POSPAC UAV

NOW WITH POST-PROCESSED CENTERPOINT® RTX™ SERVICE

POSPac UAV is Applanix' industry-leading differential GNSS-aided inertial post-processing software for georeferencing data from the Trimble APX series of board sets flying on small UAVs. POSPac UAV turns your UAV into a low-cost, highly efficient, professional grade mapping solution compatible with cameras, LiDAR and other mapping sensors.

DIRECT GEOREFERENCING FOR UNMANNED AERIAL VEHICLES

POSPac UAV coupled with a Trimble APX UAV GNSS-inertial system delivers the benefits of Direct Georeferencing to aerial surveyors flying small UAVs:

- ▶ Achieve high accuracy position and orientation ready for map production, minutes after data collection
- ▶ Eliminate or reduce the need for Ground Control Points
- ▶ Fly less sidelap for greater effciency
- ▶ Map inaccessible and dangerous areas remotely with lower cost

WHY POST-PROCESSING?

POSPac UAV post-processing produces a higher accuracy and more robust georeferencing solution that can be generated in real-time, all within minutes of flying.

- ▶ It uses "gap-free" dedicated base station data or that from a CORS service instead of corrections over a radio link that can be jammed or interrupted.
- ▶ It uses the inertial data to bridge outages in the rover GNSS receiver data to ensure a continuous, gap free position and orientation solution.
- ▶ It improves the accuracy of both the position and orientation (especially heading), by running the data forward and reverse in time.
- ▶ Map without base stations using PP-RTX subscription service

INDUSTRY LEADING SOFTWARE

- ▶ POSPac UAV is integrated with Applanix' industry leading IN-Fusion™ GNSS-Aided Inertial processing technology for:
    - · robust, centimeter level position and orientation information worldwide without reference stations
    - · maintaining full accuracy before and after GNSS outages
    - · no restriction on minimum number of satellites
    - · fly turns without limiting bank angles => faster turns
- ▶ POSPac UAV also includes Applanix SmartBase Cloud for generating a set of observations for a virtual base station exactly where and when you need it, and emails it to your inbox ready for Differential GNSS processing (where available)

YOUR BENEFITS

- ▶ Reduced acquisition costs
- ▶ Reduced re-work costs with "know before you go" in field quality control
- ▶ Faster production
- ▶ Better accuracy
- ▶ Increased utilization
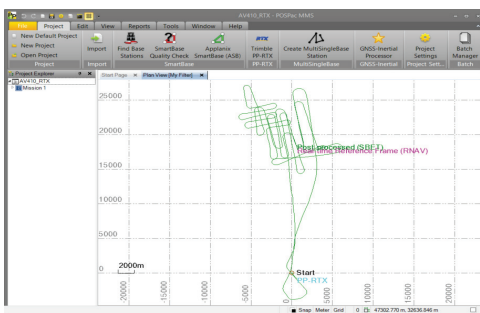
For more information, visit:
www.applanix.com/products/dg-uavs

Key Features

- ▶ cm-level post-processed DGNSS position accuracy
    - · removes the need for Ground Control Points in aero-triangulation (AT)
    - · achieve cm level accuracy in LiDAR point cloud
- ▶ Accurate GNSS position translation from Antenna Phase Center (APC) to sensor origin
    - · eliminates the need to estimate offset in AT which results in better accuracy
    - · obtains cm level accuracy in LiDAR point cloud
- ▶ High accuracy orientation
    - · strengthens the geometry in the AT block which reduces or eliminates sidelap
    - · obtains cm level accuracy in LiDAR point cloud
- ▶ Speeds up processing time of AT by improving point matching success and blunder detection
- ▶ 200 Hz Georeferencing solution
    - · filters out bad GNSS observables
    - · improves heading accuracy
    - · reduces interpolation errors to sensor sampling times
- ▶ Automatically survey in dedicated base stations direct from POSPac using Trimble CenterPoint® RTX™
    - · streamline map production workflow
- ▶ Full transformation support
    - · user selectable datums and projections
    - · transformation to camera Exterior Orientation
- ▶ Optional PP-RTX subscription for mapping without base stations (Fast Regions)
- ▶ Optional LIDAR QC Tools for UAV module for LIDAR
    - · Boresight calibration
    - · LiDAR-based Corrected SBET trajectory
    - · Point Cloud generation

applanix
A TRIMBLE COMPANY