‹eBee

senseFly

The **professional mapping** drone

4 reasons to choose the eBee

01. Map more, more accurately

The eBee can cover up to 12 km^2 (4.6 mi^2) in a single automated flight, while flights over smaller areas, flown at lower altitudes, can acquire images with a ground sampling distance (GSD) of down to 1.5 cm (0.6 in) per pixel.

02. No flying skills required!

The eBee is the easiest to use professional drone on the market, used by thousands of customers around the world. To launch it, just throw the eBee into the air! It then flies, captures images and lands itself. (However you can always alter its flight plan or land manually if required.)

03. Because safety matters

Thanks to its ultra-light foam construction the eBee weighs just 700 g (1.5 lb), which vastly minimises its impact energy. It also features a safety-conscious rear-mounted propeller and senseFly's cutting-edge autopilot, which manages a wide range of intelligent failsafe behaviours.

04. Your complete solution

The eBee contains everything you need to start mapping today, including a high-resolution RGB camera, batteries, radio modem and eMotion, our acclaimed flight planning & control software. All supplied with our sturdy carry-on sized case. The eBee's imagery can then be processed and analysed using your photogrammetry software of choice, such as Pix4Dmapper Pro.

eMotion 2

GO TO START WPT | GO TO HOME WPT | GO LAND | HOLD POSITION | LAND NOW Click 2x | ABORT LANDING

EB-01-008

Les Grandes-Chemins

Camera model
Canon IXUS 125/127HS, ELPH

Individual photos
Start sequence
Stop sequence

Photo targets

ID	DST	HEA
> 1 <	128 m	

Reset
New photo target inc
Automatically reset tar
based on elevation dat

Camera control
Take photo
Continuous photo sequence: A

Camera parameters for mapp
Pitch angle
Use manual parameters
Distance between photos: Automatic

Simulator
Wind: ▼ 3.5 m

> 1 <
Altitude before photo:
122 m/ATO
Altitude after photo:
95 m/ATO

eMotion
— senseFly —

01. Plan your flight

senseFly's intuitive eMotion software simplifies the process of planning and pre-checking your eBee mapping mission.

Plan: First, import your preferred background map. Then define the area you want to map. Lastly, specify your required ground resolution, with a GSD of down to 1.5 cm (0.6 in) per pixel, plus the image overlap you require.

eMotion then automatically generates a full flight plan, including calculating the eBee's required altitude and displaying its projected trajectory on the background map.

Flying over uneven terrain? Use eMotion's 3D mission planning feature, which uses elevation data to define absolute waypoint altitudes for more consistent ground resolutions and improved mission safety.

Simulate: Ensure your flight's success by running a virtual mission that simulates wind strength and direction. Then make any flight plan updates required and prepare to launch.
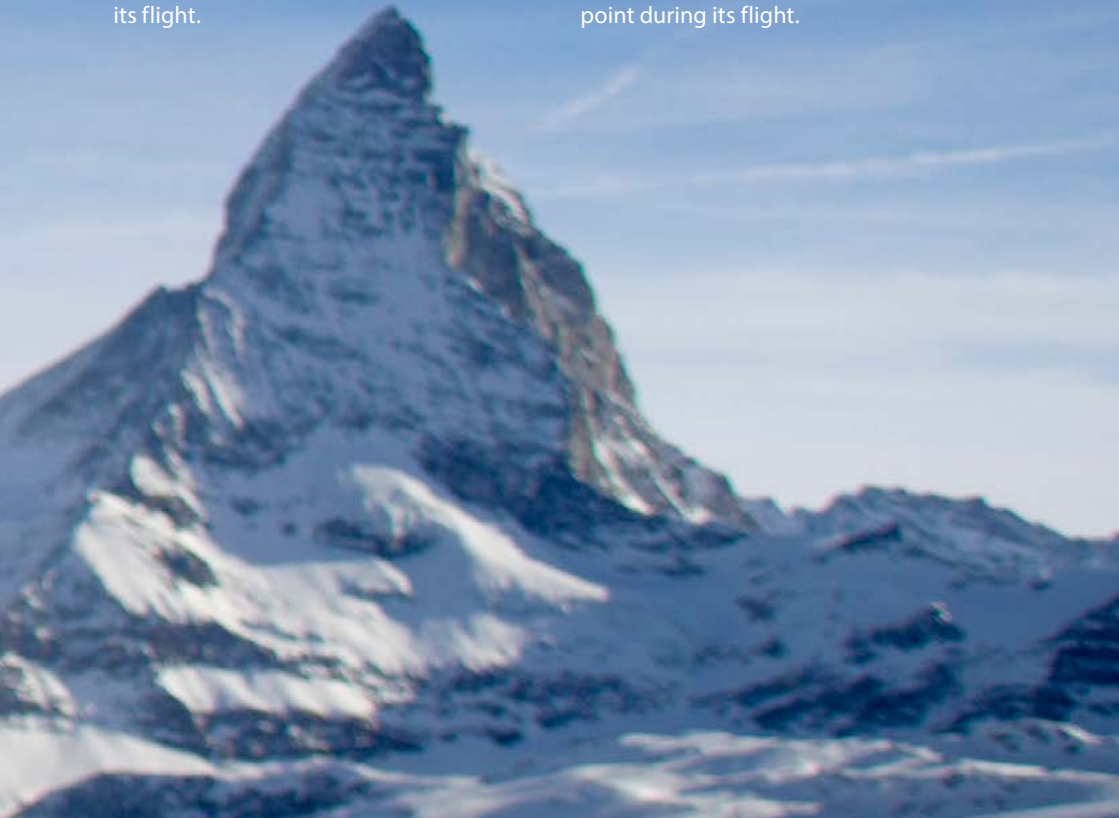
02. Fly

