	600	600	200,000		
Grayscale Reflectance Image	Yes		Yes		
Operations	Day or Night		Day or Night		

Linear LiDAR Systems

Harris' Geiger-mode LiDAR System

Performance

Collection Density (points per square meter)

1 2 4 6 8 10 12 14 16 18 20 25 30 35 45 50 60 70 80 90 100

STAY CONNECTED

HarrisGeospatial.com/LiDAR

CONTACT US

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About Harris Corporation
Harris Corporation is a leading technology innovator, solving customers' toughest mission-critical challenges by providing solutions that connect, inform and protect. Harris supports government and commercial customers around the world. **Learn more at harris.com.**

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