



# Microdrones and Applanix Deliver Turnkey High-Accuracy Surveying



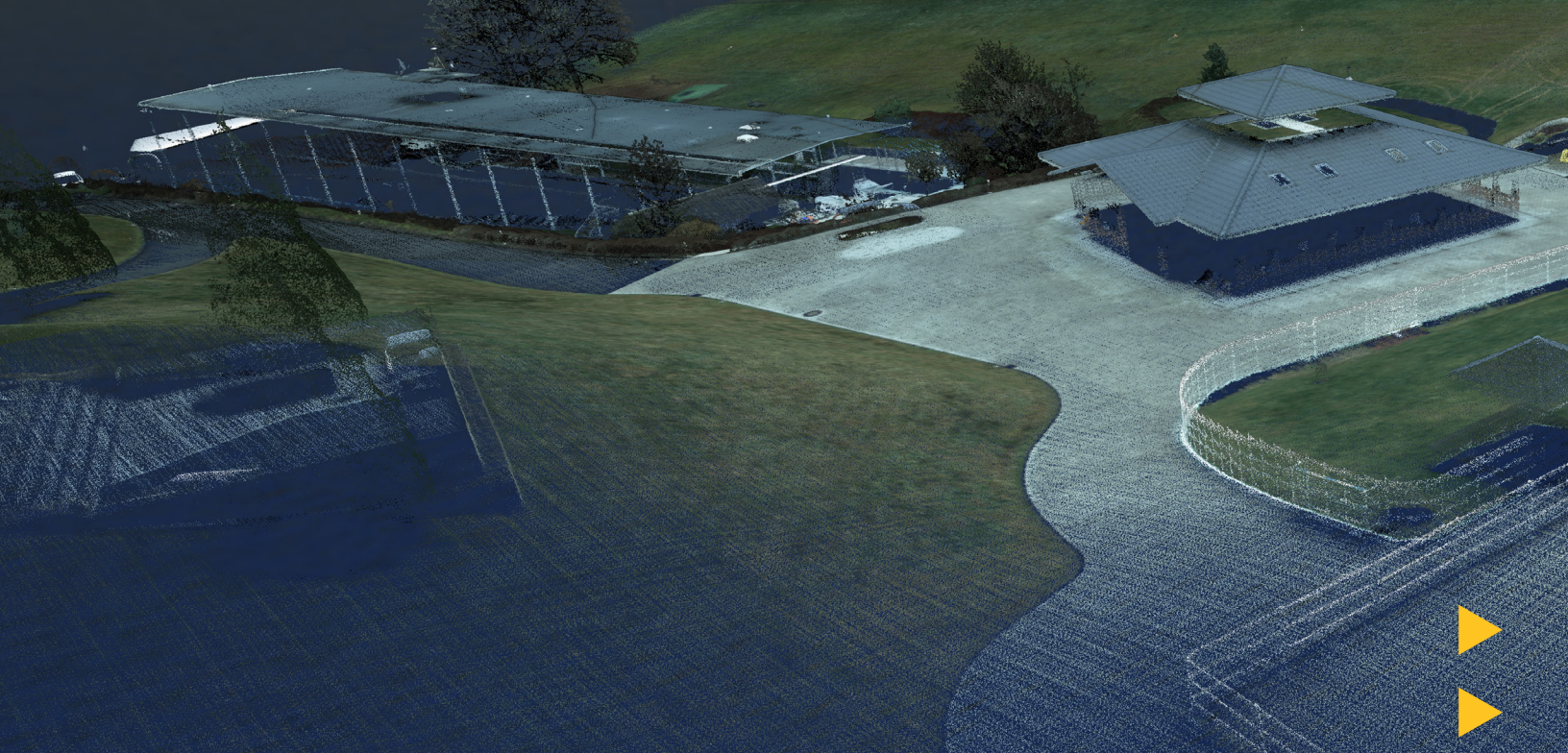
## Microdrones and Trimble Applanix Lay the Groundwork for More Streamlined Surveying

Combining their years of expertise and industry experience, Applanix and Microdrones came together to give surveyors a turnkey solution that delivers high-accuracy post-processed data.

### Solution

A full hardware and software solution for aerial mapping from a UAV

Create survey-grade point clouds in difficult terrain with a simplified workflow that seamlessly takes you from capturing data to downloading fully post-processed high-accuracy data.



