



HOVERMAP™
PLUS


emesent

MAPPING IN NON-GPS AND CHALLENGING ENVIRONMENTS

The Hovermap Plus bundle includes everything from the Hovermap Mapping bundle, as well as omnidirectional collision avoidance and GPS-denied flight capability. It comes into its own in challenging environments and is suited for line-of-sight, pilot-assisted drone operation, for as-built creation, asset inspection, condition monitoring, small-area land surveys, and more.



World-class SLAM

Obtain accurate, high-resolution, low-noise point clouds from the Hovermap SLAM system and its 360° field-of-view.



Omnidirectional collision avoidance

Create a virtual safety shield around the drone and avoid the smallest of obstacles with Hovermap LiDAR data processed in real time.



Beyond line-of-sight flight

Capture complex assets with a BVLOS Hovermap flight in GPS-denied environments.



Obstacle proximity map

Use the proximity map to avoid obstacles and navigate the drone safely from a distance.



Smart battery return-to-home

Maximize flight time and return the drone to base safely using Hovermap's battery monitoring and shortest and safest route home features.



Versatile solution

Gain maximum utility by using one scanner and multiple scanning methods – walk, drive or fly – to scan a project.



No GPS required

Map any environment quickly and safely with Hovermap's SLAM localization.



Magnetic interference tolerance

Maintain flight stability in areas of magnetic interference.



Barometric pressure

Fly safely in tight spaces where air pressure fluctuates using the Hovermap SLAM altitude control feature.



Real-time point cloud streaming

View the 3D point cloud of your mapped environment in real time.



Start/Stop scan

Save time by eliminating the need for static SLAM calibration at the start of a scan.



Companion processing software

Drag and drop to easily generate point cloud data with Emesent processing software.



20+ adjustable processing parameters

Optimize the SLAM output with multiple processing parameters.



GPS auto-geolocation

Align scans automatically to GPS coordinates when Hovermap is mounted to a compatible drone.



Output in LAZ LAS DXF and PLY

Output the processed point cloud data into your required file type.



Optimized point cloud merging

Merge point clouds automatically at areas of overlap to produce a complete scan.



Visualization options

Visualize point cloud data using a wide range of color scales and attributes: intensity, range, time, return and ring number.



Observer mode

View the mission and point cloud in real-time from a second Android device.



Drone Mountable

Attach the Hovermap payload to a compatible drone to use it as an all-in-one 3D mapping device.



RGB colorization (optional)

Enhance visualization and analysis by adding true color to Hovermap point clouds.

MAPPING SPECIFICATIONS

SLAM mapping	Simultaneous Localization and Mapping (SLAM) based LiDAR mapping +/- 0.03% drift
LiDAR range	0.40 m to 100 m
LiDAR accuracy	+/- 30 mm
Mapping accuracy	+/- 20 mm in general environments +/- 15 mm in typical underground and indoor environments +/- 5 mm for close range scanning
Angular field of view	360° x 360°
LiDAR data acquisition speed	Single Return Mode: up to 300,000 points/sec Dual Return Mode: up to 600,000 points/sec
Maximum data capture traveling speed	Vehicle: 40 km/h; flight: 5 m/s above ground, 2 m/s underground or confined spaces
Start / stop scanning while in motion	Yes
Outputs	Full resolution point cloud, decimated point cloud, trajectory file
Point cloud file format	.las, .laz, .ply, .dxf
Point cloud attributes	Intensity, range, time, return number (strongest & last) and ring number
Processing parameters	Pre-set profiles with 20+ adjustable parameters
USB3	High-speed data offload
Storage	480 Gigabytes – approximately 12 hours of sensor data
Operating temperature	0-50 °C

PHYSICAL SPECIFICATIONS

Weight	1.8 kg
Input voltage	12 - 50V, powered from a battery or auxiliary power input
Deployment	Drone/UAV, backpack, vehicle, tether, ground robot
Supported Drones	DJI M210, DJI M300, Acecore Zoe
Quick release mount	Yes

BENEFITS

Safety

Avoid potentially hazardous manual survey techniques and keep personnel away from high risk environments, confined spaces and heights.

Efficiency and versatility

Scan buildings, infrastructure and inaccessible areas quickly and easily to produce as-builts, and condition monitoring, inspection and space management reports.

Integrated workflows

Process Hovermap's accurate, dense point clouds into the products you need using industry standard tools.

Cost savings

Cut costs by mapping assets and infrastructure in minutes, not hours and days. Upgrade Hovermap autonomy levels without investing in new hardware.

Greater insights

Capture shadowless, accurate and dense point clouds of an entire asset and drop them straight into CAD, GIS or mine planning systems. Use colorization to enhance visualization.

WHAT IS INCLUDED IN THE HOVERMAP PLUS BUNDLE?

- Hovermap payload
- Hovermap Plus Software License
- Emesent Processing Software
- Drone mounting kit for a compatible drone, handle, universal mounting plate and cables
- Software updates and support for three years
- Training



AUTONOMY SPECIFICATIONS

Flight modes	Pilot Assist: Non-GPS flight, position hold and assisted flight, collision avoidance, regulated flight speed
Autopilot compatibility	DJI, ArduPilot (Acecore Zoe)
Omnidirectional collision avoidance	360° x 360°; range 1.2 to 40 m; size of an obstacle > 2 mm wire

INCLUDED ACCESSORIES

Handle
 Universal carbon fiber mounting plate with appropriate drone mount

OPTIONAL ACCESSORIES

Colorization kit
 Vehicle mounts
 Protective cage
 Hard case backpack

