



LiDAR Drone Services

LiDAR — Light Detection and Ranging — is a remote sensing method used to examine the surface of the Earth. It uses light in the form of a pulsed laser to measure ranges (variable distances) to the Earth. These light pulses — combined with other data recorded by the airborne system — generate precise, three-dimensional information about the shape of the Earth and its surface characteristics.

Mattern & Craig now offers UAV/Drone lidar technology and photogrammetry services. Our in-house licensed pilots can gather, process, and classify data to produce 2D and 3D mapping. We can deliver topographic maps, GIS mapping, aerial imagery, and stockpile quantities as well as provide infrastructure inspection and site monitoring reports.

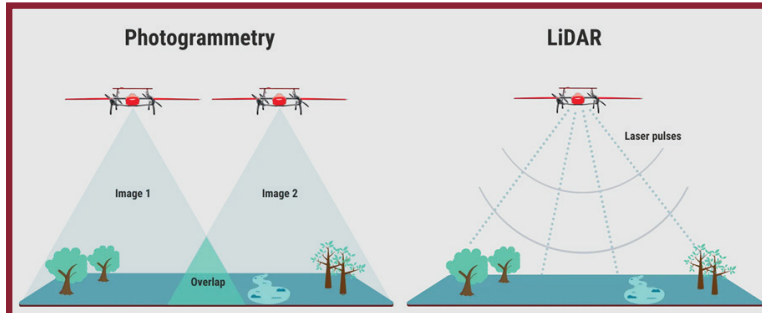


Photo courtesy of Fixar.pro

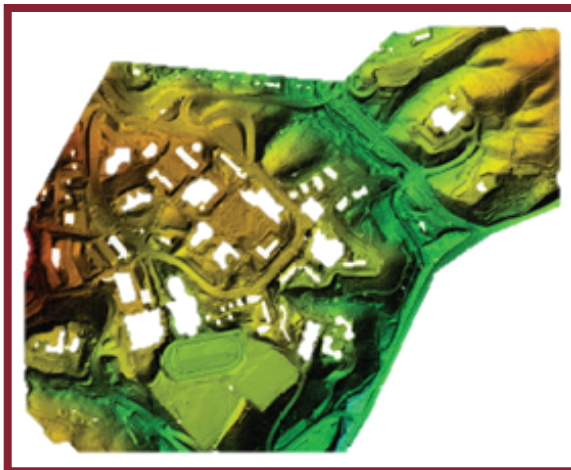
Our firm's lidar and photogrammetry unit utilizes the Wispr Ranger Pro drone, an American-made product safe to use at sensitive infrastructure sites. The lidar unit and camera have an estimated flight time of 20 minutes per battery, allowing approximately 25 acres per flight.

We have combined the Wispr Ranger Pro with an Inertial Labs RESEPI Hesai XT32 lidar unit. This unit has a spread angle of 120 degrees, granting more coverage in less time. If needed, it can easily produce contours at .05' accuracy. It is equipped with a 24-megapixel Sony camera, enabling us to generate photogrammetric aerial imagery at the same time we create the point cloud.

Mattern & Craig has multiple DJI Phantom 4 drones for photogrammetry projects not located near sensitive infrastructure sites. We utilize Trimble-121, survey-grade GPS equipment ensuring the highest accuracy point cloud data and aerial imagery. This technology gives us the ability to tie projects to current state plane coordinates and perform quality control and assurance on our data.



3D - Robert's Road ALTA, Asheville, NC



UNC Asheville Digital Terrain Model (DTM)



Wispr Ranger Pro Drone