



Applanix and STORMBEE Deliver Unique Solution for UAV-based Airborne LiDAR Mapping with DG



The STORMBEE S20 laser scanning system integrated with Applanix’s Direct Georeferencing brings maximum efficiency, accuracy and performance for LiDAR surveys from unmanned vehicles

Airborne survey is undergoing a revolution. Historically, LiDAR-based aerial surveys were impractical for all but the very largest unmanned systems due to the:

- size-weight and power constraints of unmanned craft
- requirement to measure position and orientation with very high degree of accuracy for direct georeferencing of the point cloud

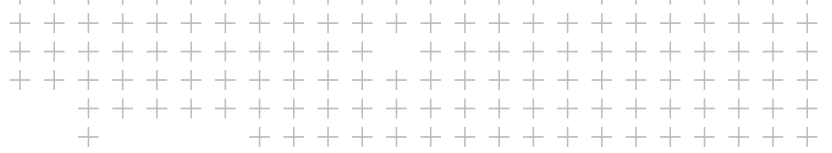
Today, due to Applanix’s development of small, lightweight and low powered Direct Georeferencing (DG) solutions, airborne LiDAR scans from small drones are not only possible, they are practical, cost effective, highly accurate, and are excellent options for LiDAR surveys.

Solution

Trimble APX-20 UAV GNSS-Inertial System

Embedded High Performance GNSS-Inertial Solution with Dual IMU’s in a compact form factor. It is designed to reduce the cost and improve the efficiency of mapping from Unmanned Aerial Vehicles (UAVs).





An Integrated Solution with Applanix DG

The STORMBEE S20 is a directly georeferenced UAV LiDAR solution for 3D Industrial Mapping applications, designed to collect survey grade spatial data in a significantly more cost effective and efficient way than static LiDAR.

STORMBEE S20 uses the best in 3D mapping technologies including: Faro's S350, Applanix's APX-20 UAV, Applanix's POSPac UAV (GNSS/ Inertial Post-Processing software) and STORMBEE's proprietary BEEFLEX post-processing software for LiDAR Point Cloud Generation.

Need/Challenge

Industrial applications (GNSS denied environments) pose unique challenges for laser scanning using traditional static systems, due to obstructions and poor signal environments. These issues lead to increased costs and operational time.

Solution

By using the high-performance Applanix Direct Georeferencing technology, STORMBEE provides an accurate real-time and post mission solution for all motion variables.

Applanix DG for UAVs – designed and built for unmanned aircraft

Applanix has brought together its decades of experience in multi-frequency, multi-constellation Differential GNSS and inertial based positioning and orientation with the very best in small-form factor hardware and powerful software, to produce a DG solution for professional aerial mapping on UAVs.

About STORMBEE

STORMBEE is a pioneer in mobile LiDAR technology. It engineers, designs and manufactures customized application solutions in-house. STORMBEE's compatibility with FARO 3D scanners is a unique concept that offers market value worldwide.

About Applanix

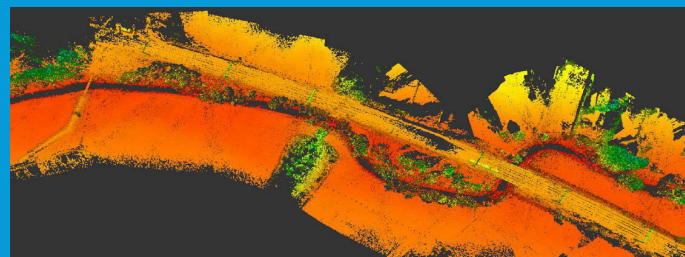
Applanix, a Trimble Company (NASDAQ: TRMB), develops, manufactures, sells and supports products and solutions for mobile mapping and positioning. Applanix's products and solutions are used in a variety of applications, including road profiling, GIS data acquisition, aerial surveying and mapping, railroad track maintenance and seafloor mapping. Established in 1991, Applanix supports its growing global customer base with exceptional service.

RESULTS

With a system delivering better than 5 cm accuracy (RMS) and high resolution, 1 – 2cm relative accuracy, STORMBEE and Applanix offer unequalled 3D detail from a platform moving at speeds up to 15 m/s. The STORMBEE S20 leverages Applanix's decades of experience in Direct Georeferencing of LiDAR systems to collect the most accurate 3D data.

BENEFITS

- ▶ Compact, Easy-to-Operate and Cost-Effective
- ▶ Easy click-off solution for LiDAR
- ▶ LiDAR can be used stationary and aerial
- ▶ Centimeter Level Mobile Positioning Accuracy for 3D Mapping Products
- ▶ Improved Productivity — with optimized workflow from data capture to georeferenced point cloud generation — final products generated within hours



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