

RAPID LIDAR TERRAIN MAPPING SOLUTIONS

Autonomous wide-area airborne 3D mapping

Building on our history with airborne military surveillance technologies, L3Harris is providing lightweight airborne sensors that deliver high-resolution 3D LiDAR terrain mapping data including unique views under heavily vegetated areas.

Today's intelligence, surveillance and reconnaissance missions have complex requirements and a need for rapid deployment. Enabled by onboard processing capabilities, L3Harris' high resolution LiDAR terrain mapping solutions deliver 3D terrain information in near real time from unmanned or manned aerial platforms.

EXCELLENT FOLIAGE PENETRATION

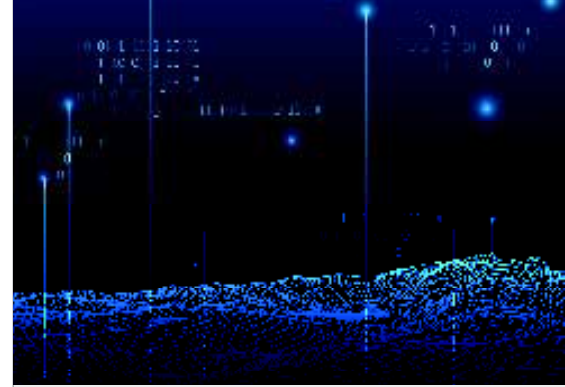
Providing best-in-class foliage penetration, our state-of-the-art Geiger-mode LiDAR sensors collect multiple looks on an area of interest in a single pass to capture obscured targets on the ground. Densely populated urban areas, thick forests or rugged mountains are easily mapped across wide areas from medium altitudes with Geiger-mode technology.

LOW-SWAP SENSOR AND ONBOARD PROCESSOR

L3Harris understands the need to conserve size, weight and power (SWaP) to successfully achieve multi-mission requirements on airborne vehicles.

Our real-time onboard processing architecture is based on L3Harris' mission proven GeoReplay® framework and state-of-the-art embedded processor solutions. This enables adaptability and upgradability of the hardware.

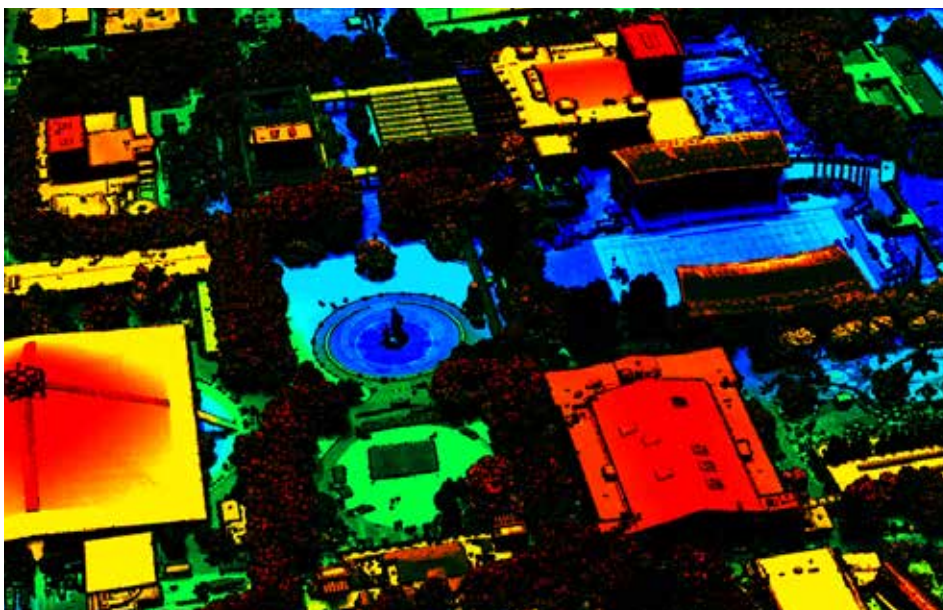
L3Harris systems enable quick-react capabilities with LiDAR processing algorithm chains and embedded processors that deliver near-real-time solutions for both manned and unmanned aircraft.



Delivering Mission Confidence

BENEFITS

- > Rapid data collection with onboard processing delivers information faster
- > Foliage penetration capabilities enable views underneath dense vegetation
- > Low size, weight and power requirements adapt to various airborne platforms



RAPID LIDAR TERRAIN MAPPING

With more than 16 years of experience in LiDAR remote sensing, L3Harris delivers state-of-the-art Geiger-mode LiDAR sensors, autonomous airborne payload integration, early onboard processing and exploitation systems, scalable ground systems, and algorithms and analytics for intelligence product delivery.

Our proven solutions across all facets of operational LiDAR systems include:

SENSOR OPERATIONS

- > Mission planning
- > Flight scheduling
- > Ground station communications
- > LiDAR asset management
- > Operation and maintenance

SENSORS

- > Radiometric modeling
- > Sensor modeling
- > 1064 nm Geiger-mode terrestrial LiDAR
- > 532 nm Geiger-mode maritime LiDAR

EARLY/ONBOARD PROCESSING

- > Sensor calibration
- > Coordinate transformations
- > Noise filtering and local statistic attribution
- > Georegistration
- > Data compression
- > 3D analytics

EXPLOITATION

- > Target detection
- > Change detection
- > Digital surface model generation
- > Automated feature localization
- > Volumetric analysis
- > Data fusion
- > Urban site models
- > Custom mission products

DATA MANAGEMENT

- > Scalable deployed ground processing, exploitation and distribution
- > Quality control
- > Custom product archives

DATA DISSEMINATION

- > Factory enterprise ground processing, exploitation and distribution
- > Service-oriented architecture-based dissemination tools
- > Custom mission-driven dissemination

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Rapid LiDAR Terrain Mapping

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L3Harris Technologies is an agile global aerospace and defense technology innovator, delivering end-to-end solutions that meet customers' mission-critical needs. The company provides advanced defense and commercial technologies across air, land, sea, space and cyber domains.



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