Another Arrow in the Technology Quiver

International LiDAR Mapping Forum (ILMF) 2016 in Denver Colorado will certainly go into the books as the most successful yet with just over 900 attendees, an outstanding lineup of speakers, presentations and panels …and, probably the most active and prolific exhibition ever.

Some of the biggest news at ILMF was the announcement that Hexagon had agreed to purchase SigmaSpace Corporation, headquartered near Washington, D.C providing a unique LiDAR technology called Single Photon LiDAR (SPL) enabling 3D data collection at much higher speeds and resolution than conventional systems.

Speaking of Single Photon LiDAR, one of the most anticipated presentations this year was "*PROJECT RESULTS: USGS EVALUATION OF SINGLE PHOTON AND GEIGER-MODE LIDAR TECHNOLOGY FOR 3DEP*" Chaired by Dr. Qassim Abdullah, Senior Geospatial Scientist at Woolpert Inc. Panelists included Dr. Jason Stoker, Physical Scientist, US Geological Survey—National Geospatial Program; Amar Nayegandhi, Director of Remote Sensing, Dewberry; and Jayna Winehouse, Contracting Officer Technical Representation, US Geological Survey.

The USGS National Geospatial Program (NGP), in collaboration with other Federal agencies in the 3DEP Working Group are evaluating capabilities and limitations of the single photon LiDAR and Geiger mode LiDAR technologies to meet their requirements. This session revealed the findings and recommendations.

The USGS presented their preliminary findings however Jason Stoker pointed out that the results are already obsolete due to the introduction of new sensors. Bottom line is point densities and relative accuracies of these two sensors are more than adequate for the USGS and non-vegetated vertical accuracies are well within the USGS specification. Unfortunately, point densities and vertical accuracies for both sensors when performing collects in dense vegetation did not perform well.

The conclusion from the USGS that the new technologies show definite potential but warrant additional testing and to continue to learn about, adapt to, and help these systems come into full compliance with their specifications, and that they will adapt specifications where needed.

So, for all those doomsayers who are predicting the disruption of the LiDAR industry by single photon and Geiger mode LiDAR technologies and the demise of Linear mode LiDAR are premature in their assessment. Back in the 90's, folks were claiming that LiDAR would lead to the demise of photogrammetry … Now photogrammetry is claiming it can replace LiDAR … UAV's to replace airplanes and helicopters …and, high resolution satellites would replace aerial photogrammetry! We all know that all those rumors have been greatly exaggerated and that all these new tools will just be another arrow in the technology quiver.

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