



To create a Quality Report while in the field bring up the local processing panel by selecting 'Local processing' from the 'Process' menu or by clicking the  icon in the Toolbar. Select only the 'Initial project processing' checkbox and the 'Rapid' button. If you wish to create a low-resolution orthomosaic while generating the report, check the 'Orthomosaic and DSM generation' checkbox. Click 'Start' to begin rapid processing.


Postflight Terra 3D will now process the data and produce a report that includes the overall completeness and georeference quality of the images taken during your last mission. You may use this information to decide whether further imaging flights are required while you are still in the field. The quality report will be displayed in a new window (click the  icon in the Toolbar if it does not appear).

3.3 Creating advanced mapping products

Beyond Quality Reports and low-resolution orthomosaics, *Postflight Terra 3D* can generate geo-referenced high-resolution 2D orthomosaics, 3D point clouds, triangle models and DSMs or export to common third-party photogrammetry software such as Bingo, Orima or Inpho. Ground Control Points (GCP) can be added to increase the geo-reference accuracy. *Postflight Terra 3D* also includes a mosaic and a rayCloud editor, giving you more control on the quality of your final mapping products, as well as measurement tools.

The resulting orthomosaic and DSM may then be imported as custom background map and elevation data layers in *eMotion*¹⁷. This data can be used for advanced flight planning in complex or uneven terrain.



Note: You need to either enable tile set generation OR choose Generate Google Maps Tiles and KML from the Process menu before you can push the tileset into *eMotion* by choosing Send Map to *eMotion* from the Process menu. Alternatively, this data can be imported into *eMotion*; choose Import custom map from *eMotion*'s  File menu.



Note: The best way to learn how to use the various features of *Postflight Terra 3D* is to look at the comprehensive online Knowledge Base within [my.senseFly](https://my.senseFly.com)¹⁸

¹⁷ see the *eBee* Extended User Manual for more information on importing layers into *eMotion*

Part II

Specifications

1 Software requirements

eMotion has the following minimum software requirements:

<i>Operating system</i>	Windows XP / Vista / 7 / 8
<i>Hardware</i>	1.6 GHz processor 2 GB RAM 500 MB free storage space
<i>Screen</i>	recommended resolution: 1920×1080 visible outdoors

Postflight Terra 3D has the following minimum software requirements:

<i>Operating system</i>	Windows XP / Vista / 7 / 8, 64-bit only
<i>Hardware</i>	1.6 GHz processor (2 GHz Intel i5/i7/Xeon recommended) 4 GB RAM (16 GB recommended for large projects) 10 GB free storage space (1 TB recommended for large projects)
<i>Screen</i>	min. resolution: 1024×768

2 Drone specifications

<i>Size</i>	Wingspan: 96 cm Wing area: 0.25 m ²
<i>Weight without camera and battery</i>	approx. 0.41 kg
<i>Nominal take-off weight (approx.)</i>	eBee: 0.69 kg (1.52 lbs) eBee Ag: 0.71 kg (1.56 lbs) (with standard camera & battery)
<i>Material</i>	EPP foam, carbon structure & composite parts
<i>Battery</i>	3-cell Lithium-Polymer (0.14 kg)
<i>Nominal endurance (flight time)</i> ¹⁹	eBee: 50 minutes eBee Ag: 45 minutes (with standard camera)
<i>Propulsion</i>	Electric brushless motor Nominal static thrust: 0.63 kgf (6.2 N)
<i>Nominal cruise speed</i>	40-90 km/h (11-25 m/s or 25-56 mph)
<i>Wind resistance</i>	up to 45 km/h (12 m/s)
<i>Max. single flight coverage</i> ²⁰	eBee: 12 km ² (4.6 mi ²) eBee Ag: 10 km ² (3.9 mi ²) (on a single battery charge)

¹⁹ can vary greatly depending on external factors such as wind, altitude change and temperature.

²⁰ calculated based on the following test conditions: GSD of 30 cm (11.8 in) per pixel, no wind, moderate air temp. (18 C/64.4 F), new fully-charged battery, flight altitude of 1,000 m (3,280 ft) above ground & take off at approx. sea level from centre of coverage area.

Specifications

<i>Communication devices</i>	Ground modem: <ul style="list-style-type: none">● Frequency: 2.4 GHz● Range²¹: approx. 3 km● Certification: FCC Part 15.247, IC RSS210, CE Remote control: <ul style="list-style-type: none">● Frequency: 2.4 GHz● Range: approx. 1 km● Certification: CE, FCC
<i>Navigation</i>	Up to 50 waypoints
<i>GSD (per pixel)</i>	<i>eBee</i> : Down to 1.5 cm (0.6 in) <i>eBee Ag</i> : Down to 2 cm (0.8 in)
<i>Absolute horizontal accuracy</i>	<i>eBee</i> (with GCPs): Down to 3 cm (1.2 in) <i>eBee</i> (no GCPs): 1 to 5 m (3.3 to 16.4 ft) <i>eBee Ag</i> (with GCPs): Down to 4 cm (1.6 in) <i>eBee Ag</i> (no GCPs): 1 to 5 m (3.3 to 16.4 ft)
<i>Absolute vertical accuracy</i>	<i>eBee</i> (with GCPs): Down to 5 cm (2.0 in) <i>eBee</i> (no GCPs): 2 to 5 m (6.6 to 16.4 ft) <i>eBee Ag</i> (with GCPs): Down to 7 cm (2.8 in) <i>eBee Ag</i> (no GCPs): 2 to 5 m (6.6 to 16.4 ft)
<i>Relative orthomosaic/ 3D model accuracy</i>	1-3 times GSD
<i>Carry case dimensions</i>	55 x 45 x 25 cm (21.6 x 17.7 x 9.8 in)

²¹ can vary greatly depending on external factors such as cruise altitude, presence of obstacles and radio-frequency interference.

Glossary

AMSL Above Mean Sea Level

Your *eBee*'s altitude can be shown and set in *eMotion* using ATO or AMSL. Your drone uses the EGM96 mean sea level standard for navigation.

ATO Above the Take-off Altitude

Your *eBee*'s altitude can be shown and set in *eMotion* using ATO or AMSL. Altitudes in ATO are relative to the place your *eBee* started its motor just before take-off.

DSM Digital Surface Model

A 3D digital representation of a surface.

FTDI Future Technology Devices International

A Scottish semiconductor device company specialising in Universal Serial Bus (USB) technology. FTDI cables allow serial connections through a USB cable. *eMotion* uses FTDI technology to connect to the ground modem. You can often connect a computer to a GNSS base station using FTDI.

geo-reference A data point associated with a specific location on the earth's surface.

GSD Ground Sampling Distance

The distance measured on the ground between pixel centres in an image or DSM. The smaller the GSD, the higher the spatial resolution of the image. For example, a GSD of 5 cm means that one pixel in the image represents 5 cm on the ground.

mosaic A single map or terrain model created from several map sections that have been placed side-by-side and merged together.

orthomosaic A single, corrected image constructed either from several images taken from different angles, or from several orthophotos. Distortions due

to different camera positions, ground curvature and relief are corrected for so that the image displays accurately in the given map projection.

photogrammetry A technique in which measurements taken from photographs are used to reconstruct a 3D surface or a series of points in space.

point cloud A set of data points within a coordinate system.

rayCloud A feature unique to *Postflight Terra 3D* that combines the 3D point cloud with the original images. Multi ray matching with the rayCloud extends the stereo view triangulation and increases the accuracy of 3D point estimates while providing a full understanding of 3D results.

triangle model An approximate representation of a surface, constructed from connected triangles.