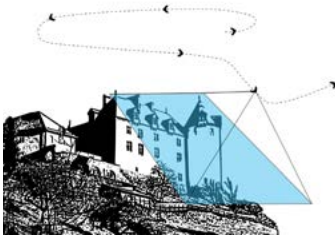**Launch:** Shake eBee three times to start its motor, then just throw it into the air.

The artificial intelligence inside the eBee's autopilot continuously analyses data provided by the Inertial Measurement Unit and onboard GPS to control every aspect of its flight.

Monitor: Use the eBee's supplied eMotion ground station software to view the drone's flight parameters, battery level and image acquisition progress in real time.

Made a mistake with your planning? Re-program your eBee's flight plan and landing point during its flight.

Oblique imaging function

Multiple drone operation

129 m/ATO
312 m/MSL
28:14
En route to waypoint 11

129 m/ATO
312 m/MSL
18:14
En route to waypoint 9

1.5 m/s

1.1 m/s

129 m/ATO
312 m/MSL
24:35
En route to waypoint 12

1.6 m/s

Super lightweight
• Durable EPP foam body & wings
• Take-off weight: 0.69 kg (1.52 lbs)

Onboard artificial intelligence
• Analyses data from Inertial Measurement
Unit & onboard GPS
• Optimises every aspect of eBee's flight

18.2 MP still camera
• Controlled by eBee's autopilot
• Captures images automatically
• Transform these images into orthomosaics
& 3D models with absolute horizontal/
vertical accuracy of down to 3 cm (1.2 in) / 5
cm (2 in) per pixel*

Fully automated
• Create your flight plan
• Throw eBee into the air
• Flies, acquires images & lands itself

2.4GHz radio link
• Communicates with eMotion
flight planning software via the
supplied USB ground modem

Optimised range
• Fly for up to 50 minutes
• Cover up 12 km² (4.6 mi²) per flight**

Green technology
• Brushless electric motor
• Low noise, low pollution
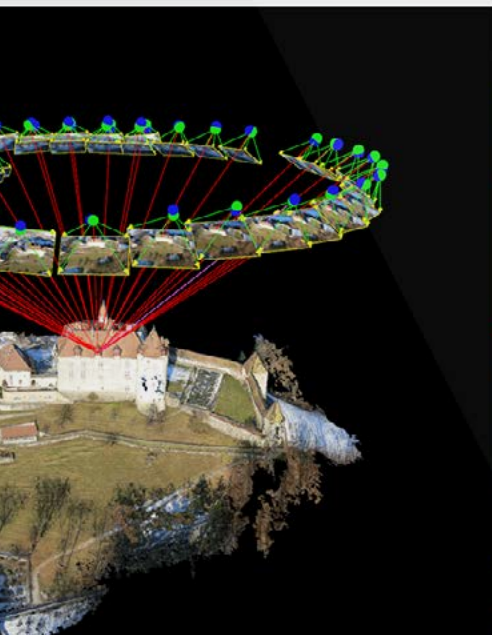• Re-chargeable lithium-polymer
battery

03. Create

Process: After using eMotion's built-in Flight Data Manager to pre-process, geotag and organise your flight's images, simply import these files into professional photogrammetry software such as Pix4Dmapper Pro.