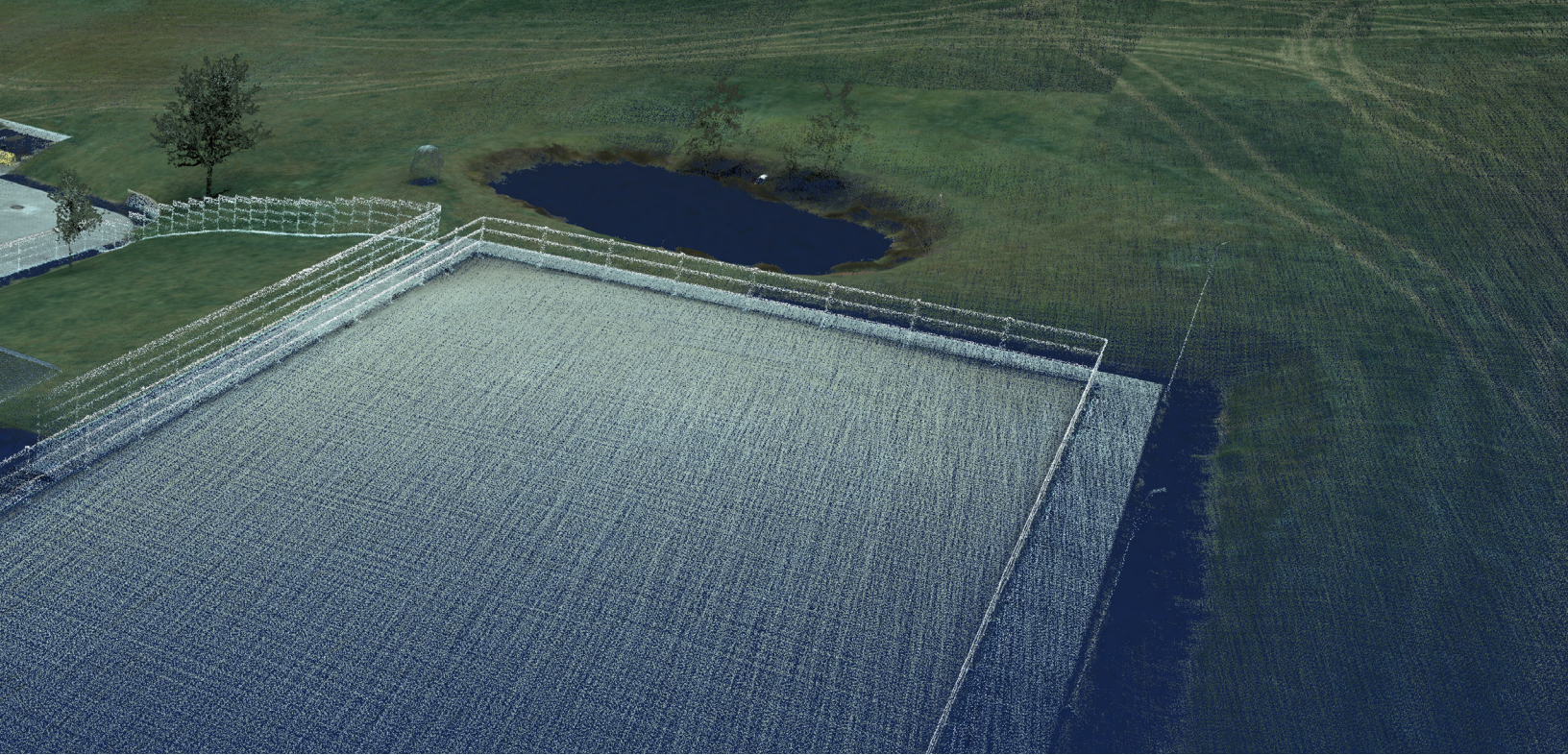
## CHALLENGE

Surveyors tasked with collecting and analyzing data from the field can face a myriad of challenges. From inclement weather to uneven terrain, paired with the added inefficiencies of inputting and then analyzing data, a standard survey project can easily extend to several days of work.

Utilizing a drone or other uncrewed aerial vehicle (UAV)

to survey an area can be an alternative option to avoid demanding environments in the field. But Microdrones®, a leader in drone LiDAR and photogrammetry surveying equipment and software for geospatial collection and processing, was challenged to deliver point cloud data according to updated survey grade standards.

