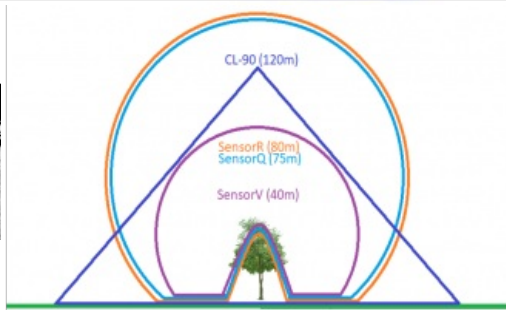
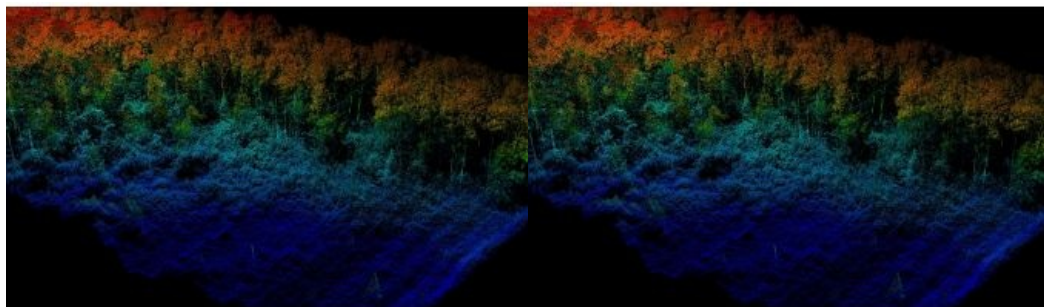


Teledyne Optech Introduces UAV-Lidar Solution



The Optech CL-90 is the first in a new family of compact Lidar (CL) products designed specifically for the unmanned aerial vehicle (UAV or 'drone') market drawing on Teledyne Optech's 45-year Lidar heritage. The CL-90, which is infused with Teledyne Optech's survey-grade Lidar technology, will be available for integration with third-party inertial navigation system (INS) solutions, imaging sensors and UAV platforms.

Any camera-equipped UAV can make a basic 3D map of bare terrain using photogrammetric techniques, but forested terrain requires a Lidar to punch through the foliage and map the bare earth below. Modern UAV-based Lidar systems struggle with this task due to their wide beam divergence and low-powered lasers, leaving holes in the user data.

Low measurement noise

The CL-90 uses Teledyne Optech's high-power, low-divergence Lidar technology to achieve foliage penetration that is – according to the company – unparalleled at its price point. Whether they are surveying an obscured ruin in dense jungle or doing a pipeline easement assessment that requires a detailed ground model, CL-90 users can be sure that it will minimize data holes and collect the best bare-earth model possible.



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Another benefit of Lidars over camera systems is their low measurement noise, which is critical for tight-tolerance engineering applications. However, most Lidars aimed at the UAV market suffer from 'fuzzy' data due to low shot-to-shot precision.

Based on Teledyne Optech's decades of Lidar research, the CL-90 offers 5mm shot-to-shot precision and retains this precision even at altitudes up to 120m (400 feet). Right out of the box, users can achieve crisp, survey-grade data for asset inspection applications, including powerline and transportation corridor mapping.

Lidar data from higher altitudes

Wasted time is wasted money, and the [CL-90](#) offers an excellent return on investment. Other Lidar systems must fly close to the ground to avoid sacrificing accuracy and foliage penetration, but this reduces the area covered per flight line. According to Teledyne Optech, their high-power Lidar technology enables the CL-90 to collect data from much higher altitudes than comparable Lidars without compromising on data quality, thus helping operators to finish their projects on time and on budget.



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Moreover, many UAV-based Lidar systems use 360° models that waste most laser shots by firing them into the empty sky. The CL-90 uses a scanner mirror to aim its laser at the ground and avoid wasted shots. This lets the operator collect points at the required density in a single pass, where other sensors might need to make multiple passes.

For decades, Teledyne Optech has provided high-quality Lidar solutions for the airborne, mobile and static markets. Now, Teledyne Optech's signature power, precision and efficiency are in the hands of UAV operators too.



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<https://www.gim-international.com/content/news/teledyne-optech-introduces-uav-lidar-solution>