In just a few clicks you can transform these images into geo-referenced orthomosaics, 3D point clouds, triangle models, and digital surface models (DSMs).

Trust: With the eBee's GSD of down to 1.5 cm, relative orthomosaic/3D model accuracy of 1-3x GSD, and absolute horizontal/vertical accuracy of down to 3/5 cm, you can have full confidence in the accuracy of the outputs you produce.

Choose your accessory

The eBee is supplied as standard with an 18.2 MP RGB camera. An additional RAW-friendly RGB camera and a thermal camera are also available (usable one at a time), plus there is a handy radio tracker for extra peace of mind when flying in the most challenging of environments.

WX RGB

Supplied

Like all eBee cameras, this 18.2 MP model has been adapted so that it can be controlled by the drone's autopilot. It acquires regular image data in the visible spectrum and its exposure parameters are set automatically.

S110 RGB

The 12 MP S110 RGB acquires regular image data in the visible spectrum. However unlike the slightly higher resolution WX, its exposure parameters can be set manually and it can also output RAW format image files.

thermoMAP

thermoMAP enables the eBee to capture thermal video and still images, allowing you to create thermal maps of a site (for example, to assess a mine's water distribution or check for solar panel hotspots).

Radio tracker

If you are planning to fly your eBee in extreme situations, such as areas with high winds, very mountainous areas, out of line of sight, or over very large coverage areas, this accessory is a useful extra safeguard against unexpected loss. It comprises a small transmitter that fits snugly next to the eBee's battery bay, plus a portable handheld receiver.

Technical specifications

Hardware

Weight (inc. supplied camera)	Approx. 0.69 kg (1.52 lbs)
Wingspan	96 cm (38 in)
Material	EPP foam, carbon structure & composite parts
Propulsion	Electric pusher propeller, 160 W brushless DC motor
Battery	11.1 V, 2150 mAh
Camera (supplied)	WX (18.2 MP)
Cameras (optional)	S110 RGB, thermoMAP
Carry case dimensions	55 x 45 x 25 cm (21.6 x 17.7 x 9.8 in)

Operation

Maximum flight time	50 minutes
Nominal cruise speed	40-90 km/h (11-25 m/s or 25-56 mph)
Radio link range	Up to 3 km (1.86 mi)
Maximum coverage (single flight)	12 km^2 / 4.6 mi^2 (at 974 m / 3,195 ft altitude AGL)
Wind resistance	Up to 45 km/h (12m/s or 28 mph)
Ground Sampling Distance (GSD)	Down to 1.5 cm (0.6 in) per pixel
Relative orthomosaic/3D model accuracy	1-3x GSD
Absolute horizontal/vertical accuracy (w/GCPs)	Down to 3 cm (1.2 in) / 5 cm (2 in)
Absolute horizontal/vertical accuracy (no GCPs)	1-5 m (3.3-16.4 ft)
Multi-drone operation	Yes (inc. mid-air collision avoidance)
Automatic 3D flight planning	Yes
Linear landing accuracy	Approx. 5 m (16.4 ft)

Package contents

- eBee foam body (inc. all electronics & built-in autopilot)
- Pair of detachable wings
- WX RGB still camera (inc. 16 GB SD card, battery, USB cable & charger)
- 2.4 GHz USB radio modem for data link (inc. USB cable)
- Two Lithium-Polymer battery packs & charger
- Spare propeller
- Carry case with foam protection
- Remote control & accessories (for safety pilots)
- User manual
- eMotion flight planning & control software

senseFly

a Parrot company

www.sensefly.com

Where can you buy your eBee? Visit www.sensefly.com/about/where-to-buy to locate your nearest distributor.

senseFly Ltd
Route de Genève 38
1033 Cheseaux-Lausanne
Switzerland
🇨🇭 Swiss made

About senseFly: senseFly designs, assembles and markets autonomous mini-drones and related software solutions for civil professional applications such as precision agriculture, land surveying, GIS, construction, environmental conservation and more.

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