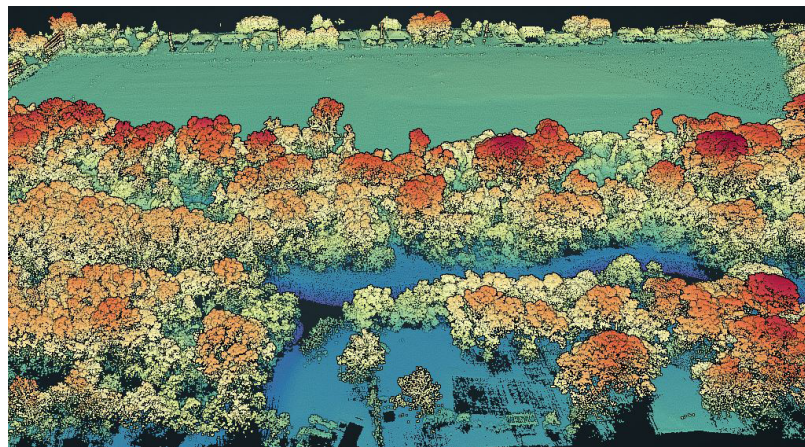
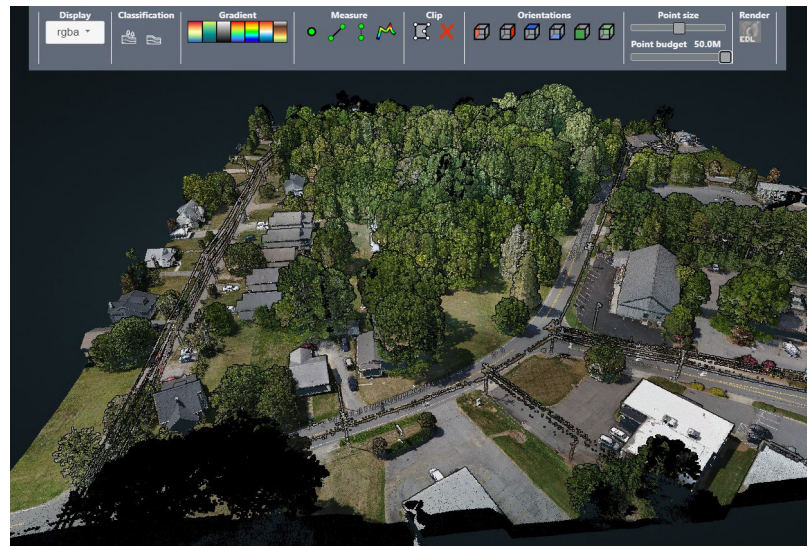




## SOLUTION

Microdrones needed an expert in Direct Georeferencing solutions for UAV implementation and a partner who understood multiple sensor implementations. So Microdrones contacted Applanix®, a Trimble® company and a leader in high accuracy Direct Georeferencing of LIDAR data.

Together, Microdrones and Applanix integrated Applanix's POS (Positioning and Orientation) technology. As a prerequisite to implementation, Applanix needed to meet specific requirements to reduce the weight of the hardware, while keeping the accuracy and performance of the inertial measurement unit (IMU). Applanix' APX UAV solutions were designed with this in mind - high accuracy georeferencing units which meet the size/weight/power requirements of a UAV, resulting in professional survey-grade aerial mapping solutions for a UAV.



## APPROACH

The partnership began by combining the powerful and versatile airframe from Microdrones with industry-leading LiDAR georeferencing technology from Applanix. This initial step offered cost and time efficiencies for many mapping tasks. Microdrones could provide their geospatial customers with a fully integrated system to rapidly capture accurate LiDAR data for surveying, mining, construction, oil and gas and precision agriculture industries.

### Seamless Workflow With Cloud-based Data Processing Through POSPac UAV Cloud

Following the success of their initial collaboration, Microdrones and Applanix moved to empower customers to deploy the full hardware and software solution. Incorporating Applanix's GNSS IMU technology allowed Microdrones to seamlessly integrate GNSS-inertial data processing as part of the overall mapping workflow. Additionally, by integrating the Applanix POSPac Cloud system, Microdrones gave surveyors access to the most accurate and simplified georeferencing data available in post-mission. By simplifying the workflow - fly the drone, upload the data to POSPac cloud, and then download the final data - Microdrones was able to capture a broader client base beyond early adopters. The quick, uncomplicated and inexpensive process made it easier and more affordable for surveyors to have access to everything for complex surveying work.



“Together, Microdrones and Trimble Applanix deliver a unique product for surveyors to safely collect highly accurate data. Our turnkey solution drives time and cost efficiencies without compromising quality.”

## ABOUT POSPAC UAV CLOUD

POSPac Cloud is a cloud-based version of POSPac MMS/ POSPac UAV available to OEMs. POSPac Cloud allows seamless integrations of GNSS-inertial data processing for OEMs as an integrated part of the overall mapping solution. The interface to the cloud service is performed via an API, enabling data collected from the Applanix hardware (eg. the APX OEM boards) to be processed through the internet. POSPac Cloud SaaS (software as a service) employs a pay-per-use model.

With Applanix's integration, Microdrones now delivers a range of advantages via mobile mapping from the air:

- ▶ Improved safety
- ▶ Highly accurate mapping
- ▶ Efficient workflow
- ▶ Turnkey integrated solution

Working together, Microdrones and Applanix have created a first-of-its-kind affordable solution for surveyors to gain access to drone LiDAR technology.

Prior to Applanix's partnership with Microdrones, it was cost prohibitive for small to midsize companies to invest in high quality, accurate, drone LiDAR technology. Now, surveying professionals can afford a high quality product like the mdLiDAR1000HR to complete survey projects quickly, safely and profitably while using mdInfinity to process geospatial data quickly and efficiently.



VIVIEN HERIARD-DUBREUIL  
CEO of mdGroup



NORTH AMERICA  
Trimble Inc.  
10368 Westmoor Drive  
Westminster CO 80021  
USA

Applanix Corporation  
85 Leek Cres  
Toronto ON  
Canada

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