POSPAC UAV CLOUD

CLOUD BASED POST-PROCESSING SOFTWARE FOR ON-DEMAND TRAJECTORY GENERATION

POSPac UAV Cloud is an online differential GNSS-aided inertial post-processing software for georeferencing data collected from cameras, LiDAR, and other sensors on Unmanned Aerial Vehicles.

An online version of Applanix' industry-leading POSPac UAV desktop software, POSPac UAV Cloud is optimized for fixed-wing and rotary UAV platforms and compatible with a variety of mapping sensors. Featuring the Post-Processed Trimble CenterPoint® RTX™ Service for centimeter-level positioning without base stations, POSPac UAV Cloud is available as an Application Program Interface (API) intended for Original Equipment Manufacturers (OEMs) to allow seamless integration of high accuracy Direct Georeferencing and trajectory refinement as part of the overall mapping workflow.

DIRECT GEOREFERENCING

POSPac UAV Cloud 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

WHY POST-PROCESSING?

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

- ▶ 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.

INDUSTRY-LEADING SOFTWARE

POSPac UAV Cloud 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 the minimum number of satellites
- ▶ fly turns without limiting bank angles, resulting in faster turns

YOUR BENEFITS

- ▶ Reduced acquisition costs
- ▶ Faster, streamlined production
- ▶ Better accuracy
- ▶ Increased utilization
- ▶ Eliminate the complexity of desktop license management

Key Features

- ▶ Simple-to-use API with XML interface and credential manager
- ▶ Pay-per-use licensing
- ▶ Post-Processed Trimble CenterPoint® RTX™ Service
    - – saves the cost of setting up dedicated reference stations
    - – map in areas without the availability of CORS or VRS networks
- ▶ Centimeter-level post-processed DGNSS position accuracy
    - – removes the need for Ground Control Points in photogrammetric adjustment SW
    - – achieve centimeter-level accuracy in LiDAR point cloud and bathymetric data
- ▶ Accurate GNSS position translation from Antenna Phase Center (APC) to sensor origin
    - – eliminates the need to estimate offset in LiDAR or photogrammetric adjustment SW which results in better accuracy
- ▶ High accuracy orientation
    - – strengthens the geometry in the photogrammetric adjustment process which reduces or eliminates the need for sidelap
    - – obtains centimeter-level accuracy in LiDAR point cloud and bathymetric data
- ▶ Forward/reverse processing to optimally bridge GNSS outages
- ▶ 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 directly from POSPac using Trimble CenterPoint® RTX™
    - – streamline map production workflow
- ▶ Full transformation support
    - – user selectable datums and projections
    - – transformation to camera exterior orientation

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