

Deploy the Drones!

Chances are you either have a drone or know of a firm deploying them. For two years running, the single largest purchasing intent of LIDAR Magazine readers has been UAS/UAV! Unmanned systems are fast becoming the “sea change” tech of this era—we’ve highlighted a wide variety of developments in this edition.

As sensors evolve, one can only imagine where we’ll end up. In 2050, will humans carry anything or will autonomous systems roam our skies and tunnels, capturing and transmitting conditions to some lone operator? Sounds like a lot of standing around, or sitting, for someone (hopefully human)... Yet another industry “transformed by robotics and automation”!

For the time being, the difference between unmanned systems and previous tech revolutions is one of accessibility. The costs and associated learning curve pales in comparison to early 90’s GNSS or 3d laser scanning circa 2000. For commercial flyers, what barrier the FAA presented is all but gone thanks to Part 107, a.k.a. the “Small UAS rule”; Part 107 certification is available to anyone willing to invest a few hours. Most see this as a good thing, considering the amount of commercial drones in U.S. skies is expected to increase ten-fold by 2021, totaling 400,000+.

In our last edition, Lewis Graham’s column titled “If I only had a LIDAR...” succinctly addressed when and where LIDAR is best utilized on a drone at this time, at least in the case of small area projects. In short, the dense image matching (DIM) approach that’s commonly utilized is effective but cannot penetrate canopy; lower end LIDAR sensors, originally designed for things such as collision avoidance may present cost savings but struggle with open pits, complex construction areas and mine sites. The highest end sensors can do it all but remain cost prohibitive for most. In industry parlance the “tech is there” but with some manipulation... Lurking in the shadows are focal plane array (linear) sensors and other technologies that could potentially change everything in just a year’s time. We’re lucky to have Lewis on-board and appreciate his analysis of ever-changing conditions.

While some view drones as “the latest toy”, for the most part, the recent stream of low-cost, remotely guided units harkens the arrival of a new generation of sensors. Countless doors have opened for GeoTech professionals willing to specialize and adapt. Someone still has to sign those drawings and seal those plats!

Enjoy the magazine,



—Allen E. Cheves // Publisher

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