



Photogrammetry vs. LiDAR Mapping

Duncan-Parnell's Extended Drone Lineup Has Your Project Covered

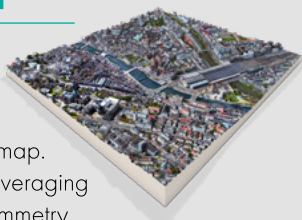


We've extended our drone lineup to include best-in-class brands like DJI, Wingtra, Inspired Flight, Quantum-Systems, and more! Whether you need an unmanned aerial vehicle (UAV) for aerial photography, surveying, inspection, public safety, agriculture, or other applications – we've got you covered.

But with so many options out there – how do you know which solution will best fit your needs? When it comes to using photogrammetry or LiDAR, there are benefits of each to consider.

PHOTOGRAMMETRY

Photogrammetry is a technique that utilizes an aircraft to capture a series of high-resolution photos, allowing for the creation of a 3D map. By overlaying these photos and leveraging multiple vantage points, photogrammetry generates a detailed 3D reconstruction that is then generated with elevation, texture, shape, and color information for every point on the map. This approach is cost-effective and provides exceptional flexibility in terms of data capture. Drones equipped with photogrammetry systems offer a versatile and affordable solution for capturing 2D and 3D data in various environments. The resulting high-resolution 3D reconstructions are valuable for numerous applications, making photogrammetry with drones a powerful tool in the field of mapping and surveying.

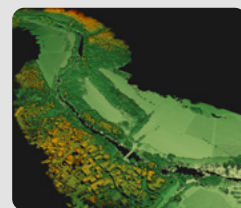


KEY FINDINGS:

- Utilizes aircraft or drones to capture a series of high-resolution photos
- Offers flexibility and cost-effectiveness in data capture
- Overlays and processes these photos to create a detailed 3D map
- Provides elevation, texture, shape, and color information for each point on the map

LiDAR

LiDAR, an acronym for "light detection and ranging," is a technology that uses laser light pulses to measure the time it takes for the light to reflect from objects on the ground. By measuring the precise timing and intensity of these reflections, LiDAR can create detailed 3D maps of the environment. Although LiDAR has been in existence for many decades, recent advancements have made it feasible for UAVs to carry heavier LiDAR payloads, making drones a valuable tool for LiDAR applications in surveying, mapping, and remote sensing.



Additionally, if mapping a highly vegetated area, LiDAR can potentially pierce through gaps in the tree cover to gather even topographical information.

KEY FINDINGS:

- Measures precise timing and intensity of reflections to create detailed 3D maps
- Offers high accuracy and resolution in capturing elevation data
- Uses laser light pulses to measure the time it takes for the light to reflect from objects on the ground
- Enables the detection of objects and terrain features with precision

For the best of both worlds, a combination of photogrammetry and LiDAR provides superior data capture and accuracy. While photogrammetry offers flexibility and high-precision photos for 3D mapping, LiDAR excels in providing precise elevation data and detecting objects with high precision. By leveraging both technologies, users can benefit from a comprehensive and accurate dataset for a wide range of applications.

The Duncan-Parnell team is committed to ensuring our customers' success through finding the solution that best fits their unique needs, as well as providing training and support for the brands we offer. Reach out to our UAV professionals today to discuss how we can best help you achieve your goals.

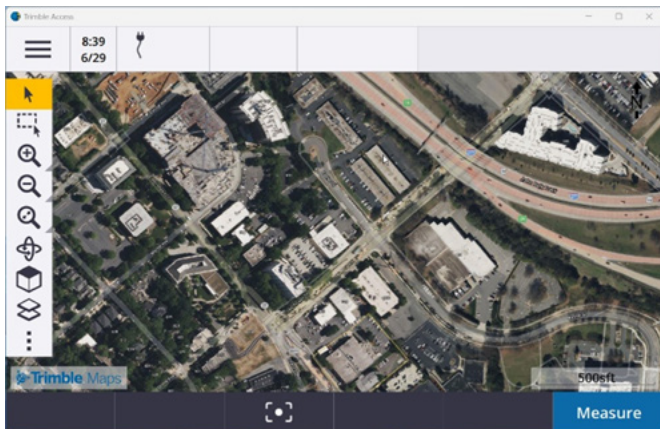
Did You Know?

UAS Policy Update: The Federal Aviation Administration (FAA) has implemented a significant rule concerning all unmanned aircraft systems (UAS) Remote Identification (Remote ID). This rule requires UAS operators to operate drones equipped with Remote ID technology, enabling the identification, and tracking of UAS in real time. All drone pilots must operate their aircraft in accordance with the final rule on remote ID beginning September 16, 2023.

For more information about on how this change could affect you, please reach out to your local sales rep or visit our website at [Duncan-Parnell.com](https://duncan-parnell.com)




TECH TIP Trimble Maps



Trimble Maps provides a simple, easy-to-use way to obtain background map imagery for your Trimble Access jobs in version 2023.00. Using Trimble Maps requires no configuration – simply connect the controller to the Internet and the Trimble Maps service can automatically provide background data for the extent of the job. Trimble Maps is available with any Trimble Access controller that has a current Trimble Access Software Maintenance Agreement or to any user who has a valid Trimble Access subscription.

To show Trimble Maps background imagery:

- 1 In the map, tap  in the map toolbar to open the Layer manager.
- 2 In the Layer manager, select the Map Files tab.
- 3 Tap Trimble Maps and then select the type of background imagery you want to view. Select from Satellite, Street, or Terrain.

