Applanix POSPac 9 FAQs

Frequently asked questions

1. What is Applanix POSPac 9?

Applanix® POSPac™ 9 is the latest release of the Trimble® Applanix aided-inertial post-processing software for mobile mapping applications. POSPac Mobile Mapping Suite (MMS) can be used to process data from the Applanix POS, AP, AP+, and APX product lines. POSPac UAV can be used to process data from the APX line of products to generate direct georeferencing of UAV/Drone mapping sensors. Users can input data collected from surveys and increase accuracy during post-processing, as well as use a suite of tools available to generate precise mapping products for a variety of sensors.

2. What are the new features and benefits of POSPac 9?

For a complete list of new features and benefits, please see our information sheet, or log into the Applanix Support Hub and read the release notes. Major features include the introduction of the Applanix IN-Fusion®+ processing mode, PP-RTX 2, the optimization of navigation initialization in GNSS-denied areas, improved LiDAR Quality Control (QC) Tools, and the continued use of Term Licenses to increase flexibility.

3. What is IN-Fusion+?

The new IN-Fusion+ processing provides improved performance through the use of multi-satellite and multi-frequency GNSS constellations that have recently become available. IN-Fusion+ provides improved quality in difficult GNSS environments (up to 100% improvement), provides faster convergence times for PP-RTX 2, and increases robustness and reliability.

To take advantage of IN-Fusion+, the POS, AP, AP+ or APX receiver must have the new signals and frequencies enabled and logged. Also, any base station or VRS service must also be tracking these signals and frequencies.

You may read more about IN-Fusion+ technology here.

4. What is meant by "Convergence time" and does this matter for POSPac PP-RTX?

IN-Fusion+ PP-RTX 2 is an addition to the previous PP-RTX mode and is currently targeted at the uncrewed airborne market, with plans to extend use to all product lines in the future. PP-RTX 2 uses newly available GNSS signals and frequencies to provide high-accuracy positioning and shorter convergence time (< 3 min) with short flights (>10 mins) in the global RTX region, and does not upload geospatial data to the web.

IN-Fusion+ PP-RTX 2 requires that the receiver track and log the new signals and frequencies, which all APX and AP+ units are able to do (given the latest firmware is installed). A valid subscription is required to use this processing mode.

You may read more about IN-Fusion+ PP-RTX 2 here.

5. How does PP-RTX work?

The original PP-RTX processing mode worked by having information about the survey area sent to the Trimble RTX® server by POSPac. RTX corrections that are specific to the survey region and time are then transmitted back to POSPac. POSPac then processes these corrections along with the raw GNSS and IMU data to generate a final trajectory with cm-level accuracy, all without the need of local base stations.

PP-RTX 2 works similarly, except it does not require the uploading of geospatial data from POSPac to the web, and it utilizes additional GNSS signals and frequencies, as long as the GNSS-Inertial Hardware tracks them as well. This leads to faster convergence in the global RTX region and better accuracy.

A valid subscription is required to use PP-RTX. You may read more about how PP-RTX works here.

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6. What are the expected accuracies using IN-Fusion+?

Expected accuracies using IN-Fusion+ are 2 to 5 cm in position (given a short baseline and satellite visibility), and will range for orientation accuracy based on the IMU used.

Better accuracy with IN-Fusion+ will be most notable in urban and foliaged areas (up to 100% improvement over traditional IN-Fusion processing methods in Single Base mode).

More information about accuracy can be found in our datasheets.

7. What are Applanix LiDAR QC Tools?

LiDAR QC Tools is a toolset in POSPac that can solve boresight angles between the LiDAR and the IMU, adjust the trajectory of the vehicle based on the relative positioning to the point cloud, and generate point cloud data.

It uses the Applanix Point Cloud Data Adjustment (PCDA) to generate Voxels (3D pixels), which are matched in overlapping regions. An iterative least squares adjustment using the matched points is then run to solve for the constant IMU boresight angles and makes corrections to the trajectory (position and orientation) used to generate the points. The result is a calibrated output, which may be used in third-party software.

A separate license is required for LiDAR QC Tools. You may read more about LiDAR QC Tools here. Please see FAQs here.

8. How do I purchase POSPac 9?

POSPac MMS, POSPac UAV, PP-RTX, and any other modules are available to purchase through Trimble Applanix Sales and Support channels. POSPac and other items are also available in the form of a term license. Please visit our contact page for more information on how to reach us.

9. Can I upgrade from my older version of POSPac to version 9?

Yes, Trimble Applanix offers multiple upgrade paths that ensure you get the most value out of our software and our warranty plans. Please inquire with our support staff for more information.

10. How is POSPac licensed?

POSPac is licensed with a floating, network, or license key. The license is to be activated on a server computer or on the local machine running POSPac. POSPac primarily supports term or subscription licenses but also supports legacy perpetual licenses.

11. Can I share my POSPac license?

Yes. The license may be activated on a server computer on a network, and all other computers on the same network may access and use the license (server-client approach).

A base POSPac license comes with one seat, which allows one user at a time to use the tools. The license is automatically assigned and released for users on the network. Additional seats may be added to a license to allow multiple users to work at the same time.

The license may even be shared with users who are off the network by commuting the license temporarily to the remote computer. After the user-defined commuting period has elapsed, the license will automatically return to the server. It will not be available to network users during the commuting period.

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12. What are term licenses?

Term licenses are a new licensing model for POSPac. Term licenses allow customers to subscribe to POSPac for a minimum of one year, instead of requiring them to purchase a perpetual license. A term license provides full access to Applanix POSPac software, maintenance and support for a defined period of time.

Term licenses allow for flexibility because of a subscription-based model. The upfront costs are much lower versus perpetual licenses, and the software is always eligible to use the latest version, which is key as new features, bug resolutions, and changing technology are constantly being addressed in new features.

Please find term license benefits here and also please refer to the FAQs.