EMPLOYEE SPOTLIGHT Hansel Brand



Hansel joined Duncan-Parnell in May of 2023 as a Reality Capture Business Development Representative for Georgia, Florida, and Tennessee. He graduated from Bob Jones University in 1994 with an Associate of Science degree in aircraft maintenance. While there, he earned his aircraft mechanic license (airframe and powerplant) and his private pilot license and instrument rating. Hansel earned his commercial, multiengine and flight instructor licenses at Paris Air in Vero Beach, Florida, which includes certified flight instructor (CFI), certified flight instructor instrument airplane (CFII), and multiengine instructor (MEI).

Hansel has a passion for helping and teaching others, which he pursued for 20 years as a flight instructor for commercial and private aviation. The natural progression as an aviator and thirst for learning led Hansel to study UAS systems and their use in aerial imaging for construction purposes. At Duncan-Parnell, Hansel will further his passion by supporting our UAS customers in his region.



Trimble Dimensions – Right Around the Corner

The upcoming Trimble Dimensions Conference will take place November 6 – 8, at the Venetian in Las Vegas.

The experience is meant to be much more educational than previous years, with a more streamlined approach towards teaching. This year's Trimble Geospatial session catalog is exciting, with seven different learning opportunities to choose from:

- Survey Fundamentals
- Survey Data Processing
- Survey Technology
- Scanning
- Mobile Mapping
- GIS Asset Mapping and Inspection
- Geospatial Industries



Increasing Efficiency with the ALL-NEW Trimble X9 3D Laser Scanner

The all-new Trimble X9 3D Laser Scanner has proven innovations including automatic calibration, self-leveling and a laser pointer plus new updates to enhance speed, range, accuracy, and sensitivity to do jobs better and

faster. Trimble Perspective field software completes the system with powerful in field registration workflows and full project visibility to help users with any level of experience get the job done with confidence.

The X9 is the perfect solution for all your surveying, construction, forensics, and engineering needs. With Trimble X-Drive, the new center unit is designed to optimize your performance. In comparison to the X7, the X9 increases range from 80 to 150m (about half the height of the Empire State Building), increases speed from 0.5 million pts/sec up to 1 million pts/sec, and improves angular accuracy from 21" to 16". Also included is the optimization of the calibration routine to save time and reduce frequency of full calibrations, as well as atmospheric correction for temperature and pressure.

The self-calibrating feature of the Trimble X9 will save you thousands of dollars off the long-term cost of ownership compared to other products on the market. Reach out to your local Duncan-Parnell sales rep to hear more about how this innovative new 3D laser scanning system can save you money over the next five years.



Duncan-Parnell Sponsors 8th Habitat Build

We were honored to sponsor our 8th Habitat for Humanity build in Charlotte in partnership with CADD Microsystems. After many months of hard work and dedication from our amazing volunteers, we are glad to say that the project was a major success.

The Home Dedication Ceremony, held on June 14th, welcomed the well-deserving Mohammed family to their brand-new house. During the event, Duncan-Parnell Marketing Director Brett Stern officially handed the family the keys to their home where they will be able to raise their three young children and continue to grow.

Welcome home to the Mohammed family and thank you to all those involved who helped make their dream of home ownership a reality!



GEOSPATIAL NEWS & UPDATES

Trimble TerraFlex Version 5.90

This software release introduces a new stakeout routine and a set of enhancements, making it easier to locate buried assets or points of interest in the field.

Trimble Business Center Version 5.90

This software update further advances capabilities targeted specifically at integrated and streamlined data management in Trimble's increasingly data-abundant ecosystem.

Trimble Access Version 2023.01

This new software release features enhanced Trimble maps, improved methods of linking design files, and tools for dealing with large datasets.

Trimble Perspective 3.2.1

This software update improves visualization and data quality, provides new product support for the Trimble X9, and supplies atmospheric corrections for enhanced data accuracy.

Trimble RealWorks 12.4.2

This new software version supports the X9 Laser Scanner allowing you to transfer your scan data, support additional modeling capabilities, enhance visualization, and allow faster performance with larger data sets.

Introducing Trimble SX12 with Wi-Fi HaLow Radio Technology

The new model of the SX12 provides a more reliable and robust connection-up to 14 times higher bandwidth than long-range radio, providing an easier route for scanning transfers or video streaming.



WAVELENGTHS

OVER 20 YEARS OF GEOSPATIAL NEWS / Issue 3 - 2023

In This Issue

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- Increasing Efficiency with the ALL-NEW Trimble X9 3D Laser Scanner
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Your Trimble Survey & Mapping Connection
In the Carolinas, DC, DE, FL, GA, MD, TN, VA & WV
duncan-parnell.com

Upcoming Events & Conferences

Our team will be attending the following events! Stop by the Duncan-Parnell booth to chat with us.

August 24 – 25, 2023 South Florida GIS Expo | West Palm Beach, Florida

August 29 – September 1, 2023 Chesapeake Tri-Association Conference (TriCon) | Ocean City, Maryland

September 11 – 14, 2023 WaterJAM | Virginia Beach, Virginia

September 11 – 12, 2023 Central Florida GIS Workshop | Daytona Beach, Florida

September 26 – 29, 2023 NCAUG Fall Conference | Asheville, North Carolina

September 28, 2023 Eastern Panhandle GIS Users Group Meeting | Martinsburg, West Virginia

October 2 – 5, 2023 Joint Educational Forensics Conference | Cherokee, North Carolina

October 19 – 22, 2023 Women Surveyors Summit | Stillwater, Minnesota

October 24 – 27, 2023 Greater Chesapeake Damage Prevention Training Conference | Ocean City, Maryland

October 29 – November 1, 2023 NC One Water Annual Conference | Raleigh, North Carolina

October 29 – November 3, 2023 FDIAT | Orlando, Florida

To register, or for more info on any of these events, visit duncan-parnell.com/events.

Duncan-Parnell Drone Offerings:



QUANTUM
SYSTEMS

wingtra



Parrot



YellowScan

